

TABLE OF CONTENTS

University of Miami Academic Bulletin	25
General University Information	26
Mission Statement	26
University Policies	27
Course Information	27
Student Right to Know Act	33
Financial Assistance	33
Satisfactory Academic Progress	36
Student Employment	40
Terms and Conditions	40
Financial Payment Policies	42
Alumni Rate and Policy	45
Meal Plans	45
Parking and Transportation	45
Payment Options	46
Room Rates	47
Tuition and Fees	47
Student Services	51
Camner Center for Academic Resources	51
Cane Cards	52
Career Services	52
Commuter Student Involvement	54
Counseling Center	54
Dean of Students	55
Disability Services	55
International Student and Scholar Services (ISSS)	56
Libraries	57
Ombudsperson and University Troubleshooters	57
Student Health Service	58
Study Abroad	60
Undergraduate Housing and Residence Life	60
University Dining Services	61
Veterans	61
Undergraduate Policies and Procedures	63
Admission	63
Advanced Placement/Credit	63
Early Admission	64
Freshman Admission	64
GED Scores	64
Non-Degree Enrollment	65

Transfer Admission	65
Undergraduate International Admission	66
General Education Requirements	67
Grades	69
Graduation	73
Honors	75
First-Year Seminars	75
First Year Seminars	76
Foote Fellow Honors Program	76
Foote Fellow Honors Program	76
Student Status	76
Graduate Policies and Procedures	80
Academic Policies	80
Research Policies	90
Admission	94
Master's Degree	98
Doctoral Degree	99
Undergraduate Academic Programs	103
Architecture	104
Bachelor of Architecture	107
Bachelor of Science in Architectural Engineering and Master of Architecture	109
Minor in Architecture	113
Arts and Sciences	114
Aerospace Studies	119
Minor in Aerospace Studies	120
Africana Studies	120
B.A. in Africana Studies	121
Minor in Africana Studies	122
American Studies	123
B.A. in American Studies	123
Minor in American Studies	125
Anthropology	126
B.A. in Anthropology	127
Minor in Anthropology	130
Art and Art History	131
B.A. in Art History	132
B.A. in Art (General Study)	134
B.A. in Studio Art	136
B.F.A. in Art	138
Minor in Art and Art History	140
Astronomy	140
Biochemistry and Molecular Biology	140

B.S. in Biochemistry and Molecular Biology or Nutrition	141
Minor in Biochemistry and Molecular Biology	146
Biology	147
B.A. in Biology	148
B.S. in Biology	150
Minor in Biology	154
Chemistry	154
B.A. in Chemistry	156
B.S. in Chemistry	158
B.S. / M.S. in Chemistry Five-Year	160
Certified B.S. in Chemistry	163
Minor in Chemistry	166
Classics	166
B.A. in Classics - Classical Civilization Track	167
B.A. in Classics - Greek Track	169
B.A. in Classics - Latin Track	171
B.A. in Classics - Latin and Greek Track	172
Minor in Classics	174
Computer Science	174
B.A. in Computer Science	175
B.S. in Computer Science	178
B.S. + M.S. in Computer Science - Five Year	181
Minor in Computer Science	186
Criminology	187
B.A. in Criminology	188
Minor in Criminology	190
Economics	190
B.A. in Economics	190
Ecosystem Science and Policy	194
B.A. in Ecosystem Science and Policy	194
B.S. in Ecosystem Science and Policy	199
Certificate in Sustainability	205
Minor in Ecosystem Science and Policy	207
Education	208
Minor in Traditional Education	208
Professional Training Option Certificate	208
Engineering	209
English	209
B.A. in English	211
B.A. in English - Concentration in British Literary History	213
B.A. in English - Concentration in Creative Writing	216
B.A. in English - Concentration in Women's Literature	219

Minor in Creative Writing	221
Minor in English	222
Geography	222
B.A. in Geography	224
B.S. in Geography	225
Certificate in Geospatial Technology	227
Minor in Geography	228
Minor in Geospatial Technology	228
Minor in Social Science and Medicine	228
Geological Sciences	230
B.A. in Geological Sciences	230
B.S. in Geological Sciences	230
Five Year B.S./M.S. in Geological Sciences and Marine Geology	230
Minor in Geological Sciences	230
History	230
B.A. in History	230
Minor in History	232
International Studies	232
B.A. in International Studies	234
Minor in International Studies	236
Judaic Studies	236
B.A. in the George Feldenkreis Program in Judaic Studies	237
Minor in the George Feldenkreis Program in Judaic Studies	239
Latin American Studies	240
B.A. in Latin American Studies	241
B.A./M.A in Latin American Studies (Fellows in Latin American Studies)	243
Minor in Latin American Studies	245
Mathematics	246
B.A. or B.S. in Mathematics	247
Minor in Mathematics	251
Microbiology and Immunology	251
B.S. in Microbiology and Immunology	252
Minor in Microbiology and Immunology	256
Military Science	257
Modern Languages and Literatures	259
B.A. in French	262
B.A. in German	267
B.A. in Spanish	271
Minor in Arabic Studies	276
Minor in French	278
Minor in German	279
Minor in Italian	280

Minor in Modern Languages	280
Minor in Portugese	281
Minor in Spanish	282
Neuroscience	282
B.S. in Neuroscience	283
Philosophy	287
B.A. in Philosophy	288
Philosophy Major - Pre-Law Track	290
Philosophy Major - Pre-Med Track	292
Minor in Philosophy	294
Philosophy Minor - Pre-Law Track	294
Philosophy Minor - Pre-Med Track	295
Physical Sciences	295
Physics	295
B.S. in Applied Physics	296
B.S. Dual Major in Chemistry and Physics	304
B.S. Dual Major in Engineering and Physics	307
B.S. Dual Major in Marine Science and Physics	308
B.S. in Pure Physics	311
Minor in Physics	313
Political Science	314
B.A. in Political Science	314
B.A. in Public Administration	321
Minor in Political Science	322
Minor in Public Administration	323
Psychology	323
B.A. or B.S. in Psychology	325
Minor in Psychology	329
Religious Studies	329
B.A. in Religion and Health Care	330
B.A. in Religious Studies	333
Minor in Medical Humanities	335
Minor in Religion and Healthcare	335
Minor in Religious Studies	336
Sociology	336
B.A. in Sociology	337
Sociology & Criminology Double Major	339
Minor in Sociology	340
Theatre Arts	340
B.A. in Theatre Arts	342
B.F.A. in Theatre Arts - Acting	345
B.F.A. in Theatre Arts - Design/Technical Production	348

B.F.A. in Theatre Arts - Musical Theatre	350
B.F.A. in Theatre Arts - Stage Management	353
B.F.A. in Theatre Arts - Theatre Management	356
Minor in Theatre Arts	358
Urban Studies	359
Minor in Urban Studies	359
Women's and Gender Studies	360
B.A. in Women's and Gender Studies	361
Minor in LGBTQ Studies	362
Minor in Women's and Gender Studies	363
Business	364
Accounting	377
Accelerated Accounting Programs	378
B.B.A. in Accounting	380
B.S.B.A. in Accounting	383
Five-Year Accounting Program with Senior-Year Internship	385
Minor in Accounting	386
Business Law	386
B.B.A. in Legal Studies	387
B.S.B.A. in Legal Studies	390
Minor in Business Law for Business Students	393
Minor in Business Law for Non-Business Students	394
Business Technology	394
B.B.A. in Business Technology	395
B.S.B.A. in Business Technology	398
Minor in Business Technology	401
Economics	402
B.B.A. in Economics	402
B.S.B.A. in Economics	407
Minor in Political Economy for Business Students	412
Minor in Political Economy for Non Business Students	413
Minor in Quantitative Economics for Business Students	414
Minor in Quantitative Economics for Non Business Students	415
Finance	415
B.B.A. in Finance	416
B.B.A. in International Finance and Marketing	419
B.B.A. in Real Estate	422
B.S.B.A. in Finance	425
B.S.B.A. in International Finance and Marketing	428
B.S.B.A. in Real Estate	431
Minor in Finance	434
Minor in Real Estate	435

Health Management and Policy	435
B.B.A. in Health Sector Management and Policy	436
B.S.B.A. in Health Sector Management and Policy	439
Minor in Health Sector Management and Policy	442
Management	443
B.B.A. in Entrepreneurship	443
B.B.A. in Human Resource Management	447
B.B.A. in Management	449
B.S.B.A. in Entrepreneurship	452
B.S.B.A. in Human Resource Management	455
B.S.B.A. in Management	458
Minor in Entrepreneurship for Business Students	461
Minor in Entrepreneurship for Non-Business Students	462
Minor in Management for Business Students	463
Minor in Management for Non-Business Students	463
Management Science	464
B.S.B.A. in Business Analytics	464
Minor in Business Analytics	467
Marketing	468
B.B.A. in Marketing	468
B.S.B.A. in Marketing	471
Minor in Marketing for Business Students	475
Minor in Marketing for Non-Business Students	475
Communication	477
Cinema and Interactive Media	484
B.S.C. in Interactive Media	486
B.S.C. Motion Pictures - Business Track	488
B.S.C. Motion Pictures - Critical Studies Track	491
B.S.C. Motion Pictures - General Track	494
B.S.C. Motion Pictures - Production Track	498
B.S.C. Motion Pictures - Screenwriting Track	501
Minor in Game Design	504
Minor in Interactive Media	504
Minor in Motion Pictures	505
Communication Studies	505
B.S.C. Communication Studies - General Track	507
B.S.C. Communication Studies - Intercultural Track	509
B.S.C. Communication Studies - Organizational Track	511
B.S.C. Communication Studies - Public Advocacy Track	513
Minor in Communication Studies	517
Minor in Health Communication	518
Journalism and Media Management	518

B.S.C. Broadcast Journalism	520
B.S.C. Electronic Media	523
B.S.C. Journalism	526
B.S.C. Media Management	532
Minor in Broadcast Journalism	535
Minor in Electronic Media	535
Minor in Hispanic Media	536
Minor in Journalism	537
Minor in Media Management	537
Strategic Communication	537
B.S.C. Advertising - Advertising Creative Track	539
B.S.C. Advertising - Advertising Management Track	542
B.S.C. Advertising - General Advertising Track	545
B.S.C. Public Relations - General Track	547
B.S.C. Public Relations - Practice Track	550
Minor in Advertising	552
Minor in Public Relations	553
Minor in Strategic Communication	553
Continuing and International Education	555
Adult Student Access Program	555
Bachelor of General Studies	555
Credit Certificate Programs	557
Intensive Language Institute	558
Office of Professional Advancement	559
Education and Human Development	559
Educational and Psychological Studies	562
B.S.E.D. Human and Social Development - Community and Program Development (HSDC)	564
B.S.E.D. Human and Social Development - Human and Social Development Studies (HSDS)	566
B.S.E.D. Human and Social Development - Individual and Relational Development (HSDI)	568
Minor in Human and Social Development	570
Kinesiology and Sport Sciences	570
B.S.A.T. Athletic Training	573
B.S.E.D. Sport Administration	575
B.S. in Exercise Physiology	577
Minor in Exercise Physiology	580
Minor in Sport Administration	581
Minor in Sports Medicine	581
Teaching and Learning	581
B.S.E.D. Elementary/Exceptional Student Education (ESE) with ESOL and Reading Endorsements	584
Secondary Education	588
Minor in Education	590
Professional Training Option Certificate	591

Engineering	592
Biomedical Engineering	599
B.S. in Biomedical Engineering - Biomaterials and Tissue	602
B.S. in Biomedical Engineering - Electrical	605
B.S. in Biomedical Engineering - Mechanical	608
B.S. in Biomedical Engineering - Premed	611
B.S./M.S. in Biomedical Engineering - Biomaterials and Tissue Concentration	614
B.S./M.S. in Biomedical Engineering - Electrical Concentration	616
B.S./M.S. in Biomedical Engineering - Mechanical Concentration	619
B.S./M.S. in Biomedical Engineering - Premed Concentration	622
Civil, Architectural and Environmental Engineering	625
B.S. in Civil Engineering	627
B.S. in Architectural Engineering	629
B.S. in Environmental Engineering	632
B.S./M.S. in Civil Engineering	635
B.S./M.S. in Architectural Engineering	636
B.S. in Environmental Engineering/M.S. in Civil Engineering	636
B.S. in Architectural Engineering/Master of Architecture	637
Minor in Architectural Engineering	640
Minor in Civil Engineering	640
Minor in Environmental Engineering	641
Electrical and Computer Engineering	641
B.S. in Computer Engineering	646
B.S. in Computer Engineering - Software Engineering Option	648
Computer Engineering - Pre-Med Option	651
B.S. in Electrical Engineering - Audio Engineering Option	653
B.S. in Electrical Engineering	656
Electrical Engineering - Pre-Med Option	658
B.S./M.S. in Computer Engineering	660
B.S./M.S. in Computer Engineering - Software Engineering Option	663
B.S./M.S. in Electrical Engineering - Audio Engineering Option	667
B.S./M.S. in Electrical Engineering	670
Minor in Computer Engineering	673
Minor in Electrical Engineering	674
Engineering Science	675
B.S. in Engineering Science	675
Engineering Science - Premed Concentration	678
Industrial Engineering	678
B.S. in Industrial Engineering	680
Industrial Engineering - Engineering Management Concentration	683
Industrial Engineering - Manufacturing Concentration	685
Industrial Engineering - Pre-Med Concentration	687

B.S./M.S.- Industrial Engineering	689
Industrial Engineering - Engineering Management Concentration - Five Year Program	692
Minor in Industrial Engineering	695
Mechanical and Aerospace Engineering	695
B.S. in Aerospace Engineering	697
B.S. in Mechanical Engineering	699
Mechanical Engineering - Aerospace Engineering Concentration	702
Mechanical Engineering - Internal Combustion Engines Concentration	704
B.S./M.S.- Mechanical Engineering	707
B.S. in Aerospace Engineering and B.S. in Mechanical Engineering Dual Degree	710
Minor in Mechanical Engineering	713
Marine and Atmospheric Science	714
Atmospheric Science - Meteorology	717
B.S.M.A.S. in Meteorology and Marine Science	717
B.S.M.A.S. in Meteorology and Mathematics	720
B.S.M.A.S. in Meteorology	722
Minor in Climate Science and Policy	725
Minor in Meteorology	726
Marine Affairs	726
Geological Sciences	727
B.A. in Geological Sciences	727
B.S. in Geological Sciences	729
B.S.M.A.S. in Marine Science / Geological Sciences	732
Minor in Geological Sciences	735
B.A. in Marine Affairs	735
Minor in Marine Policy	738
Marine Biology and Ecology	738
B.S.M.A.S. in Marine Biology and Ecology	739
Marine Science	742
B.S.M.A.S. in Marine Science with a Second Major	743
B.S.M.A.S. in Marine Science / Biology	747
B.S.M.A.S. in Marine Science / Chemistry	750
B.S.M.A.S. in Marine Science / Computer Science	753
B.S.M.A.S. in Marine Science / Geological Sciences	756
B.S.M.A.S. in Marine Science / Meteorology	759
B.S.M.A.S. in Marine Science / Microbiology and Immunology	762
B.S.M.A.S. in Marine Science / Physics	765
Minor in Marine Science	768
Oceanography	770
B.S.M.A.S. in Oceanography	771
Music	774
Bachelor of Arts in Music (MUS)	783

B.A.M. Bachelor of Arts in Music	783
Minor in General Music	787
Instrumental Performance (MIP)	787
B.M. in Instrumental Performance	788
Certificate in Instrumental Performance	792
Keyboard Performance (MKP)	793
B.M. in Keyboard Performance	793
Certificate in Keyboard Performance	797
Music Education and Music Therapy (MED) & (MTY)	797
B.M. in Music Education with Minor in Education	798
B.M. in Music Therapy with Minor in Psychology	803
Music Media and Industry (MMI)	810
B.M. in Music Business Entertainment Industries	810
B.M. in Musicianship, Artistry Development, and Entrepreneurship	817
B.M. in Professional Studies	822
B.S. in Music Engineering Technology	826
Minor in Creative American Music	839
Minor in Music Business and Entertainment Industries	840
Music Theory and Composition (MTC)	841
B.M. in Media Writing and Production	841
B.M. in Music Theory and Composition	847
Minor in Music Composition	851
Studio Music and Jazz (MSJI) & (MSJV)	851
B.M. in Studio Music and Jazz Instrumental	852
B.M. in Studio Music and Jazz Voice	857
Certificate in Jazz Performance	860
Minor in Studio Music and Jazz Instrumental (Music Majors Only)	860
Vocal Performance (MVP)	861
B.M. in Vocal Performance	861
Certificate in Vocal Performance	864
Minor in Dance	865
Nursing and Health Studies	866
Health Science	867
BSHS - General Track	872
BSHS - Health Management and Policy Track	875
BSHS - Pre-Medical Track	879
BSHS - Pre-Occupational Therapy Track	882
BSHS - Pre-Pharmacy Track	886
BSHS - Pre-Physical Therapy Track	889
Nursing	893
Accelerated BSN	901
RN to BSN	903

Traditional BSN	905
Public Health	908
BSPH - Public Health	913
Health Communication Minor	916
Public Health Minor	916
Graduate Academic Programs	918
Architecture	918
Master of Architecture	921
Master of Construction Management	923
Master of Science in Architecture	925
Master of Urban Design	925
Master of Real Estate Development + Urbanism	926
Arts and Sciences	928
Anthropology	928
M.A. in Anthropology	929
Art and Art History	931
M.F.A. in Studio Art	932
Biology	933
M.S. in Biology with Thesis (Three Year Program)	934
M.S. in Biology without Thesis (Two Year Program)	936
Ph.D. in Biology	936
Chemistry	940
M.S. in Chemistry	940
Ph.D. in Chemistry	941
Computer Science	942
B.S./M.S. in Computer Science Five-Year	943
M.S. in Computer Science	943
Ph.D. in Computer Science	944
Criminology	946
Certificate in Criminology and Criminal Justice	947
M.S. in Criminology and Criminal Justice	948
M.F.A. in Creative Writing	949
English	950
Ph.D. in English	951
Geography	951
Certificate in Geospatial Technology	952
M.A. in Geography	953
Geological Sciences	954
History	954
M.A. in History	954
Ph.D. in History	956
International Administration	959

M.A. in International Administration	959
International Studies	960
M.A. in International Studies	960
M.A./M.P.H. Dual Degree in International Administration and Public Health	962
Ph.D. in International Studies	962
Latin American Studies	963
B.A./M.A. in Latin American Studies	963
J.D./M.A. in Latin American Studies	965
M.A. Dual Degree in Latin American Studies and Public Health	966
M.A. in Latin American Studies	967
M.A. in Latin American Studies with GIS Certificate	968
Liberal Studies	968
M.A. in Liberal Studies	969
Mathematics	969
M.A. in Mathematics	970
M.S. in Mathematical Finance	971
M.S. in Mathematics	972
Ph.D. in Mathematics	973
Modern Languages and Literatures	974
Ph.D. in Literary, Cultural, and Linguistic Studies	975
Philosophy	976
M.A. in Philosophy	976
Ph.D. in Philosophy	977
Physics	978
M.S. in Physics	978
Ph.D. in Physics	979
Political Science	979
J.D./M.P.A. Joint Degree Program	980
M.P.A. Masters in Public Administration	981
M.P.A./M.P.H. Second Master's Degree in Public Health	983
M.P.A. Online	984
Certificate in Public Administration	984
Psychology	984
Ph.D. in Psychology	985
Certificate in Applied Behavior Analysis	986
M.S. in Psychology	986
Sociology	987
M.A. in Sociology	987
Ph.D. in Sociology	988
Certificate in Criminology and Criminal Justice	989
Business	989
Doctoral	993

Doctorate of Philosophy in Business	993
Doctorate of Philosophy in Economics	995
MBA Programs	996
Executive and Professional MBA Programs	996
Miami Executive MBA en Español	996
Health Sector Management and Policy	997
Professional MBA	998
The Miami Executive MBA for Artists and Athletes (hybrid)	999
Global Executive MBA	1000
Full Time MBA Programs	1001
Accelerated MBA in Real Estate	1001
BArch/MBA	1002
JD/LLM/MBA	1003
JD/MBA	1004
MD/MBA	1005
One Year MBA	1006
Two Year MBA	1007
Specialized Master Degrees	1008
Master in International Business	1008
Master of Accounting	1009
Master of Arts in Economics	1016
Master of Professional Accounting (online)	1016
Master of Science in Business Analytics	1017
Master of Science in Finance	1018
Master of Science in Finance (online)	1019
Master of Science in Management	1020
Master of Science in Taxation	1021
M.H.A. in Health Sector Management and Policy	1026
Non-Degree Programs	1027
Certificate in Accounting Practice (online)	1027
Certificate in Business	1028
Certificate in Corporate Finance (online)	1028
Certificate in Financial Decision Making (online)	1029
Certificate in Leadership	1030
Communication	1030
Cinema and Interactive Media	1033
M.F.A. in Interactive Media	1033
M.F.A. in Motion Pictures	1034
Communication Studies	1037
M.A. in Communication Studies - Communication Studies Track	1037
M.A. in Communication Studies - Health Communication Track	1038
M.A. in Communication Studies - Intercultural Communication Track	1040

M.A. in Communication Studies - Organizational Communication Track	1041
Doctor of Philosophy in Communication	1042
J.D./M.A. in School of Communication	1043
J.D./M.A. in Communication Studies	1044
J.D./M.A. in Journalism	1046
J.D./M.A. in Public Relations	1047
Journalism and Media Management	1047
M.A. in Journalism	1048
M.S. in Media Management	1049
Strategic Communication	1051
M.A. in Public Relations	1051
Education and Human Development	1053
Educational and Psychological Studies	1057
Certificate in Higher Education Administration/Enrollment Management	1058
Certificate in Higher Education Administration/Student Life and Development	1059
Certificate in Latino Mental Health Counseling	1060
Executive Ed.D. in Higher Education Leadership	1060
M.S.Ed. in Community and Social Change	1061
M.S.Ed. in Counseling - Marriage and Family Therapy	1062
M.S.Ed. in Counseling - Mental Health	1062
M.S.Ed. in Higher Education Administration - Enrollment Management	1063
M.S.Ed. in Higher Education Administration - Institutional Research and Policy Analysis	1064
M.S.Ed. in Higher Education Administration - Student Life and Development	1065
M.S.Ed. in Research, Measurement and Evaluation	1066
Ph.D. in Community Well-Being	1067
Ph.D. in Counseling Psychology	1068
Ph.D. in Research, Measurement, and Evaluation	1068
Kinesiology and Sport Sciences	1070
Certificate in Women's Health	1070
M.S.Ed. in Exercise Physiology	1070
M.S.Ed. in Exercise Physiology - Strength and Conditioning/Fitness Entrepreneurship Track	1071
M.S.Ed. in Nutrition for Health and Human Performance	1072
M.S.Ed. in Sport Administration	1073
M.S.Ed. in Sports Medicine - Athletic Training Concentration	1074
Ph.D. in Exercise Physiology	1074
Teaching and Learning	1074
Certificate in Applied Learning Sciences	1075
Ed.D. in Applied Learning Sciences	1076
Ed.S. Early Childhood Special Education	1077
M.S.Ed. in Applied Learning Sciences	1077
M.S.Ed. in Early Childhood Special Education	1078
M.S.Ed. in Education and Social Change	1078

M.S.Ed. in Reading	1080
M.S.Ed. in Special Education	1080
M.S.Ed. in STEM Education	1080
M.S.Ed. in TESOL	1080
Ph.D. in Teaching and Learning	1081
Ph.D. in Teaching and Learning - Science, Technology, Engineering and Mathematics (STEM) Education	1082
Ph.D. in Teaching and Learning - Special Education	1082
Engineering	1082
Biomedical Engineering	1085
B.S./M.S. Five-Year Program in Biomedical Engineering	1085
Certificate Program in Medical Physics	1087
M.S. in Biomedical Engineering	1088
Ph.D. in Biomedical Engineering	1095
Civil, Architectural and Environmental Engineering	1101
B.S./M.S. in Civil Engineering	1103
M.S. in Architectural Engineering	1104
M.S. in Civil Engineering	1106
M.S. in Construction Management	1107
Dual M.S. in Civil Engineering with the University of Bologna	1110
Ph.D. in Civil Engineering	1116
Electrical and Computer Engineering	1118
M.S. in Electrical and Computer Engineering	1118
Ph.D. in Electrical and Computer Engineering	1120
Industrial Engineering	1121
M.S. in Environmental Health and Safety	1122
M.S. in Industrial Engineering	1122
M.S. in Management of Technology	1124
M.S. in Occupational and Ergonomics Safety	1124
M.S.I.E./M.B.A. Executive Program	1124
Ph.D. in Ergonomics and Human Factors	1125
Ph.D. in Industrial Engineering	1126
Mechanical and Aerospace Engineering	1127
M.S. in Mechanical Engineering	1128
Ph.D. in Mechanical Engineering	1129
Ocean Engineering	1130
Environmental / Interdisciplinary	1132
M.A. in Environment, Culture, & Media	1132
M.P.S. in Environment, Culture, & Media	1133
M.P.S. in Exploration Science	1137
Ph.D. in Environmental Science Policy	1138
Marine and Atmospheric Science	1138
Atmospheric Sciences	1145

M.P.S in Broadcast Meteorology	1146
M.P.S. in Computational Meteorology and Oceanography	1147
M.P.S. in Weather Forecasting	1147
M.P.S. in Climate and Society	1148
M.S. in Atmospheric Sciences	1149
Ph.D. in Atmospheric Sciences	1151
Marine Biology and Ecology	1154
M.P.S. in Marine Mammal Science	1155
M.P.S. in Tropical Marine Ecosystem Management	1156
M.S. in Marine Biology and Ecology	1157
Ph.D. in Marine Biology and Ecology	1158
Marine Ecosystems and Society	1159
B.A./M.P.S. in Marine Ecosystems and Society	1160
J.D./M.P.S. in Marine Ecosystems and Society	1160
M.P.S. in Aquaculture	1161
M.P.S. in Coastal Sustainability	1162
M.P.S. in Coastal Zone Management	1162
M.P.S. in Exploration Science	1163
M.P.S. in Fisheries Management and Conservation	1164
M.P.S. in Marine Conservation	1165
M.P.S. in Underwater Archaeology	1166
M.S. in Marine Ecosystems and Society	1167
Ph.D. in Marine Ecosystems and Society	1167
Marine Geosciences	1168
M.S. in Marine Geosciences	1169
Ph.D. in Marine Geosciences	1170
Meteorology and Physical Oceanography	1171
M.S. in Meteorology and Physical Oceanography	1172
Ph.D. in Meteorology and Physical Oceanography	1173
Ocean Sciences	1175
M.P.S. in Applied Remote Sensing	1176
M.P.S. in Natural Hazards and Catastrophes	1177
M.S. in Ocean Sciences	1179
Ph.D. in Ocean Sciences	1182
Medicine	1189
Biochemistry and Molecular Biology	1189
Ph.D. in Biochemistry and Molecular Biology	1190
Executive Ph.D. in Biochemistry and Molecular Biology	1194
Biomedical Sciences	1196
M.S. in Biomedical Sciences	1197
PhD Program in Biomedical Sciences	1199
Biostatistics	1200

M.S. in Biostatistics	1201
Ph.D. in Biostatistics	1202
Cancer Biology	1203
Ph.D. in Cancer Biology	1204
Clinical and Translational Investigation	1206
M.S. in Clinical and Translational Investigation	1207
Dermatology	1209
M.S. in Skin Biology and Dermatological Sciences	1209
Human Genetics and Genomics	1212
Human Genetics and Genomics	1212
Ph.D. in Human Genetics and Genomics	1213
MD Program	1218
MD/JD Program	1221
MD/MBA Program	1224
MD/MPH Program	1227
Medical Scientist Training Program (MD/PHD)	1232
MD/MS in Genomic Medicine	1237
MD/MPH Program	1238
Microbiology and Immunology	1243
Ph.D. in Microbiology and Immunology	1244
Molecular Cell and Developmental Biology	1246
Molecular and Cellular Pharmacology	1250
Neuroscience	1254
Ophthalmology	1257
M.S. in Vision Science and Investigative Ophthalmology	1257
PhD/MBA Program	1261
Physical Therapy	1263
D.P.T. Doctor of Physical Therapy (Entry Level)	1265
Ph.D. in Physical Therapy	1268
Cellular Physiology and Molecular Biophysics	1270
Ph.D. in Cellular Physiology and Molecular Biophysics	1271
Public Health	1273
Certificate in Public Health	1274
M.P.H. Master of Public Health	1275
M.P.H. /J.D. Master of Public Health / Juris Doctorate Dual Degree	1276
M.P.H./M.A. Master of Arts in International Administration Joint Degree	1276
M.PH/MALAS Master of Arts in Latin American Studies	1277
M.P.H./M.P.A. Master of Public Administration Joint Degree	1278
M.S.P.H. Master of Science in Public Health	1279
Ph.D. in Epidemiology	1279
Ph.D. in Prevention Science and Community Health	1280
Music	1282

Instrumental Performance	1288
A.D. in Instrumental Conducting or Performance	1288
D.M.A. in Instrumental Conducting	1289
D.M.A. in Instrumental Performance	1290
D.M.A. in Multiple Woodwinds	1290
M.M. in Instrumental Conducting	1291
M.M. in Instrumental Performance	1291
M.M. in Multiple Woodwinds	1292
Keyboard Performance	1293
A.D. in Keyboard Performance	1293
D.M.A. in Keyboard Performance and Pedagogy	1293
D.M.A. in Keyboard Performance	1294
M.M. in Keyboard Performance and Pedagogy	1295
M.M. in Keyboard Performance	1296
Music Education and Music Therapy	1297
M.M. in Music Education	1297
M.M. in Music Education with Teaching Certification	1298
M.M. in Music Therapy	1299
M.M. in Music Therapy with Undergraduate Equivalency	1299
Ph.D. in Music Education	1301
Music Media and Industry	1302
M.A. in Arts Presenting and Live Entertainment Management	1303
M.M. in Music Business and Entertainment Industries	1304
Certificate in Arts Leadership	1304
Certificate in Arts Management	1304
Certificate in Arts Presenting Fundamentals	1305
Certificate in Legal Aspects of Music Business	1305
Certificate in Music Business Fundamentals	1305
Certificate in Music Entrepreneurship	1305
Certificate in Music Rights Administration and Licensing	1305
Certificate in Tour and Live Entertainment Administration	1306
M.S. in Music Engineering Technology	1306
Music Theory - Composition	1306
D.M.A. in Composition	1307
M.M. in Digital Arts and Sound Design	1307
M.M. in Media Writing and Production	1307
M.M. in Music Composition	1308
Musicology	1308
M.M. in Musicology	1309
Studio Music and Jazz	1309
D.M.A. in Jazz Composition	1310
D.M.A. in Jazz Performance Instrumental/Vocal	1310

M.M. in Jazz Pedagogy	1311
M.M. in Jazz Performance, Instrumental	1312
M.M. in Jazz Performance, Vocal	1313
M.M. in Studio Jazz Writing	1314
Vocal Performance	1314
A.D. in Vocal Performance	1315
D.M.A. in Choral Conducting	1315
D.M.A. in Vocal Pedagogy and Performance	1316
D.M.A. in Vocal Performance	1317
M.M. in Choral Conducting	1317
M.M. in Vocal Performance	1318
Nursing and Health Studies	1320
BSN to DNP - Nurse Anesthesia Track	1325
MS - Health Informatics (online)	1327
MSN - Adult-Gerontology Acute Care Nurse Practitioner	1328
MSN - Adult-Gerontology Primary Care Nurse Practitioner	1330
MSN - Family Nurse Practitioner	1332
MSN - Nursing Informatics (online)	1334
MSN to DNP	1334
PhD - Nursing Science	1338
Post Masters Certificate - Adult Gerontology Acute Care Nurse Practitioner	1342
Post Masters Certificate - Adult Gerontology Primary Care Nurse Practitioner	1343
Post Masters Certificate - Family Nurse Practitioner	1343
Post Masters Certificate - Psychiatric Mental Health	1344
Post-Bachelors Certificate - Health Informatics (online)	1345
Graduate Student Handbook for Online Students	1346
About the Graduate School	1346
Definitions	1347
General Academic Requirements and Regulations	1347
Registration	1349
Admissions	1350
New Students	1354
Technical Requirements	1355
Cost, Fees, Billing and Payment	1356
Graduate Grading	1358
Repeating Courses & Academic Progression	1359
Attendance	1360
Late Payments, Holds, Collections and Refunds	1365
Ethics, Student Rights and Responsibilities	1366
Disciplinary and Grievance Procedures for Graduate Students	1366
Honors and Awards	1366
Requirements for Commencement	1366

Graduate Student Association	1367
Graduate Council	1367
Student Resources	1367
Important Phone Numbers	1368
Special Programs	1369
Miami Semester	1369
Office of Professional Advancement - Non Credit Courses	1371
Study Abroad	1374
Summer Scholars Program	1375
Summer Sessions and InterSessions	1377
Course Listing	1378
Accounting Business Administration (ACC)	1378
Aerospace Studies (AIS)	1390
Africana Studies (AAS)	1391
American Studies (AMS)	1392
Anthropology (APY)	1394
Applied Marine Physics (AMP)	1403
Applied Music (MAP)	1403
Arabic (ARB)	1404
Architecture (ARC)	1407
Art (ART)	1430
Art History (ARH)	1443
Atmospheric Science (ATM)	1450
Biochemistry and Molecular Biology (BMB)	1458
Biology (BIL)	1464
Biomedical Engineering (BME)	1485
Biostatistics (BST)	1500
Business (BUS)	1502
Business Law (BSL)	1511
Business Technology (BTE)	1515
Cancer Biology (CAB)	1523
Chemistry (CHM)	1525
Chinese (CHI)	1535
Cinema and Interactive Media (CIM)	1538
Civil, Architectural, and Environmental Engineering (CAE)	1555
Classics (CLA)	1568
Clinical and Translational Investigation (CTI)	1573
Communication (COM)	1574
Communication Studies (COS)	1577
Computer Science (CSC)	1583
Dance (DAN)	1593
Economics (ECO)	1596

Ecosystem Science and Policy (ECS)	1604
Educational and Psychological Studies (EPS)	1613
Electrical & Computer Engineering (ECE)	1630
English (ENG)	1650
Epidemiology and Public Health (EPH)	1671
Estate Planning	1682
Executive and Special Programs (ESP)	1683
Finance Business Administration (FIN)	1684
First-Year Seminar Fine Arts (FFA)	1696
First-Year Seminar Literature (FLT)	1697
First-Year Seminar Natural Science (FNS)	1697
First-Year Seminar Philosophy and Religion (FPR)	1698
First-Year Seminars Social Science (FSS)	1699
French (FRE)	1700
General Business Management and Organization (GBM)	1706
Genomic Medicine (GNM)	1707
Geography (GEG)	1708
Geological Sciences (GSC)	1719
German (GER)	1723
Graduate School (GRD)	1726
Greek (GRE)	1727
Haitian Creole (HAI)	1729
Health Sector Management	1731
Healthcare Sciences (HCS)	1734
Hebrew (HEB)	1737
History (HIS)	1738
Honors and Academic Enhancement (HON)	1758
Human Genetics and Genomics (HGG)	1759
Industrial Engineering (IEN)	1760
Instrumental Performance (MIP)	1772
Intensive English Program (IEP)	1806
Interdisciplinary Studies (IDS)	1808
International Studies (INS)	1808
Italian (ITA)	1822
Japanese (JPN)	1826
Journalism and Media Management (JMM)	1829
Judaic Studies (JUS)	1843
Keyboard Performance (MKP)	1846
Kinesiology (KIN)	1857
Latin (LAT)	1890
Latin American Studies (LAS)	1893
Law	1899

Law Writing	1943
Management (MGT)	1948
Management Science (MAS)	1957
Marine Geology and Geophysics (MGG)	1965
Marine Science (MSC)	1965
Marketing (MKT)	1977
Master of Arts Liberal Studies (MLS)	1984
Mathematics (MTH)	1986
Mechanical and Aerospace Engineering (MAE)	1998
Medicine	2009
Microbiology and Immunology (MIC)	2047
Military Science (MSL)	2052
Military Studies (MIS)	2053
Modern Languages and Literature (MLL)	2053
Molecular and Cellular Pharmacology (MCP)	2057
Molecular, Cellular and Developmental Biology (MDB)	2059
Music Education and Therapy (MED)	2060
Music, Media and Industry (MMI)	2072
Musicology (MCY)	2092
Neuroscience Program (NEU)	2099
Nursing (NUR)	2103
Ocean Sciences	2122
Ophthalmology	2134
Osher Lifelong Learning Inst (OSH)	2136
Pharmacology (PHA)	2166
Philosophy (PHI)	2167
Physical Science (PSC)	2180
Physical Therapy (PTS)	2181
Physics (PHY)	2194
Political Science (POL)	2201
Portuguese (POR)	2229
Program In Biomedical Sciences (PIB)	2232
Psychology (PSY)	2234
Public Health (BPH)	2251
Radiology (RAD)	2255
Real Estate Development (RED)	2255
Real Property Development	2256
Religious Studies (REL)	2258
Research Training (RST)	2272
RSMAS General (RSM)	2273
Sociology (SOC)	2281
Spanish (SPA)	2295

Strategic Communication (STC)	2304
Studio Music and Jazz (MSJ)	2314
Taxation Law	2342
Teaching and Learning (TAL)	2345
Theatre Arts (THA)	2372
Theory and Composition (MTC)	2389
University Internship (UMI)	2399
University of Miami Experience (UMX)	2400
Urban Studies (URB)	2400
Vocal Performance (MVP)	2400
Womens and Gender Studies (WGS)	2411
Index	2416

UNIVERSITY OF MIAMI ACADEMIC BULLETIN

GENERAL UNIVERSITY INFORMATION

A private, independent, international university

An equal opportunity/affirmative action employer

An announcement with information on administration, organization, admission and graduation requirements, and the courses of instruction in:

Undergraduate and Graduate Studies, 2018-2019

It is the policy of the University of Miami that no person within the jurisdiction thereof shall, on the basis of race, religion, color, sex, age, disability, sexual orientation, gender identity or expression, veterans status, or national origin, be excluded from, participation in, be denied the benefits of, or be subjected to discrimination or harassment (including all forms of sexual harassment and sexual violence) under any program or activity of the University, regardless of whether such program or activity occurs on-campus or off-campus. The University does not intend by this commitment to require compliance with this policy by governmental or external organizations that associate with but are not controlled by the University, except as required by law. The Executive Director of Workplace Equity and Performance is responsible for coordinating the University's effort to implement the nondiscrimination policy and Affirmative Action Programs for employees and students. The Executive Director may be contacted at the following address or telephone number:

Workplace Equity and Performance Office
Gables One Tower, Suite 100R
1320 S. Dixie Highway
Coral Gables, FL 33146
305-284-3064

More information regarding the student sexual harassment/violence policy may be found online in the Student Rights and Responsibilities Handbook (<http://www.miami.edu/SRR>). For available resources and services contact the Dean of Students Office (http://www.miami.edu/sa/index.php/dean_of_students), Phone: 305-284-5353; the Counseling Center (http://www.miami.edu/sa/index.php/counseling_center), Phone: 305-284-5511; and/or the Sexual Assault Response Team (http://www.miami.edu/sa/index.php/counseling_center/current_students/special_programs/sexual_assault_response_team_sart) (S.A.R.T).

The University of Miami is authorized under Federal law to enroll non-immigrant alien students.

The University reserves the right to change any provision or requirement, including, but not limited to fees and tuition, at any time without notice. Degrees, courses, programs, activities, and like academic or non-academic offerings of the University may also be changed from time to time without notice. The University further reserves the right to require a student to withdraw at any time under University policies, as may be promulgated from time to time. Further, admission of a student to the University of Miami for any semester does not imply that such student will be enrolled in any succeeding academic semesters. It also reserves the right to impose sanctions on any student whose conduct is unsatisfactory. Any admission on the basis of false statements or documents is void when the misconduct is discovered, and the student is not entitled to any credit hour for work which the student may have done at the University prior to any discipline that may be taken as a result of such misconduct. When a student is dismissed or suspended from the University for cause, there will be no refund of tuition or fees paid. If a dismissed student has paid only a part of his tuition and fees, the balance due the University will be considered a receivable and will be collected.

There will be no refund of tuition, fees, charges or any other payments made to the University in the event the operation of the University is suspended at any time as a result of any act of God, strike, riot, disruption, or for any other reason beyond the control of the University.

The University of Miami is accredited by the Southern Association of Colleges and Schools Commission on Colleges to award bachelor's, master's, specialist, and doctoral degrees. Contact the Commission on Colleges at:

1866 Southern Lane
Decatur, Georgia 30033-4097

or call 404-679-4500 for questions about the accreditation of the University of Miami.

Mission Statement

The University of Miami's mission is to educate and nurture students, to create knowledge, and to provide service to our community and beyond. Committed to excellence and proud of the diversity of our University family, we strive to develop future leaders of our nation and the world.

Core Values

We are absolutely committed to freedom of inquiry—the freedom to think, to question, to criticize, and to dissent. We will pursue the value of excellence in our research and educational missions with the single-mindedness that only great commitments deserve. We will provide our students with the foundations for ethical citizenship and service to others, a respect for differences among people, and a commitment to high standards of

thought and communication. We also will prepare them for rewarding lifelong careers and will imbue in them a continued and permanent desire for the study of knowledge and the search for truth.

University Policies

Course Information

Academic Calendar

The University of Miami adheres to a reasonable approximation of the Carnegie unit for contact time. In addition, students are expected to spend two hours outside of class in preparation for every classroom hour. The Academic Calendar (<http://www.miami.edu/index.php/registrar/calendar>) is maintained by the University Registrar and is the official record of academic instruction.

The standard meeting times for three-credit hour courses are as follows:

- 50-minute, Monday-Wednesday-Friday schedule;
- 75-minute, Tuesday-Thursday schedule.

The calendar is planned to ensure 69 class days (41 Monday-Wednesday-Friday meeting days and 28 Tuesday-Thursday meeting days) and at least five days for final examinations in a 15-week semester. The policy allows a mandatory examination period to be counted in the minutes of instruction, but does not count reading days. The University has a required two-and-a-half-hour final examination policy, resulting in a minimum of 45 hours of classroom instruction in a three-credit hour course for all undergraduate and graduate terms in the Academic Calendar.

The calculation for summer sessions and other abbreviated terms follows this same standard which means longer class meeting times over the duration of the shortened term.

Miami Business School

In the Miami Business School, graduate programs include terms of varying length. The School follows federal and SACS guidelines for the credit hour. All graduate business programs have a minimum of 750 minutes of instructional contact time per credit hour, including the final examination. Students are expected to dedicate at least two hours of course-related work for each hour of instruction.

School of Law

The School of Law is accredited by the American Bar Association and follows federal and SACS guidelines for the credit hour. Ordinarily, full-time students must enroll for a minimum of 11 credit hours and a maximum of 16 credit hours (please consult the Student Handbook and Honor Code). For one credit hour, a student receives 700 minutes of instruction, exclusive of examination time. For a three-credit hour course, this equates to 2,100 minutes of classroom instruction. An additional 180 minutes of instruction is allotted for the final exam session in a three-credit hour course. The faculty expects students to spend at least two hours outside the classroom in preparation for each hour of instruction.

Miller School of Medicine

The Miller School of Medicine is accredited by the Liaison Committee on Medical Education (LCME). The School's Department of Physical Therapy is accredited by the Commission on Accreditation in Physical Therapy Education (CAPTE). The length of all educational programs is appropriate for each degree, based on national standards and accreditation criteria. The School follows federal and SACS guidelines for the credit hour. Completion of the M.D. program ordinarily takes four years. Although credit hours are not specified by the LCME, the medical education program leading to the M.D. must include at least 130 weeks of instruction.

Academic Credit

The University of Miami adopted the following Federal Definition of the Credit Hour at the Faculty Senate meeting on April 17, 2013 that appears in the Credit Hours policy statement of the Southern Association of Colleges and Schools Commission on Colleges (SACS), Federal Requirement 4.9:

Federal Definition of the Credit Hour

For purposes of the application of this policy and in accord with federal regulations, a credit hour is an amount of work represented in intended learning outcomes and verified by evidence of student achievement that is an institutionally established equivalency that reasonably approximates:

1. Not less than one hour of classroom or direct faculty instruction and a minimum of two hours out of class student work each week for approximately fifteen weeks for one semester or trimester credit hour, or ten to twelve weeks for one quarter credit hour, or the equivalent amount of work over a different amount of time, or
2. At least an equivalent amount of work as outlined in item 1 above for other academic activities as established by the institution including laboratory work, internships, practica, studio work, and other academic work leading to the award of credit hours.

Application of Credit Hour Policy

This credit hour policy applies to all undergraduate and graduate programs that award academic credit (i.e., any course that appears on an official transcript issued by the University) regardless of the delivery method including, but not limited to, self-paced, online, hybrid, lecture, seminar, and laboratory. Academic units are responsible for ensuring that credit hours are awarded only for work that meets the requirements outlined in this policy.

The expectation of contact time inside the classroom and student effort outside the classroom is the same in all formats of a course whether it be online, a hybrid of face-to-face contact with some content delivered electronically, or one delivered in lecture or seminar format. The University operates on the semester system and, for its measure of academic course work, uses academic credits (referred to as semester credits, semester hours, credit hours, hours, or credits).

Courses that have less structured classroom schedules, such as research seminars, independent studies, internships, practica, studio work, or any other academic work leading to the award of credit hours, at a minimum, should state clearly learning objectives and expected outcomes and workload expectations that meet the standards set forth above.

Two or three laboratory hours each week throughout a semester are considered the equivalent of one lecture hour in counting credit hours earned in an undergraduate laboratory or studio course.

No grades or credit hours are given for audited courses.

Campus Processes - Curriculum Review

Each College or School within the University of Miami is charged with following the policy on credit hours in its review and approval of all undergraduate and graduate courses and for certifying that the expected student learning for the course meets the credit hour standard. The determination of credit hours is made when a new course or a revision to an existing course is proposed. The submitted syllabus is examined for contact time as well as for assignments and evaluation mechanisms.

The Office of the University Registrar requires training for class scheduling before granting access to any departmental staff approved by a department for scheduling classes.

Cancellation of Courses

Students who select courses and fail to make payment and/or financial arrangements with the Office of Student Account Services (OSAS) prior to the payment deadline will have their course schedules canceled. Reinstatement of classes can only occur after payment arrangements have been made with the OSAS to cover all financial obligations including any reinstatement fees. Reinstatement to cancelled classes will be on an "as available" basis after financial arrangements have been completed.

Change or Drop of Course

- Course changes after the completion of registration must be approved by the student's academic dean.
- Dropping of any course for which the student has registered is official only when the drop has been fully processed by the student successfully dropping the course via CaneLink or by the Office of the University Registrar.
- **Please note: Failure to attend classes or merely giving notice to instructors of one's absence will not be considered as an official withdrawal and may result in failure in the course.**
- The last day to drop a course or make a change in credit-only option is noted on the Academic Calendar (<http://www.miami.edu/index.php/registrar/calendar>).
- Students enrolled in a course after the withdrawal date must receive a final grade in the course.

Class Attendance and Absences

Regular and punctual class attendance is vital for all students. Instructors will distribute course syllabi which include policies regarding class attendance and missed or late work. Any student may be dropped from a course or receive a lowered grade for unauthorized absences in excess of those permitted by the instructor. It is each student's responsibility to know and understand the instructor's policies. It is also the student's responsibility to give the instructor notice one week prior to any anticipated absence and to contact the instructor within one week after any unanticipated absence.

All students are responsible for material covered during their absence. However, the instructor must allow each student who is absent for a University-approved reason either the opportunity to make up, or to be excused from, work missed, without any reduction in the student's final course grade as a direct result of such absence.

Other than absences for a University-approved reason, the instructor determines whether or not an absence is for an acceptable reason and whether or not students shall have the opportunity to make up missed work. If the instructor does not recognize the reason as acceptable, the student may appeal to the chair of the department in which the course is offered.

The following constitute University-approved reasons for absences:

1. Participation in an activity approved by the Academic Deans Policy Council, such as musical and debate activity, R.O.T.C. function, or varsity athletic trip; participation in a special academic activity such as a field trip or other special event connected with academic coursework. Verification of a student's participation shall be issued by the sponsor when authorized by the Office of the Executive Vice President and Provost.
2. Observance of a religious holy day as described in the Religious Holy Day Policy, below.

Religious Holy Day Policy

The University of Miami, although a secular institution, is determined to accommodate those students who wish to observe religious holy days. It seeks to reflect its awareness of and sensitivity to religious holy days whenever possible when scheduling University activities. The following provisions are meant to apply equitably to all religious groups and to provide opportunities to all to meet their religious obligations.

1. Except as specifically provided to the contrary, this policy is binding on all students in undergraduate programs. Schools offering graduate or professional programs, including undergraduate professional programs, are strongly encouraged to adhere to these policies to the maximum extent practicable.
2. Any student absent from class in observance of a religious holy day shall not be penalized in any way for an examination or assignment missed during the period of absence. Absence in observance of a religious holy day does not relieve students from responsibility for any part of the course work required during the period of absence. Students who are absent on days of examinations or class assignments shall be offered a reasonable opportunity to make up the work without penalty, if the student previously arranged to be absent. Nothing in this policy shall preclude faculty members from limiting the number of student absences to a reasonable number of absences for any reason. The faculty member has discretion to determine how the make-up obligation will be fulfilled. A faculty member who penalizes a student contrary to these provisions may have committed unprofessional conduct, and thus may be subject to a complaint to the Committee on Professional Conduct under the provisions of Section B4.9 of the Faculty Manual.
3. It is the student's obligation to provide faculty members with notice of the dates they will be absent due to observance of religious holy days, preferably before the beginning of classes but no later than the end of the first three class days. For religious holy days that fall within the first three class days, students must provide faculty members with notice no later than two class days before the absence. Missing a class due to travel plans associated with a particular religious holy day does not constitute an excused absence. Absences due to observance of religious holy days that are not pre-arranged with the relevant faculty member within the first three class days may be considered unexcused, and the faculty member may therefore prevent the student from making up examinations or assignments missed during the period of absence.
4. Faculty members are encouraged to anticipate days when a substantial number of students will be absent for observance of religious holy days and should avoid scheduling examinations and assignment deadlines on those days. Faculty members are expected to reasonably assist students in obtaining class information the student missed during the period of absence in observance of a religious holy day. In that regard, faculty members are urged to allow taping or recording of the class session, with the reproduction limited to the student's personal use, when a student misses a class due to observance of a religious holy day. To assist in identifying religious observance days, faculty members are encouraged to consult the illustrative list provided in the Interfaith Calendar. (<http://www.interfaith-calendar.org>) Faculty members are urged to remind students of their obligation to inform faculty members within the first three class days of any anticipated absences due to observance of religious holy days and should include that information in the syllabus or course requirements document for that course.

Course Numbering System

The following course-numbering system is used:

- Courses in the 100 series are primarily for freshmen.
- Courses in the 200 series are primarily for sophomores.
- Courses in the 300 series are primarily for juniors.
- Courses in the 400 series are primarily for seniors.
- Courses in the 500 series are open only to seniors or other qualified undergraduates.
- Courses in the 600 through 800 are open only to graduate students.

Courses in some departments, with the specific numbers 100, 200, 300, 400 are offered, in most instances, on an experimental or trial basis. When listed in CaneLink's Course Offerings, a more descriptive title will normally be attached.

Eligibility

To be eligible to enroll for courses under the CR/NC option, a student must:

1. Hold the standing of Sophomore or above, and, if a transfer, must have completed one semester of residency at the University of Miami;
2. At the time of registration have a minimum cumulative grade point average of at least 3.00;
3. Elect the CR/NC option within two weeks following the last day of registration for Fall and Spring semesters. Election of CR/NC options for Summer Sessions must occur no later than the fifth class day following the last day of registration. No changes except withdrawals from the course are permitted after this time.

Regulations and Restrictions

1. Eligible students may take one course per semester for credit only, to a maximum of 9 credit hours.
2. Only free electives may be taken under this option. Free electives are defined as courses not taken to fulfill the requirements for the major, minor, or general education requirements (including prerequisite course work) of the University and the individual schools.
3. ENG 105 and ENG 106 cannot be taken for credit only.
4. Grading standards for the credit only option are the same as for students who register for the course under the regular grading system. Letter grades will be submitted by instructors to the Office of the University Registrar. The Office of the University Registrar will change all grades A through C (including "C-") to CR (Credit Received) for those enrolled under the CR/NC option.
5. A grade of NC (No Credit) will be recorded by the Office of the University Registrar for all grades of D and F. The student will not receive credit hours or quality points for the grade of NC.
6. Should a student subsequently change his/her major, free electives taken for credit only prior to the declaration of this major may be counted toward fulfilling major, minor, or general education requirements at the discretion of the department chairman and the academic dean.

Credit for Service Experience

Veterans of the military services may make application for academic credit for schooling received while in the armed forces. Credit hour may be awarded for work that the American Council on Education Guide regards as college level. Students must have credit hours approved by their departmental chairperson.

Credit hour for military service and experience is usually in the elective area and may not take the place of subjects required for graduation. Such work is not assigned quality points and is not included in quality point computations.

Final Examination Policy

- Final Examinations may not be given during a regularly-scheduled class period.
- No examination shall be permitted during the reading period.
- Final Examinations may be rescheduled only with the permission of the school/college dean.
- No student shall be required to take more than two final examinations in a twenty-four hour period. A student having three or more final examinations scheduled during a twenty-four hour period may request the instructor of the course most easily rescheduled (normally the course with the smallest enrollment) to reschedule the examination for that individual. The request shall be made no later than two weeks before the last class day.
- A student who has a conflict between a final examination and a religious observation may request that the instructor reschedule that student's examination. The request shall be made no later than two weeks before the last class day.
- For the resolution of any problem pertaining to the scheduling of final examinations, a student should consult with the following entities or persons in this order: the relevant instructor, the department chair, the Dean or designee. If the matter cannot be resolved at the school or college, the student should contact the Office of the Provost.

Military Withdrawal

- Students who need to withdraw from a semester due to official orders to active duty with the Armed Forces of the United State must provide a copy of their official written orders when submitting the request to withdraw.
- Students who withdraw **after the 12th week of the semester** because of these official orders may either be awarded credit hour (CR) or an academic grade for any course in which they have achieved a C or better up to the time of withdrawal. Instructors must certify that the student had achieved satisfactory accomplishment on the basis of previous work in the course by awarding an appropriate grade. Accomplishment of less than C should be entered on the permanent record as a withdrawal without prejudice (W).
- Credit hour granted for courses under this policy should count toward graduation.
- There should be no refund of tuition for courses for which credit hour has been awarded. Refunds for courses not awarded credit hour should be on the same basis as complete withdrawals for military service.
- The above recommendations are procedures for determining the awarding of credit hour and do not release the student from the usual withdrawal procedures.

Registration

Registration dates are shown on the University Academic Calendar (<http://www.miami.edu/index.php/registrar/calendar>), and all students are expected to register on these days. If a student is permitted to register late, a fee may be charged.

Repeat Rules

A student may repeat a course, but the repetition will not eliminate the previous grade from the record. A course may be repeated only once¹ unless written authorization is provided by the chair of the department in which the course is offered or, in the case of an un-departmentalized school, by the dean.

Illegal Repeat

A student may not repeat a course in which a grade of C or higher has been earned. This is considered an illegal repeat.

General Repeat Rule

- If the initial grade is D+ or lower (or a C- in cases where an academic unit requires a C or higher), both the initial grade and the repeat grade are included in the computation of the student's cumulative grade-point average (CGPA).
- If the initial grade is a D or D+ (or a C- in cases where an academic unit requires a C or higher) and the repeat grade is passing, the number of credit hours required for graduation will be increased by the number of credit hours repeated.
- Registrations that involve repeating a course in which a grade of C or higher (or C- in cases where an academic unit does not require a C or higher) has already been earned do not earn quality points or credit hours, nor count as credit hours attempted.
- Courses repeated after graduation² will be posted to the transcript showing the grade received; however, the CGPA and credits earned will not be modified based on the grade received for the repeated course.

Undergraduate Repeat Rule

- A student may elect to repeat up to two courses that were taken at the University of Miami in which the student earned a grade of D (including D+) or F. Each repeated course must be taken at the University of Miami, must be the same course as the course initially taken, and must be completed within two regular semesters enrolled following the initial course.
- No course may be repeated more than once under this rule. A course repeated more than once under the University's General Repeat Rule will not qualify under the Undergraduate Repeat Rule.
- Enrollment for a second time in a course constitutes a repeat of that course for the purposes of this rule, unless the student withdraws from the course on or before the University's published Last Day to Drop a Course date.
- For each repeated course, only the second grade (whether higher, or lower, or the same as the first grade) will be used in the computation of the student's CGPA. The initial course will not count as credit hours attempted or earned, although the initial course grade will remain on the student's permanent record.
- Students who plan to apply to graduate and/or professional school should be aware that such institutions may recalculate the CGPA to include the initial grade earned before the repeat.

¹ This does not include courses that are eligible to be repeated for credit (e.g. Special Topic courses, Music lessons, etc.). Courses that are eligible to be repeated are designated in the student information system, CaneLink. Courses may have limits on the number of times they may be repeated.

² This refers to courses or a course with a particular grade required for entry into a different degree program.

Graduate Repeat Rule

A student may repeat a course *in which a failing grade was earned*, but the repetition of the course will not eliminate the previous grade from the record. A course may be repeated only once unless written authorization is provided by the Dean of the Graduate School. All grades are included in the computation of the quality point average. If a course in which an unsatisfactory grade (as determined by the program advisor) was earned is repeated and the repeat grade is a "C-" or higher, the number of credit hours required for graduation will be increased by the number of credit hours repeated.

Miami Business School Graduate Repeat Rule

Graduate students in the Miami Business School who fall below the 3.0 GPA may be placed on academic probation. Within one semester after their GPA falling below 3.0, Master's students wishing to repeat a course may petition their program director to do so. If the petition is approved by the Graduate Program Director, the grade obtained in their second attempt will replace the original grade for purposes of calculating their GPA for clearance for graduation only. Authorization to repeat a course is limited to courses in which an unsatisfactory grade was earned (as determined by the Graduate Program Director). Additionally, a course may be repeated only once and students may not repeat more than two courses. The student's transcripts will continue to show all attempts and the GPA computation will include all grades earned for purposes other than computing the GPA for clearance for graduation. If a course in which an unsatisfactory grade of lower than a B- was earned is repeated and the repeat grade is "C-" or higher, the number of credits required for graduation will be increased by the number of credits repeated. Registrations which involve repeating a course in which a grade of "A" or "B" has already been earned may not earn quality points or credit hours, nor count as credits attempted.

Undergraduate Schedules

Fifteen or sixteen credit hours constitutes a normal schedule at the University. Academic deans and advisors will determine the appropriate credit hour load for their students. (A schedule of charges for credit hours is found in the Financial Payment Policies section of this Bulletin.) The schedule of any student whose outside interests cause unsatisfactory scholastic attainment may be reduced by the dean.

Temporary/Permanent Withdrawal from the University

If a student decides to withdraw from the University of Miami, there are procedures in place to facilitate this process. In order to withdraw officially from the University, a student must follow the procedures outlined in this bulletin and on the University of Miami website (<https://success.miami.edu/student-withdrawal/important-information>).

Failure to follow the outlined withdrawal process may result in monies owed to the university (e.g. tuition, fees, etc.), failing grades on a student's academic record and/or other negative consequences.

Please note that dropping courses in a summer session, thereby reducing a student credit-hour load to zero is not construed as a formal withdrawal from the University.

Undergraduate Students

In order to officially withdraw from the University, Undergraduate students are **required to** speak with an Advisor in the 'Cane Success Center. The 'Cane Success Center is located on the 2nd Floor of the University Center, Suite 2275 (also known as "The Nest"). Walk-in hours are available from 9:00 AM – 2:00 PM Monday thru Friday. You may also reach a 'Cane Success Center Advisor by calling 305-284-4500 or via email (success@miami.edu) to initiate the withdrawal process.

For more details about the withdrawal process and for helpful hints on making a smooth transition out of the University, visit the Undergraduate Withdrawing Student Checklist (<https://success.miami.edu/student-withdrawal/important-information>).

For students who are no longer on campus – If you have already left the University but did not complete the withdrawal process before your departure, please call or email (success@miami.edu) the 'Cane Success Center at (305) 284-4500 to begin the withdrawal process. Your withdrawal will not be finalized until an Exit Interview is completed with a 'Cane Success Center Advisor.

Undergraduate Appeal Process

Withdrawal Date Appeal Form – If you were unable to attend classes due to a serious accident or illness, and this prevented you from notifying the University of your withdrawal in a timely manner, a Withdrawal Date Appeal Form (<https://success.miami.edu/student-withdrawal/important-information>) can be submitted for consideration by an Appeals Committee. Appeals are submitted **AFTER** completing the official withdrawal process above and must include supporting documentation as to what prevented a timely notification. All appeals must be submitted within 30 calendar days of the official withdrawal date established with the 'Cane Success Center or if the appeal is being submitted for a semester that has already completed, it must be submitted within 30 calendar days of the last day of the end of the semester in question. Appeals should be submitted via email (registrar@miami.edu) or by mail to:

University of Miami
Office of the University Registrar - Withdrawal Date Appeal
P.O. Box 248026
Coral Gables, FL 33124-6914

Merit-based Scholarship Status upon Return – If you withdraw from the University but choose to return within one calendar¹ year, and you have continued to meet the requirements of your scholarship, then your merit scholarship² will be waiting for you. Contact the 'Cane Success Center to begin the process of readmission.

¹ Frost School of Music students will need to re-audition after one semester away from the University.

² Merit Scholarships are awarded as consecutive semesters. If you spent a semester or two away from the University, these would be terms counted as part of your total scholarship. Please refer to your scholarship agreement for details.

Student Groups with Special Concerns Regarding Withdrawing from the University

- **Veterans** and children of deceased or totally disabled veterans attending the University as students under the government's educational benefit bills must also be cleared by the Veterans Affairs Certifying Official.
- **Varsity athletes or any athlete** registered with the department of Athletics must obtain approval and be cleared by the Athletic department prior to any change in their registration status, including withdrawal from the university.
- Per U.S. Department of Homeland Security (DHS) regulations, **international students in F-1 or J-1 visa status** must notify their ISSS advisor prior to temporarily or permanently withdrawing from the University and must leave the U.S. within 15 days of withdrawing. Failure to comply with DHS regulations may result in the loss of your future eligibility to enter the U.S.

Refunds

During the academic year, tuition will be refunded on a prorated basis depending on the date that is noted as the 'Total Withdrawal Date'. Tuition will be refunded on a prorated basis through 60 percent of the semester. Please see the Refund Policy (p. 42) under the Financial Payment Policies section.

Title IV financial aid and tuition will be refunded on a pro rated daily basis through 60 percent of the semester. This date is determined based on the student notifying the Cane Success Center (Undergraduate)/ Office of the University Registrar (Graduate) of his/her intent to withdraw. If the student fails to notify the appropriate office, federal guidelines for determining refunds will be followed.

Student Right to Know Act

The Student-Right-to-Know and Campus Security Act requires institutions to disclose information about graduation rates and crime statistics to current and prospective students. Students interested in obtaining this type of information should contact the Office of Admission, 305-284-4323 or go to this website (<http://www.miami.edu/hea>).

Family Educational Rights and Privacy Act (FERPA) Buckley Amendment

The purpose of this policy is to assure that students have access to their educational records and to assure the privacy of students by restricting the disclosure of information from education records to those persons authorized under the Act.

The policy is provided to all students in the Student Life Handbook. Copies can also be printed from the website (<http://www.miami.edu/SRR>).

Security of Student Records

The Office of the University Registrar is charged with the responsibility of maintaining the security and integrity of student records. Student records created before 1985 have been electronically scanned. Student records created after 1985 are housed on an electronic database.

In order to maintain confidentiality, access to the student record system is limited to university personnel who have a legitimate need for this information. Each user is required to fill out an access form. A user name is created, and each user must also create a password that must be changed every 180 days. Periodic audits of records as well as reviews of who has access to the system are regularly scheduled to ensure a secure environment.

Students are assigned a UM ID number that is unique to them and they are encouraged to use it instead of their social security number. Students are required to provide their student ID or a photo ID when requesting academic record information from this office.

FERPA Training

FERPA, the Family Educational Rights and Privacy Act, provides established guidelines for universities to ensure that students have access to their educational records as well as to ensure the privacy of said records by restricting the disclosure of information from educational records to those persons authorized under the Act. FERPA guidelines must be followed when dealing with the disclosure of student information.

All staff who use the student records system are required to complete a FERPA tutorial. Periodic reviews are required.

Service Indicator (Hold) on Student Records

Schools and colleges, university administrative departments and other student related offices have the ability to put service indicators, also known as holds, on student records. These holds can be financial, academic or disciplinary in nature and may delay a student's ability to register, to receive an official transcript or to receive a diploma. Holds on a student's record normally require action on the part of the student, i.e., a payment, completion of paperwork, etc. Specific information on a hold and what is required to remove it can be found in the Student Services Center in CaneLink or can be obtained from the office/department that initiated the hold.

Financial Assistance

<https://finaid.miami.edu/>

The Office of Student Financial Assistance (<https://finaid.miami.edu>) and Employment (<https://www.miami.edu/ofas>) administers federal, state, private and University financial assistance programs. Our office awards financial assistance for Undergraduate and Graduate/Professional students. We communicate with our students mainly through the **CaneLink** (<https://canelink.miami.edu>) system regarding any information we might need in order to complete the financial aid process. Medical students should contact their respective financial aid office.

Hours of Operation

Walk In Hours

Monday, Tuesday, Thursday, Friday 9:00 to 5:00
Wednesday 10:30 to 5:00

Phone Hours

Monday and Friday 9:00 to 5:00
Tuesday, Wednesday, Thursday 9:00 to 6:00

Office of Student Financial Assistance and Employment
P.O. Box 248187

Coral Gables, FL 33124-5240
 Telephone: 305-284-6000
 Fax: 305-284-4082

Undergraduate Financial Assistance

It is the purpose of the Office of Student Financial Assistance and Employment to provide need base assistance and/or academic achievement awards to qualified students in the form of scholarships, grants, loans and work programs (<https://finaid.miami.edu/types-of-aid>) to the extent that resources are available. Professional financial aid and student employment advisors are ready to assist all students plan for the most efficient use of their financial resources for education.

Underlying the awarding of need-based financial assistance is the philosophy that the student and family have the primary responsibility for educational costs. Need-based financial assistance serves to supplement these primary resources.

- Students who require financial assistance in order to attend the University should apply for assistance each academic year.
- Candidates for admission should indicate their interest in financial assistance by checking the box provided for that purpose in the application for admission.
- The U.S. Department of Education's Free Application for Federal Student Aid (FAFSA) (<http://www.fafsa.ed.gov>) is used to determine eligibility for federal need based assistance. The FAFSA must be completed for each academic year.
- Beginning with students who entered during the 2014-2015 academic year (including readmitted students) the College Board's CSS Financial Aid PROFILE Application is required to determine institutional need based financial aid awards. The PROFILE application must be completed each academic year to determine renewal eligibility.

Admission Application Option (App Deadline)	FAFSA, CSS/Financial Aid PROFILE, Noncustodial Parent PROFILE, Prior-Prior Year Tax Returns and W2's
Early Decision I & Early Action	December 1
Early Decision II and Regular Decision	January 1
Transfer- Fall	April 15
Transfer - Spring	November 1
Continuing Student	April 15

Important Financial Aid Tips

- Financial aid applications are accepted throughout the year but it is important to note that the appropriate preference date for receipt of aid applications must be met as aid is awarded on a funds available basis.
- **DO NOT WAIT FOR YOUR ADMISSION DECISION TO APPLY FOR FINANCIAL AID.** Financial aid resources are limited and there is no guarantee of assistance for students who do not submit appropriate documentation by the deadline posted above. **Your financial aid application will not be considered complete until all documents are received.**
- The Free Application for Federal Student Aid (FAFSA) is available at fafsa.gov. Use Federal School Code is 001536. Create an FSA ID and Password at fsaid.ed.gov (<http://fsaid.ed.gov>).
- Complete your CSS/Financial Aid PROFILE at css.collegeboard.org (<https://student.collegeboard.org/css-financial-aid-profile>). After you complete your CSS/Financial Aid PROFILE, you will receive an e-mail from the College Board's IDOC (<https://idoc.collegeboard.org/idoc>) process with instructions on submitting the necessary documentation. *All documents should be submitted directly to College Board.*
- If you are not required to file a federal tax return and will not be filing, please submit the official IRS non-filer letter. This can be ordered through the IRS website www.irs.gov (<https://www.irs.gov/individuals/get-transcript>).

Financial Aid Census Date

Effective Fall 2014, financial aid awards will be set according to a census date or date of fixed enrollment. All financial aid awards will be set according to the enrollment in effect at the close of business on the last day of the drop/add period each regular term semester. No adjustments will be made to the financial aid awards for any enrollment changes (increases or decreases) made after this date with two exceptions:

1. Bright Futures awards will continue to be adjusted (increased or decreased) according to any change in the enrolled credit hours.
2. The aid award package for students with federal financial aid and who completely withdraw (drop to 0 credit hours enrolled) will be adjusted according to the regulatory required Return To Title IV Calculation.

Graduate and Doctoral Students

It is the purpose of the Office of Student Financial Assistance and Employment to provide federal financial aid assistance to qualified students in the form of loans and work programs (<https://grad-prof.miami.edu/types-of-aid>) to the extent that resources are available. Professional financial aid and student employment advisors are ready to assist all students plan for the most efficient use of their financial resources for education. Law, Graduate and Doctoral students need only complete a few steps in order to receive notification and disbursement of federal awards.

1. Apply for Admission to a Graduate Program or the Law Program at the University of Miami.
2. Complete the Free Application for Federal Student Aid (FAFSA).
 - a. Graduate/Doctoral Students: School Code 001536
 - b. Law Students: School Code E00532
3. Accept, reduce or decline your awarded aid via CaneLink.
 - a. First-time loan borrowers must complete Entrance Counseling at the Department of Education website (<http://www.studentloans.gov>).
 - b. A signed Promissory Note for both the Unsubsidized and the Graduate PLUS Loan are required if either loan is utilized. Each should be completed at the Department of Education website (<http://www.studentloans.gov>).
 - c. Students receiving the Graduate PLUS Loan must have an approved credit check conducted by the Department of Education in order for the loan to be disbursed.

Your financial aid award may consist of loans, scholarships, tuition waivers or a combination. Aid is offered to a student's maximum eligibility as determined by enrollment and the Cost of Attendance (COA).

Some of the aid programs which may be offered to a Law, Graduate or Doctoral student:

Federal Direct Unsubsidized Stafford Loan: the interest becomes due to the student upon the disbursement of the funds. However, a student may choose to capitalize the interest which will accrue and result in additional indebtedness when repayment begins. Eligibility is not based on need and is up to \$20,500 for an academic year.

Federal Direct Graduate PLUS Loan: Borrowers may be eligible to request up to the cost of attendance minus other financial aid. Your award letter includes your maximum loan eligibility for the Federal Graduate PLUS Loan. This loan is based on the borrower not having an adverse credit history. Once you have accepted the offered loan amount on CaneLink, a credit check will be conducted by the US Department of Education. You will be required to have completed a Master Promissory Notice as well as Entrance Counseling (first time borrowers only). In the event your loan is declined, you have the option of appealing that decision or reapplying with an endorser; however, the Department of Education will then require you complete Credit Counseling in order to approve the disbursement of your loan.

First-time borrowers will need to complete the online Federal Direct Stafford Loan Master Promissory Note (MPN) and Loan Entrance Counseling with the Department of Education. Students may complete all federal student loan applications and entrance counseling at the Department of Education website (<http://www.studentloans.gov>).

Scholarships and Tuition Waivers are exclusively handled by the respective department. Our office is notified of scholarships/waivers by the department and it is then added to your award package. Adjustments to your Graduate PLUS Loan and/or other aid may take place upon notification to prevent an over award of aid.

In order to receive a graduate assistantship or fellowship, a graduate student must:

- Be admitted unconditionally to a post-baccalaureate degree program;
- Be enrolled for full-time study; and
- Maintain a cumulative graduate grade point average of 3.0 or above.

For additional information, please visit the Law School Website (<http://www.law.miami.edu>) or the Graduate School Website (<http://www.miami.edu/grad>). For specific information regarding graduate programs, contact the Graduate Advisor of the respective program. For information regarding loan and work-study opportunities, visit the Office Student Financial Assistance and Employment website (<http://www.miami.edu/ofas>).

For United States citizens and eligible non-citizens, federal financial aid is available for online programs.

- Applying for Financial Aid (<https://grad-prof.miami.edu/applying-for-aid>), UM
- Costs and Financial Aid (<https://grad-prof.miami.edu/cost>), UM

Eligibility

Please see the University's Financial Aid (<https://grad-prof.miami.edu/applying-for-aid/terms-and-conditions>) website for eligibility criteria.

Applying for Financial Aid

To apply for financial aid, submit the Free Application for Federal Student Aid (FAFSA) (<https://fafsa.ed.gov>). Be sure to include the University of Miami school code **001536**.

Awarding and Disbursing Financial Aid

Key Points and associated deadlines:

- Awards are processed on a rolling basis and are done annually, one academic year at a time (3 terms per academic year: Fall, Spring and Summer).

- Students are strongly encouraged to begin the application process at least **four weeks** prior to the start date of their program or renewal date of their existing loan.
- Applications will be accepted in the **last 30 days of the term**, but the Office of Student Financial Assistance and Employment cannot be held responsible if funds are not available for disbursement for the term. Delays can occur that are outside of the control of the Office of Student Financial Assistance and Employment.

New Students

The Office of Student Financial Assistance and Employment will award Financial Aid for new students when

- A student has been fully admitted
- FAFSA has been received
- Student has enrolled in classes
- Student has been billed for that term

Financial Aid will be disbursed to the Office of Student Account Services:

- After the last day to add/drop and when attendance has been confirmed by the Online Department.

Continuing Students

The Office of Student Financial Assistance and Employment will award Financial Aid for continuing students only when

- FAFSA has been received
- The student has enrolled in classes
- Satisfactory Academic Progress has been determined
- Student has been billed for that term

Financial Aid will be disbursed to the Office of Student Account Services:

- After the last day to add/drop and when attendance has been confirmed by the Online Department.

Maintaining Eligibility, including Satisfactory Academic Progress

Students must maintain all federal aid eligibility requirements for the entire term. Please see the Satisfactory Academic Progress (<https://grad-prof.miami.edu/applying-for-aid/satisfactory-academic-progress>) page for specific criteria for maintaining eligibility.

Satisfactory Academic Progress

Federal and Institutional Need-based SAP Policy

- In compliance with federal financial aid regulations, the University of Miami requires satisfactory academic progress (SAP) towards a degree as an eligibility requirement for federal and university need-based financial assistance. The SAP policy requires both a quantitative and a qualitative measure of a student's progress.
- This policy is applicable to all undergraduate, law, graduate and doctoral students receiving financial aid through federal aid sources, including the Federal Parent Loan for Undergraduate Students (PLUS).
- At the end of each semester, the Office of Student Financial Assistance and Employment Services reviews the academic progress of all University of Miami financial aid recipients.
- If it is determined that a student is not making satisfactory academic progress at the end of the semester, a notification is sent to the student. The student will be placed on financial aid warning for one semester. Aid will not be withdrawn for the subsequent (warning) term, but at the end of that term, the student's academic record will be reviewed by Office of Student Financial Assistance and Employment and appropriate renewal or termination actions will be taken. Notification will be sent to the student detailing information on the appeal process.
- Federal academic progress policy is subject to change based on guidelines and changes made by the U.S. Department of Education.

A general description of the major financial assistance programs available through various departments as well as the Office of Student Financial Assistance and Employment can be found here (<http://www.miami.edu/ofas>).

Undergraduate Satisfactory Academic Progress

Review and Notification

In order to determine continued aid eligibility, the Office of Student Financial Assistance and Employment will review the academic progress at the end of each academic term for all undergraduate students receiving federal and institutional need-based aid, including the Federal Direct PLUS Loan; and at the end of each academic year for all Florida aid programs and merit scholarships.

Students who fail to meet Satisfactory Academic Progress will be notified by email. If a student is placed on academic probation they will be eligible for financial aid during that probationary period. A student may receive probationary scholarship assistance only once.

SAP Appeal

A student may appeal a failed SAP determination by completing and submitting to the financial aid office an Academic Progress Appeal Form (<http://finaid.miami.edu/resources/forms>). Appeals may be granted only if the student failed to meet academic progress requirements as a result of an emergency and/or illness, and these circumstances must have occurred within the semester/academic year during which SAP requirements were not met. All appeals should be submitted no later than 30 calendar days from notice of ineligibility. All decisions made by the committee are final. Please be advised that students will only be eligible to receive one approved appeal during their enrollment at UM. Should a student fail to meet the minimum academic standards outlined in the conditions of their initial approved appeal, they will not be granted an additional appeal unless there are new mitigating circumstances.

Federal and Institutional Need-Based Aid Academic Requirements

For the purposes of these policies, an academic year is defined as Summer, Fall, and Spring semesters.

GPA Requirement

Students must complete a minimum institutional GPA of 2.0.

Credit Completion Requirement

Students must earn 67% of the total credit hours attempted during his/her overall academic career. Rounding does not apply.

- Undergraduate and graduate credits cannot be combined to meet this standard.
- Withdrawals, incompletes, audits, NG (no grade) and F's are attempted but not earned hours.
- Transfer credits are counted in the calculation, but not in a cumulative GPA.

Maximum Timeframe Requirement

Degree must be completed within 150% of normal completion as determined by the school or college catalog (example: Bachelor's degree = 120 credits; 150% rule = 180 credits).

Warning Period

Federal and institutional need-based aid recipients will be placed on a "warning status" for one semester following notice of failure to meet SAP requirements. Failure to meet the requirements by the end of the warning period will result in cancellation of aid.

Merit Scholarship Academic Requirements

Applies to undergraduate students receiving academic scholarships except Ronald A. Hammond Scholarship. Ronald A. Hammond Scholarship recipients should contact the Office of Academic Enhancement (<http://www6.miami.edu/provost/oe/hammond>) to review their contract renewal terms.

GPA Requirement

Students must complete a minimum institutional GPA of 3.0.

- Only credits taken at UM count toward your GPA requirement.

Credit Completion Requirement

- At least 24 credit hours each academic year.
- At least 12-credit hours for full-time students enrolled for only one semester.
- Withdrawals, incomplete, audits, and F's are attempted but not considered earned hours.
- Transfer credits are counted in the calculation, but not in a cumulative GPA.
- Beginning Summer 2017, credits earned and transferred from any institution may count toward the upcoming year's total credits earned to satisfy this requirement. Because summer is the first term of the academic year it cannot be used to make up credit hour deficiencies from the prior year.

For All Incoming Freshmen and Transfer Students Enrolled beginning Fall 2015 and After:

Students who fail to meet the academic requirements to maintain their scholarship at the end of their first year will lose their eligibility. Students will not receive a probationary period.

For All Incoming Freshmen and Transfer Students Enrolled Prior to Fall 2015:

Merit scholarship recipients whose cumulative GPA is between 2.70 to 2.99, or have not completed 48 credits by the end of their sophomore year will be placed on a one-year academic probation period during their third year. Failure to raise the cumulative GPA to 3.0 while completing 24 credits at the end of the probationary period will result in loss of scholarship for the fourth year of attendance. Students whose cumulative GPA falls below 2.70 or fails to complete the 48-credit requirement by the end of their sophomore year will not be placed on academic probation and will have scholarship automatically rescinded. *Transfer students* receiving a UM academic scholarship that fail to meet the SAP requirements at the end of their first

academic year may be placed on a one-year probationary period. A student that fails to meet the SAP requirements at the end of the fourth semester loses eligibility for the award.

Florida Financial Aid Requirements

The Florida Department of Education (<http://www.fldoe.org/students/financialaid.asp>) Office of Student Financial Assistance (<http://www.floridastudentfinancialaid.org>) has its own standards of progress for state financial assistance.

GPA Requirement

- Florida Academic Scholars must maintain a minimum institutional GPA of 3.0 for full renewal; 2.75 for partial renewal (equivalent to FL Medallion amount).
- Florida Medallion Scholars must maintain a minimum institutional GPA of 2.75.
- Effective Access to Student Education Grant (EASE), and Florida Student Assistance Grant (FSAG) must maintain a minimum institutional GPA of 2.0.

Credit Completion Requirement

At least 24 credit hours each academic year

- At least 12-credit hours for full-time students enrolled for only one semester.
- Withdrawals, incompletes, audits, and F's are attempted but not considered earned hours.
- For EASE and FSAG students, classes taken in the previous summer may be included in calculating the completed hours
- Part-time Bright Futures recipients must earn a prorated number of credit hours.
(9-11 credits per term = 9 earned hours per term) (6-8 credits per term = 6 earned hours per term).

Maximum Time Frame

Students receiving Florida Bright Futures awards may receive funding for up to five years from high school graduation for a maximum of 120 semester hours (or equivalent) toward the completion of a first baccalaureate degree.

Students receiving the Effective Access to Student Education Grant and/or the Florida Student Assistance Grant may only receive a maximum of 9 semesters of eligibility. Unused terms may not be used for further course funding after a student earns a baccalaureate degree.

Reinstatement of Florida Bright Futures

Recipients of the Florida Bright Future programs who do not receive any scholarships for the period of one academic year may apply for reinstatement of aid through the Florida Department of Education Office of Student Financial Assistance (OSFA) website at www.FloridaStudentFinancialAid.org (<http://www.floridastudentfinancialaid.org>).

Florida Academic award recipients who fail to achieve a 3.0 institutional average, but achieve at least a 2.75 institutional average will renew at the lower Florida Medallion amount.

Bright Future eligible recipients who graduated from high school in 2009-2010 and thereafter who fail to achieve a minimum 2.75 institutional GPA and became ineligible during their first year of funding may apply for restoration in an academic year after which the 2.75 institutional GPA requirements were met. (The 2.75 institutional GPA must be met before the fall term for which the student is applying.)

The student must complete a Reinstatement/Restoration application available on the Florida Department of Education Office of Student Financial Assistance (OSFA) website at www.FloridaStudentFinancialAid.org (<http://www.floridastudentfinancialaid.org>).

Students who do not meet the minimum earned hours requirement during any academic renewal period or who fail to meet the minimum institutional GPA requirement after their first year of funding will not be permitted a restoration opportunity.

Restoration of Effective Access to Student Education Grant

Reinstatement of the Effective Access to Student Education grant (EASE) may be obtained after one full academic year of ineligibility by earning a minimum of 24 credits and/or a minimum institutional GPA of 2.0.

Graduate/Professional Satisfactory Academic Progress

Graduate Students

Review and Notification

In order to determine continued aid eligibility, the Office of Student Financial Assistance and Employment will review the academic progress at the end of each academic semester for all graduate and professional students receiving federal aid, including the Federal Direct PLUS Loan.

Students who fail to meet SAP will be notified in writing by email. If a student is placed on academic probation they will be eligible for financial aid during that probationary period. A student may receive probationary scholarship assistance only once.

SAP Appeal

A student may appeal a SAP determination that results in loss of aid by completing and submitting to the financial aid office an Academic Progress Appeal Form. Appeals may be granted only if the student failed to meet academic progress requirements as a result of an emergency and/or illness, and these circumstances must have occurred within the semester/academic year during which SAP requirements were not met. All appeals should be submitted no later than 30 calendar days from notice of ineligibility. All decisions made by the committee are final.

Reinstatement of Aid

Reinstatement of aid may be obtained by earning additional University approved credits, achieving the indicated percent completion standard, or successfully appealing.

GPA Requirement

All University of Miami graduate and doctoral students must maintain a minimum 3.0 cumulative grade point average (CGPA). Graduate students who fail to meet the minimum credit hour or cumulative grade point average requirements have failed to meet the satisfactory academic progress standards established by the University. Those in violation of the satisfactory academic progress eligibility requirements will be notified in writing of their eligibility status and right to appeal.

Credit Completion Requirement

Students must earn 67% of the total credit hours attempted during his/her overall academic career. Rounding does not apply.

- Undergraduate and graduate credits cannot be combined to meet this standard.
- Withdrawals, incompletes, audits, NG (no grade) and F's are attempted but not earned hours.
- Transfer credits are counted in the calculation, but not in a cumulative GPA.

Graduate students must be enrolled at least half-time in order to receive federal financial assistance. A minimum of 5 graduate credit hours constitutes at least half-time enrollment at the graduate level. The only exception to this credit hour requirement is enrollment in any of the 800-level research courses. Students enrolled in any of these courses are considered full-time and are eligible for federal loans.

Duration of Eligibility

All work must be completed within six years of the time of admission to a graduate program, for those studying for the various master's degrees; and within eight years for those studying for doctoral degrees. For those admitted directly into a Ph.D. program without a master's degree in field, work must be completed within eight years. Individual programs may set a shorter time period.

Graduate students may receive federally funded assistance for the time to completion limits set up by the Graduate School - six (6) years for those studying for the various master's degrees and 8 years for those studying for doctoral degrees. Students pursuing dual master's degrees will receive aid for a maximum of six (6) years. Students in a combined master's degree/doctoral degree program are eligible for assistance for a maximum of eight (8) years.

Merit Scholarships

Graduates scholarships awards are determined by the departments. A student's academic progress and eligibility for an award is monitored and evaluated by the departments.

Law Students

Program specific requirements may be found online at <http://grad-prof.miami.edu/applying-for-aid/satisfactory-academic-progress/law-sap/index.html>

Maximum Time Frame

Law Students are eligible to receive financial aid up to 33% over and above the maximum of credit hours required to obtain his/her law degree. All periods of enrollment (including Summer), will be counted toward the maximum time frame.

Treatment of Punitive and Non-punitive Grades and Courses

All courses with a grade of F, I, IP, NG, U, W and repeated courses will be considered in the calculation of credit hours attempted and will be subject to satisfactory academic progress. Audited courses are not considered in awarding financial aid; therefore, they will not be counted in the determination of satisfactory academic progress. Incomplete (I) grades will be calculated as failing grades in regard to credit hour completion until the course has been satisfactorily completed.

Notification of Satisfactory Academic Progress

Awards are considered estimated, until the final grades are reviewed by the Office of Financial Aid. Students are allowed their first term of failing to meet satisfactory progress, due to GPA or failure to meet the required 67%, as a probationary period. Students who have not met the minimum standards of satisfactory academic progress as outlined above, beyond a their probationary period or are academically dismissed, are considered on financial aid suspension and no longer eligible for aid.

Reinstatement of Financial Aid Eligibility

A student may regain eligibility by:

- Achieving the required GPA and Credit Hour Completion as outlined.

- Appealing the financial aid decision as described below.

Financial Aid Appeal Process

A student may appeal a SAP determination that results in the loss of aid by completing and submitting to the Office of Student Financial Assistance and Employment an Academic Progress Appeal Form. Appeals may be granted only if the student failed to meet academic progress requirements as a result of an emergency and/or illness, and these circumstances must have occurred within the semester during which SAP requirements were not met. All appeals should be submitted no more than 30 calendar days from notice of ineligibility. All decisions made by the appeals committee are final.

Student Employment

Student Employment

Student Employment (<http://www.miami.edu/ose>) is responsible for assisting and guiding students (admitted and enrolled in a degree program at the University of Miami) through the job search and placement process while attending the University.

Student Employment provides job opportunities to all students regardless of sex, age, disability, sexual orientation, ethnicity, nationality, race or creed. University of Miami student employees are required to adhere to established federal, state and local employment regulation practices.

Employment programs for undergraduate students include the Federal Work Study, Student Assistant program, and Lead Miami program, all of which offer opportunities on campus and in the surrounding community. Employment programs for graduate students include: Federal Work Study, Student Assistant Program and Graduate Assistantships. Available positions are posted in JobX (<https://umiami.studentemployment.ngwebsolutions.com/?>)

Student employment program earnings are paid directly to the student as they work and are not applied as a credit toward tuition charges.

Federal Work Study

Federal Work Study is a need-based program that provides part-time job opportunities based on your financial aid eligibility. To apply for Federal Work Study, you must complete the Free Application for Federal Student Aid (FAFSA) and the CSS Financial Aid PROFILE.

Students who are awarded Federal Work Study obtain jobs available at the University of Miami campuses or at off-campus community service agencies that have been approved to participate in the program.

Student Assistant Program

All degree seeking, admitted, and enrolled students are eligible to apply for positions under the Student Assistant program. Student assistant positions are similar to Federal Work Study in terms of job responsibilities and rates of pay; however, they are not supported by federal funds.

LEAD Miami Program

The LEAD Miami program (<http://admissions.miami.edu/undergraduate/financial-aid/lead-miami>) is available by invitation to a limited number of students based on Office of Admission referrals. To be considered, invited students must apply to the program by the published deadline.

Graduate Assistantship Program

Graduate Assistantships are mostly offered directly to selected students by their academic departments. Graduate Assistantships may include a tuition scholarship of varying amounts, in addition to work payment. Students must be admitted to a Graduate or Professional Degree Program at the University of Miami in order to be hired as a Graduate Assistant.

Off-Campus Employment

Students seeking career-related experiences and who have reliable transportation can work off-campus. Student Financial Assistance and Employment acts only as a referral service and makes no particular recommendations regarding off-campus employers. Off-Campus employers hire students directly and Student Financial Assistance and Employment is not responsible for safety, wages, working conditions, or other aspects of off-campus employment.

The University of Miami participates in E-verify, an Internet-based system that allows an employer, using information reported on an employee's Form I-9, to determine the eligibility of that employee to work in the United States. The E-Verify system is operated by the U.S. Department of Homeland Security (DHS) in partnership with the Social Security Administration (SSA). Student employees need to present original documents to complete the Form I-9 and E-verify. A list of other acceptable documents can be found online at <https://www.uscis.gov/i-9-central/acceptable-documents>.

Terms and Conditions

My UMIAMI E-MAIL ACCOUNT

I understand University of Miami Office of Student Financial Assistance and Employment (OSFAE) will communicate with students and their parents by e-mail. I will monitor my CaneLink account and will be responsible for checking my email account regularly. I understand if I miss an important deadline or lose eligibility because I did not resolve an outstanding issue, I will not hold the OSFAE at fault.

ESTIMATED FINANCIAL AID AWARDS

I understand my award may be "ESTIMATED" due to a variety of issues that I will need to resolve before my financial aid can be disbursed. I will monitor my outstanding requirements on CaneLink and submit the necessary documentation as soon as possible. I understand if I fail to complete the financial aid process by the priority deadline, my financial aid eligibility may be affected or I may not be eligible for a variety of funds which I may have received in previous years.

FINANCIAL AID OVER-AWARDS

I understand my financial need is the difference between the cost of attendance (COA) and the amount of my expected family contribution (EFC) as calculated by the Institutional Methodology formula from data I provided on the CSS Profile. I understand my eligibility may change if I receive funds from another source that is not included on my initial financial aid award. I understand the OSFAE will communicate with me about these changes and I will review CaneLink frequently to understand how my award may have been affected.

OUTSIDE SCHOLARSHIP

I understand that if I receive an outside scholarship my award may be affected. I will need to submit all information from the scholarship agency to the Office of Student Financial Assistance and Employment as soon as I am notified I will be receiving additional funds. I understand that the Office of Financial Assistance Services will first fill any gap between the institutional EFC and federal EFC, and then reduce my loans/work study, before reducing any need-based grant eligibility in my financial aid package. I understand that I can request that the financial aid office reduce my work study before reducing loan eligibility, however, I must do so in writing with the Office of Financial Assistance Services.

FEDERAL AND INSTITUTIONAL WORK STUDY PROGRAMS

I understand there are a variety of work study (federal and institutional) positions available on and off campus. It is my responsibility to find a suitable employment opportunity that fits my needs, areas of interest and academic schedule. Once I find an employer, I understand I must complete a work study authorization form, I-9 form, W-4 form and a direct deposit authorization before I can begin work. I understand if Federal Work Study is awarded as part of my financial aid package, the amount indicated is the maximum amount I may earn during the academic year. I also understand the amount awarded is not a guarantee of employment and that if I apply too late in the hiring season, I may not find a suitable position to take advantage of the work study program.

INSTITUTIONAL AID ENROLLMENT REQUIREMENTS

For all merit and need-based aid from the University of Miami, full-time enrollment is required. Full-time enrollment is defined as 12 credits or more each semester. The student must have the required full-time enrollment to qualify for institutional aid. Enrollment of less than 12 credits may result in the reduction or loss of some aid programs.

SATISFACTORY ACADEMIC PROGRESS

I understand in order to be eligible for federal, state and institutional financial aid programs, I must initially and continually meet satisfactory academic progress (SAP). University of Miami standards of SAP measure a student's academic performance both qualitatively and quantitatively by reviewing the following three areas of performance: completion rate for coursework enrolled, cumulative grade point average earned, and the maximum time frame to complete a degree. I understand the OSFAE is responsible for ensuring that I am meeting these minimum standards. The standards of SAP apply for all federal, state and college funded financial assistance programs. I understand if I fail to meet the minimum requirements to be eligible for financial aid, I will lose my eligibility at the end of the period of review. I will have the opportunity to appeal the loss of my financial aid within 30 days of notification; and if my appeal is approved, I will have one semester to improve my GPA and completion rate. I understand if my appeal is denied, there is no further recourse to reinstatement of my financial aid at that time.

REPEAT COURSE WORK

I understand if I pass a course and need to retake that same course for a better grade my financial aid may be affected. I will work with my advisor to ensure I maintain my full-time status in order to receive all of my financial aid. I understand by the end of the add/drop period, if I have not enrolled in full-time credits, my financial aid will be affected, removed or may be prorated based on the total of all the **new** courses that have not already been paid by my financial aid. Full-time enrollment is defined as 12 credits or more for the fall and spring semesters. Enrollment of less than 12 credits may result in the reduction or loss of aid.

WITHDRAWAL OR LEAVE OF ABSENCE

I understand financial aid funds are awarded with the expectation that I will complete the entire period of enrollment. I earn a percentage of funds that are disbursed with each day of class attendance. If I decide to leave school before the end of the semester or designated period of enrollment, I understand federal regulations require University of Miami to calculate the percentage and amount of "unearned" financial aid funds that must be

returned. If I complete more than 60% of the enrollment period, I will have earned all of my eligibility for federal aid for that period. I understand this calculation may require me to repay funds that have already been disbursed or credited to my student account.

ENROLLMENT FREEZE/CENSUS DATE

I understand the college will freeze my enrollment at the end of the add/drop period for each semester. This means I will make any and all adjustments to my course schedule before the end of the add/drop period to avoid any problems with repeat courses or being under-enrolled. I understand once my course schedule has been completed my Pell Grant will not adjust regardless of any changes to my enrollment. However, I may be eligible to receive more loans if in the event I am charged more due to the adjustment to my course schedule. Full-time enrollment is defined as 12 credits or more.

I understand most federal financial aid requires at least half-time enrollment including Federal Pell Grant and Direct Loans. Most institutional and state financial aid requires full-time enrollment including need-based UM grants and merit scholarships. Adjustments to financial aid for enrollment changes after the Census Date will not be done except for Florida Bright Futures and in the case of a complete withdrawal from the University. There are no exceptions to this policy.

RECONSIDERATION OF FINANCIAL AID AWARDS

I understand I have the opportunity to appeal some financial aid decisions. If I wish to request a reconsideration of financial aid, I must submit a Request for Review (<https://finaid.miami.edu/request-for-review>) with supporting documentation of my situation to the Office of Student Financial Assistance and Employment. I understand that only certain circumstances can be evaluated such as loss of income, unusual medical expenses (not premiums), separation/divorce of parent's, death of a family member, non-discretionary expenses incurred by the family.

SUMMER LEAVE TERM EXPECTATION

A portion of the family's contribution is the responsibility of the student. UM expects the student to contribute a minimum of \$2,000 from income (summer and leave term employment opportunities) and any savings or other resources that may be available to the student. University of Miami follows this policy with the following exception: In an effort to encourage participation in summer internships, UM will provide need-based financial aid to replace the summer savings expectation for all students who are unable to earn and save all or a portion of their student contribution. In order to qualify for additional financial aid, students must meet posted deadlines for participation in a summer internship. *NOTE: The additional financial aid may take the form of increased work-study employment, student loan and/or grant (if applicable) as determined in conjunction with the student's financial aid eligibility and University of Miami's awarding policies.*

SUMMER ENROLLMENT AND DISBURSEMENT

Summer aid is processed once the student is enrolled for the summer term and completes the Summer Financial Aid Request Form (<https://finaid.miami.edu/resources/forms>). Only undergraduate students enrolled at least half-time (6 credits or more) will be eligible to receive federal student loans. Financial aid for summer will not disburse until the first day of the term in which the student meets the minimum required enrollment for the aid program. Students who are not enrolled for summer but wish to request Federal Work Study for the summer term must submit a Summer Financial Aid Request Form on the OSFAE website (<http://finaid.miami.edu/resources/forms>).

Financial Payment Policies

Policy

All semester charges (tuition, room, meal plans, and fees) are due by the date on the billing notification e-mail, unless an established Monthly Payment Plan contract has been finalized with the Office of Student Account Services. Previously unbilled and new charges are due and payable when incurred. Payment is considered complete only when all charges are paid or when satisfactory arrangements to pay have been finalized with the Office of Student Account Services.

Consequences of Non-Payment

Students that are delinquent in paying their tuition and fees statement balance and/or Monthly Payment Plan may be subject to having their class schedule cancelled. Also, there will be a hold on transcripts and course registration for the current and subsequent semester. Cancellation may also lead to the forfeiture of any financial aid the student may have been awarded.

Course selection will not be permitted for any past due accounts including Monthly Payment Plans. A late payment fee can be assessed to delinquent accounts.

Registration Fees

Late Registration

Student who register late for classes will incur a late registration fee. Any undergraduate or graduate student who enrolls after the last day to add (as defined by the academic calendar) will be assessed a late registration fee of \$150.00.

Reinstatement

Students who are reinstated into classes after being cancelled for non-payment will be assessed a \$150.00 reinstatement fee.

Finance Charges

No additional charges are imposed on an account once full payments are received by the payment due date. If, however, payment is received after the payment due date, a Finance Charge can be assessed.

Anticipated Payments

If financial aid funds are not available at the time the semester's balance is due, then the student is expected to pay the balance with a different payment method. Financial aid awards will be considered "anticipated" under the following conditions:

- The Office of Student Financial Assistance and Employment (OSFAE) is provided with a source of aid (other than College Work Study or Miami Commitment) on the student's award package.
- OSFAE awards the corresponding amount on the student's award package. i.e., outside scholarship information must be provided to both the Offices of Financial Assistance and Student Account Services in order to consider the aid as "anticipated."
- OSFAE allocates the **guaranteed** award during the semester that the disbursement should be expected. This means the student completed all the "To Do" check list items related to financial aid.
- Final guarantees have been processed by the appropriate alternative loan lender – preliminary approvals will not result in automatic disbursements of alternative loan funds.

Examples

Veterans Monthly Educational Benefit Checks: An amount not to exceed the total of the checks expected to be received during the semester (for fall and spring, this is typically three checks) may be credited. Arrangements for this type of tuition credit must be initiated with a representative of Veterans Affairs through the Office of the Registrar and the Office of Student Account Services. Students with VA benefits are required to sign a promissory note with the Office of Student Accounts in order to have their anticipated awards credited to their account.

International Students with Government Sponsorships: Payment of all or a portion of charges that can be billed directly to corresponding government agencies may be credited upon presentation of appropriate documentation from their government or embassy.

Florida Prepaid Program

The University of Miami will assist with a student's education expenses by billing for any available Florida Prepaid College Program funding directly to the Florida Prepaid College Board. Florida Prepaid participants may authorize the University of Miami to request a payment disbursement option that best matches your needs and current savings in the plan. We encourage participants to authorize a payment that will facilitate your financial planning objectives for your student's enrollment at the University of Miami.

The University of Miami requires all students requesting FLPP to complete the "Florida Prepaid College Program Authorization Form" each academic year. In addition to this form, all students who plan to use their prepaid funds must contact Florida Prepaid at 1-800-552-4723 option 2, and request a separate Florida Prepaid "Transfer Form." Upon your request, Florida Prepaid will mail the Transfer Form to you. The purchaser of the plan must complete this form and return it directly to Florida Prepaid. It is necessary that Florida Prepaid have this Transfer Form on file in order for students to use Florida Prepaid funds at the University of Miami.

Questions in reference to Florida Prepaid can be emailed (saccounts@miami.edu) with "Florida Prepaid" in the subject line. The required authorization form for the University of Miami and an example can be downloaded (http://www.miami.edu/finance/index.php/student_account_services/third_party_fl_prepaid/florida_prepaid) here (<https://osas.miami.edu/paying-your-bill/types-of-payments/florida-prepaid>).

Policy on Previous and Unpaid Balances

Non-Payment

The University of Miami may declare due and payable at once the sum of all past due balances. In addition, the student will be responsible for interest accrued on all past due and unpaid amounts at the maximum rate permitted by law and any and all costs incurred by the University of Miami in enforcing its rights. The University reserves the right to withhold transcripts, diplomas, readmission, and future registration for non-payment of outstanding balances. The University's Collection Department may also disclose the student's outstanding indebtedness, along with other relevant information, to credit information bureaus. A non-refundable \$150 reinstatement fee will be charged to reinstate each unpaid and cancelled semester.

Withdrawal & Tuition Drop Refunds

Definitions

Title IV Financial Aid or Title IV Programs refers to the following awards:

- Unsubsidized Federal Stafford Loans
- Subsidized Federal Stafford Loans
- Federal Perkins Loan, DL PLUS (Graduate Student), DL PLUS (Parent)

- Federal PELL Grant
- Federal Supplemental Educational Opportunity Grant (SEOG)
- Federal College Work Study

Students who have advised the Canes Success Center of their withdrawal, through 60 percent of the semester, will receive credit for eligible financial aid refunds using a pro-rated calculation based on the percentage of the semester attended by the student. Unearned Title IV funds will be returned in accordance with the refund policy established in Section 484B of the Higher Education Act of 1965, as amended (HEA) and provided for through the Student Assistance General Provisions regulations enacted on October 7, 1998. Please review UM's current policy on tuition refunds (<https://osas.miami.edu/refunds-and-withdrawals>). **Fees are not refundable and will not be pro-rated.**

The University refund schedule (click here for current drop refund schedules (<https://osas.miami.edu/understanding-your-bill/tuition-and-fees-information/tuition-drop-credit-schedule>)) does not apply to students in the following on-campus and off-campus programs: The Executive MBA, the MBA Program for Working Professionals, and the Master of Science in Professional Management. Unless the student has completed official withdrawal procedures in writing with the Graduate Business Program office prior to the beginning of a course/term, tuition will be refunded on a prorated basis based on the number of class meetings attended through the effective date of withdrawal. No tuition refund will be granted when class attendance has exceeded 50% of class meetings. This policy supersedes any information stated in the Graduate Bulletin and other university publications.

Procedure

The amount of earned tuition and financial aid will be calculated on a daily pro-rated basis. Unearned tuition will be credited to the students account. Unearned, disbursed financial aid will be charged to the students account and refunded to the appropriate financial aid programs. Students who have not completed the verification process are ineligible to receive any financial aid and therefore no financial aid will have been earned. All disbursed financial aid will be charged to the students account and refunded to the appropriate financial aid program.

The return of financial aid will be refunded in the specific order noted below until the total amount of the school's responsibility has been satisfied:

- Unsubsidized Federal Stafford Loans
- Subsidized Federal Stafford Loans
- Federal Perkins Loans
- Federal PLUS Loans (Graduate Student)
- Federal PLUS Loans (Parent)
- Federal Pell Grant
- Federal Supplemental Opportunity Grant (SEOG - Federal Portion Only)
- Any other Title IV Assistance
- State financial aid

In the event of an over-payment of unearned Title IV grants, the University will send the student a notification letter requesting payment in full or the establishment of a satisfactory payment arrangement with the University's Department of Collection or the Debt Collection Services of the U.S. Department of Education. This notification letter will be processed within 30 days of the date of the University's determination that the student withdrew.

If the student does not respond to the request for repayment within 15 days, the University will notify the Department of Education of any Title IV grant over-payment. If the student does not make satisfactory repayment arrangements for the repayment of Title IV grant aid, the student will then become ineligible for federal assistance on the 46th day from the date of the University's repayment letter.

Withdrawal Example

A student notifies the Registrar of withdrawal on the 50th day of the semester. If the total number of calendar days in a semester were 108, the earned financial aid ratio would be 50 divided by 108 or 46.3 percent. The student would have earned 46.3 percent of the approved federal aid that the student was originally scheduled to receive for the term. The 53.7 percent of the student's scheduled or disbursed aid remains unearned and must be returned to the Federal Program. If a student remains in school until the percentage of earned financial aid is 60% or more, then federal regulations consider the student to have earned 100% of their federal aid. For further information please refer to the 'Cane Success Center withdrawal information page (<https://success.miami.edu/student-withdrawal>).

Post Withdrawal Disbursements

If the University determines that a student is eligible for Title IV funds that have not been disbursed, grant funds that the student is eligible for will be disbursed first. Federal aid that the student is eligible for will be credited to the students account and applied against any outstanding charges.

Alumni Rate and Policy

Special Opportunity for UM Graduates

UM graduates may take undergraduate credit hour courses in the College of Arts and Sciences on a space available basis, at a special alumni rate. All University of Miami graduates are eligible for this special program.

Students may take whatever courses are of interest. From Anthropology to Theatre Arts and all the disciplines in between, participants may choose a course or collection of courses (maximum two courses per discipline) to meet professional or personal goals.

Interested students may call the Division of Continuing and International Education at 305-284-4000 to inquire about the benefit and/or the current tuition rate, request an application, or enroll in the courses. They will submit a simple, no-fee, one-page application, simply select an undergraduate course (open on a space available basis) and be on their way to continued learning at UM.

Policies Governing Enrollment in University of Miami Alumni Status

The University of Miami Alumni Status includes students who are not seeking a degree and meet the following requirements. Enrollment in a non-degree program and/or satisfactory completion of courses does not imply admission to a degree program.

1. University of Miami graduates (completed degree);
2. U.S. citizens or permanent U.S. residents.

Conditions applying to University of Miami Alumni enrollment

1. Students may enroll in a maximum of 12 undergraduate credit hours per semester.
2. Students are limited to two courses per academic department.¹
3. Courses may be selected from the College of Arts and Sciences only.
4. International students will not be issued I-20 forms.
5. International students in B-1 (business) or B-2 (pleasure) visa status may engage in study as long as the educational activity is secondary to the principal activity for which the visa was sought.
6. Enrollment may be completed on a space-available basis only. (Course availability determined two days prior to semester start.)
7. Courses taken for undergraduate credit hour (including 500 level courses) will not be considered for graduate credit hour at a later date.

¹ Note: Not all courses and/or departments may be available.

Meal Plans

The Links below are where you can find the Meal Plan rates for the 2018 - 2019 academic year.

Residential Meal Plans (<https://new.dineoncampus.com/miami/for-residents>)

Commuter & University Village Apartment Meal Plans (<https://new.dineoncampus.com/miami/for-commuters>)

Parking and Transportation

<http://pt.ref.miami.edu/>

Description	Price (Tax Included)
Commuter Student	\$ 531.00
Fall Only - Commuter	\$ 266.00
Resident Student	\$ 573.00
Fall Only - Resident	\$ 289.00
Discount	\$ 266.00
Motorcycle	\$ 107.00

*Parking subject to change

Parking on the University of Miami's Coral Gables campus is a privilege extended to those using the facilities of the University consistent with the terms of the University's Parking Policies and Procedures and other policies of the University as they are set or amended by the Provost. Parking privileges are extended only to those eligible members of the university community including trustees, faculty, administrators, staff, students, vendors and visitors who have paid for a valid UM parking permit. In consideration of being allowed to use the University's facilities for parking, the purchaser

of a parking permit agrees to be bound by the rules set forth in the Parking Policies and Procedures, and agrees to pay to the University any fine or administrative charge assessed for non-compliance with this code.

Students, faculty, employees, and staff may not park in visitor parking spaces, and UM parking permits are not valid at parking meters.

First year resident students (students residing on the Coral Gables campus who are attending college on a full time basis for the first time) are restricted from purchasing a parking permit to park on the University of Miami's Coral Gables campus. This policy applies to first year students living in University of Miami student housing on the Coral Gables campus.

For more information on Parking, please visit our website (<http://www.miami.edu/parking>). Annual permits are valid August 16, 2018 through August 15, 2019.

Payment Options

The University Cashier accepts cash, personal checks, traveler's checks, cashier's checks, certified checks, money orders, and checks drawn against lines of credit. Personal check and credit card payments are accepted on line via CaneLink. Bank wire transfers are also accepted.

Checks and Money Orders

Payments must be in U.S. Dollars and drawn on a U.S. bank. Payments must be made payable to the University of Miami and include the student's identification number to ensure credit to the student's account. **Post-dated checks are not accepted.**

Returned Checks Policy

All returned checks are deposited twice, automatically, and without notice. A Returned Check Fine will be assessed to the student's account, as listed below, after the second attempt. Check cashing privileges will be canceled for those students who have three (3) or more returned checks.

A notification letter will be mailed to the maker of the check by the University's Collection Department detailing the amount and fine for the returned check. Check cashing privileges will be restricted until cash or certified funds (money order or cashier's check) are presented for payment. A personal check will not be accepted to replace a dishonored check.

Returned check fines processed through CaneLink will incur a \$20 fee. Checks not processed through CaneLink will incur the following charges:

Check < or = \$800.00	\$20.00 fee
Checks over \$800.00	2.5% of the check amount
Checks for Monthly Payment Plan	\$20.00 Fee

Wire Transfer of Funds

Students may pay their tuition by wire transfer. The wire transfer instructions can be obtained through CaneLink.

How to obtain wire transfer instructions:

1. Log into CaneLink and go to Student Center, click on the Account Inquiry button under the Finances.
2. Click on Make a Payment to pay your tuition and select Wire Transfer Payment (USA & International).
3. Select the country from the "What country are you paying from" dropdown list. For domestic wire instructions, select the US wire transfer payment option.
4. Create a Flywire account, to track your wire payment, and enter basic identification information for the University to identify your payment.
5. The bank account wire instructions will be provided.
6. An email will be sent with a unique wire identification number.

Students should make sure their full name, student ID number, and unique wire ID number are included with the wire transfer to ensure the funds are applied correctly.

Tuition Payment Plans

The Office of Student Account Services offers several tuition payment options to assist students and parents. The University's payment options are designed to provide convenient alternative plans of budgeting and paying educational costs whether or not a financial assistance award is granted.

Monthly Payment Plan (MPP)

Purpose: This plan allows you to divide all or part of your semester educational expenses (tuition, fees, on-campus housing, and meal plan less financial assistance) into four convenient monthly payments for the fall. A four month payment plan is also available for the spring term as well. The University of Miami does not offer a monthly payment plan option for the summer term.

Contract length: This plan is offered on a semester-by-semester basis for the fall and spring semesters. The minimum contract for either plan is \$1,000.

Fee: A 3% non-refundable administration fee of the amount financed is charged and included in the established monthly payments.

Conditions: Payments are due on the 1st of each month with the first payment due on August 1st for the Fall semester. The first payment for Spring semester MPPs will be due on the first business day in January.

Students may apply for the Monthly Payment Plan on CaneLink. For more information regarding this option please follow this link to the Monthly Payment Plan FAQ page (<https://osas.miami.edu/paying-your-bill/types-of-payments/payment-plan-option>).

Room Rates

Room Rates - Undergraduates

Residential Colleges ¹	Semester	Annual
Double	\$4,060.00	\$8,120.00
Small Single ²	\$5,480.00	\$9,160.00
Standard Single ³	\$6,310.00	\$12,620.00
Efficiency	\$6,750.00	\$13,500

University Village ⁴	Fall Semester (Aug-Dec)	Spring Semester (Jan-May)	Summer Term (June-July)	Annual Rate (12-mos. agreement) in Total
Ibis Model (1:1)	\$9,550.00	\$9,550.00	\$3,770.00	\$22,870.00
Palm Model (2:2)	\$6,760.00	\$6,760.00	\$2,660.00	\$16,180.00
Cane Model (4:2)	\$5,730.00	\$5,730.00	\$2,250.00	\$13,710.00
Villager Model (4:4)	\$6,320.00	\$6,320.00	\$2,480.00	\$15,120.00
Lake Model (4:4)	\$6,430.00	\$6,430.00	\$2,530.00	\$15,390.00

¹ Freshmen are typically assigned to Hecht and Stanford Residential Colleges but may be assigned to another residential college based on availability.

² Small Singles are only available in Hecht and Stanford Residential Colleges and only to new freshmen.

³ Standard single rooms are available in Eaton, Mahoney, and Pearson Colleges and only to returning upper-class students.

⁴ For upper-class students only (60+ academic credit hours completed)—no freshmen or sophomores; annual (12-month) agreement for all Village residents—billed by semester/term through the Office of Student Account Services.

SUMMER SESSION (all air-conditioned)	Rates are per person
Double Room	\$ 1,100.00 per session
Small Single Room (when available)	N/A
Standard Single Room	\$1,400.00 per session

Graduate Housing

Housing in on-campus housing is not available for GRADUATE students in addition to married students, single parents with children, law students, and medical students. The Department of Housing and Residential Life does assist GRADUATE students with off-campus housing information and resources here (<http://www.miami.edu/housing>).

Law Housing

Housing in on-campus housing is not available for LAW students in addition to married students, single parents with children, graduate students, and medical students. The Department of Housing and Residential Life does assist LAW students with off-campus housing information and resources that can be found here (<http://www.miami.edu/housing>).

Tuition and Fees

Tuition

The basic undergraduate tuition rate covers the normal student load and is increased if the student carries an overload. Private instruction, e.g., music lessons, carries extra charges. Students who opt to participate in any of the University's intercession courses will be billed for the intercession course separately from the flat rate cost of full-time tuition and fees.

For tuition charges in special programs and sessions, see announcements that are published concerning these components of the University's academic program.

The following list of charges is effective for the academic year 2018-2019.

Undergraduates (All Colleges and Schools)

Number of Credit Hours	Tuition (per semester)
One	\$ 2,030.00
Two	\$ 4,060.00
Three	\$ 6,090.00
Four	\$ 8,120.00
Five	\$ 10,150.00
Six	\$ 12,180.00
Seven	\$ 14,210.00
Eight	\$ 16,240.00
Nine	\$ 18,270.00
Ten	\$ 20,300.00
Eleven	\$ 22,330.00
Twelve to twenty	\$ 24,360.00
In excess of 20, per credit hour	\$ 2,030.00
No credit hour towards degree (audit), per course, nonrefundable	\$ 2,030.00

Undergraduate students carrying both undergraduate and graduate courses will be charged tuition at the rate in effect for undergraduate credit hours taken and appropriate fees. For example, tuition for a student carrying a total of 15 credit hours, of which 3 are graduate and 12 are undergraduate, would be charged at the \$24,360.00 rate.

Undergraduate students taking graduate level coursework that is priced at a special level will be billed separately for these courses. Students should check with their advisors and/or the appropriate school's department for more details on their course pricing requirements.

Full-time fees will be assessed according to student classification as an undergraduate or graduate.

The University reserves the right to change without notice tuition, fees, room and all other charges at the beginning of any academic year, and the right to change activities and meal plan fees at the beginning of any semester.

Graduate Students

Pre-Master's, Post-Master's, and Doctoral Students per credit hour	\$2,030.00
Research in Residence (720 or 750) or Continuous Registration-Master's Study (725), per fall/spring semester	\$2,030.00
Research in Residence (720 or 750) or Continuous Registration-Master's Study (725), per summer session (0 Research Credit Courses)	\$2,030.00
Audit Work (No degree credit) Tuition, per course, non-refundable.	\$2,030.00

Certain programs are conducted by the University under contract with the State of Florida. Florida residents who have been accepted as students in those contract programs are required to pay current state tuition for each credit hour taken and the state provides the University with additional funds in accordance with the terms of the contracts. Students involved in state contract programs should contact the appropriate school/college to ascertain the state tuition charge per credit hour that they are expected to pay.

Fees

Some fees depend upon full-time status. This is usually determined by the sum total of semester credit hours carried by the student in all divisions or enrollment in certain special programs that are classified as full-time regardless of credit hour load. Intersession classes are included with regular fall and spring semester classes in determining the student's full- or part-time status. This determination will also result in the billing of required fees. Fees are subject to change.

Undergraduate students are classified full-time if they enroll in 12 or more credit hours in a regular semester or 12 or more credit hours in a summer session or if they are enrolled in a special program which is classified full-time regardless of credit hour load.

Graduate students are classified full-time if they enroll in nine (9) or more credit hours in a regular semester or six (6) or more credit hours in a summer session, or if they are enrolled in dissertation credit hours that are classified as full-time.

Mandatory Fees

FALL OR SPRING SEMESTER FEES (per semester)	Student Activity Fee	Athletic Fee	Wellness Center	Student Health and Counseling Centers Fee	Student Center Fee	Total
Undergraduate – full-time (12 or more credit hours) ¹	167.00	\$90.00	\$156.00	\$180.00	\$160.00 ²	753.00
Graduate, fulltime (9 or more credit hours) ¹	\$46.00	N/A	\$156.00 ³	\$180.00	\$160.00 ²	542.00
Rosenstiel Graduate (9 or more credit hours) ¹	\$20.00	N/A	\$156.00 ³	\$180.00	N/A	356.00
Medical Science Graduate (0 or more credit hours) ¹	\$20.00	N/A	\$171.00 ³	\$25.00-Med \$155.00- Gables	N/A	371.00
Law Students (11 or more credit hours) ¹	\$59.00 ⁴	N/A	\$156.00	\$180.00	\$160.00	555.00

¹ Student Health & Counseling Centers Fee is mandatory for all full time and part-time students regardless of credit hour load. Part-time students will be charged the part-time rate..

² Student Center Fee is mandatory for all full time and part-time students regardless of credit hour load. Part-time students will be charged the part-time rate.

³ Wellness Center Fee is automatically charged to all full-time Graduate, Rosenstiel Graduate, and Medical Graduate students. It is mandatory unless declined by opting out of the fee in CaneLink. The last day to decline the fee is the last day to drop a class without a "W" as defined in the University's academic calendar

⁴ Law Student Activity Fee mandatory regardless of credit hour load.

SUMMER SESSION FEES (per session)	
Undergraduate (Full Time 5+ Credit Hours)	
Student Activity Fee	\$11.00
Student Health and Counseling Centers Fee	\$86.00
Student Center Fee	\$78.00
Total:	175.00
Graduate (Full Time 5+ Credit Hours)	
Student Health and Counseling Centers Fee	\$86.00
Student Center Fee	\$78.00
Rosenstiel Graduate	
Student Health and Counseling Centers Fee	\$86.00
Medical Graduate	
Student Health and Counseling Centers Fee	\$46.00
Law	
Student Health and Counseling Centers Fee	\$90.00
Student Center Fee	\$80.00

Health Insurance Fee (August 15, 2018 to August 14, 2019)

The new fees will be available July 2018.

Please note you are not required to have the University sponsored health insurance plan in order to utilize the services of the Student Health Center.

Students who are not enrolled for the current semester but intend to enroll for the next semester and graduating seniors (who wish access for one additional week after graduation), may gain access to the services of the Student Health Service after paying the Health and Counseling Centers Fee.

Optional Fees

FALL OR SPRING SEMESTER FEES (per semester)	Student Activity Fee	Student health and Counseling Centers Fee	Athletic Fee	Wellness Center
Undergraduate Students (1 to 11 credit hours)	\$167.00	Not Optional	\$90.00	\$156.00

Graduate Students (0-8 credit hours)	\$46.00	Not Optional	\$90.00	\$156.00 ¹
Graduate Students (9 or more credit hours)	Not Optional	Not Optional	\$90.00	\$156.00 ¹
Rosenstiel Graduate Students (0 to 8 credit hours)	\$20.00	Not Optional	\$90.00	\$156.00 ¹
Rosenstiel Graduate Students (9 or more credit hours)	Not Optional	Not Optional	\$90.00	\$156.00 ¹
Medical Science Graduate Students (0 to 8 credit hours)	\$20.00	Not Optional	\$90.00	\$171.00 ¹

¹ Wellness Center Fee is automatically charged to all full-time Graduate, Rosenstiel Graduate, and Medical Graduate students. It is mandatory unless declined with a waiver form submitted to and approved by the Office of Student Account Services by the last date to add classes for the semester as defined in the university's academic calendar.

Optional SUMMER SESSION FEES (per entire summer term)	Activity Fee ¹	Wellness Center Fee
Undergraduates	\$11.00	\$130.00
Graduate	\$10.00	\$130.00

¹ Optional only for students taking less than 5 credit hours per session and not listed as a full-time student. Students listed as full-time students, regardless of credit hours, are responsible for the fees.

Other Fees

Diploma Fee	
Original Diploma	no charge
Replacement Covers	\$10.00
Replacement – Bachelors, Masters, Ph.D	\$10.00
Replacement – Law, Medicine	\$15.00

Transcript Fee	
Mailed/Paper Transcripts	\$10.00
Electronic/PDF Transcripts	\$7.00

Note: Unofficial transcripts are available in CaneLink (<https://caneid.miami.edu/cas/login?service=https%3A%2F%2Fcaneid.miami.edu%2Fidp%2FAuthn%2FRemoteUser>). (<https://caneid.miami.edu/cas/login?service=https%3A%2F%2Fcaneid.miami.edu%2Fidp%2FAuthn%2FRemoteUser>)

Fees Charged by Sonhs to Students Registered for Clinical Courses (Annual, non-refundable, due at registration, estimated at time of publication) ¹	
	Academic Year 2018-2019
Nursing Fees	\$770.00
Total	Between \$347.00 - \$520.00

Professional Liability Insurance (annual, non-refundable, due at registration, estimated at time of publication)¹

Clinical athletic training students	\$75.00/semester
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Music Charges for Non-Music Majors or Minors (Lessons in Applied Music)

Fees, in addition to regular tuition, per credit hour per semester	\$300.00
Readmission Fee	\$100.00
Non-UM Program Status Fee	\$350.00/semester
Graduate Application Fee	\$65.00

Graduate Business Program Mandatory Fees

Graduate Business Programs have a one-time non-refundable \$2,200.00 mandatory Enrollment Fee for Applicants with intent to enroll in all Masters of Business Administration (MBA) and Specialized Master Degree Programs, with the exception of graduate programs in accounting.

The Executive and Professional MBA programs listed below have a mandatory Program Administration Fee charged per semester according to the number of credits in which a student is enrolled.

Program Administration Fee*

	Per Credit
Professional MBA**	\$290.00
Global Executive MBA	\$538.00
Miami Executive MBA en Español	\$207.00
Executive Health Sector Management and Management	\$113.00

*Tuition typically increases each academic year. Any increase in the University of Miami per credit tuition rate will be compensated by a corresponding reduction in the program administration fee. The total cost of the program (Tuition and Program Administration Fee) therefore will not vary.

**Based on 42 credits

Late Registration Fee (Permission to register required)

Late Registration Fee charged if student's initial registration is after the Last Day to Add	\$150.00
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Reinstatement Fee

Reinstatement Fee charged if classes are canceled AFTER Semester begins	\$150.00
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Proficiency or Competency Examination Fee

College of Engineering, Division of Continuing and International Education:

Examination Fee, per examination	\$25.00
Recording Fee for Competency Examinations, per examination	\$25.00
English Language Proficiency Test	\$50.00

Student Services

Camner Center for Academic Resources

<http://umarc.miami.edu/arc/Index.html>

Located on the second floor of the University Center, the Camner Center for Academic Resources offers free academic assistance to all UM students. The Camner Center offers individual peer tutoring by appointment in most subjects, study skills instruction with a Learning Specialist, free academic workshops, and many other valuable services. Please visit our website (<http://www.umarc.miami.edu>) or call 305-284-2800 to learn more and/or schedule an appointment.

Peer Tutoring

At the Camner Center, all UM students can take advantage of free individual peer tutoring to develop a deeper understanding of course work through additional, special, or corrective content instruction. All tutoring is course specific and taught by nationally certified peer tutors. All UM students are eligible for two hours of tutoring per week for each course. Please send us an email (tutoring.arc@miami.edu) for more information or to ask any questions.

Supplemental Instruction

Small group sessions are available to help students succeed in the University's toughest courses. Group Peer Tutoring is done on a weekly basis where students sit down to discuss course content in a small group setting with the peer tutor serving as a facilitator.

Academic Workshops

This free workshop series instructs students on specific academic skills and strategies to enhance academic performance. Workshop topics include effective test-taking strategies, improving study strategies, utilizing technology, and organization and time management skills. Topics are updated every semester, and students may attend unlimited sessions. Please visit our website (<http://www.umarc.miami.edu>) for the current workshop schedule.

Learning Specialists

The Camner Center for Academic Resources provides the support of trained Learning Specialists to students experiencing difficulty with academic issues. Students may request a one-on-one meeting with a Learning Specialist to help develop the skills needed to achieve success in their academic careers. Skills covered during these appointments include time management, effective note-taking, college textbook reading, educational technologies, test taking, and other learning strategies. Students can request an appointment with a Learning Specialist through our website. Visit the website (<http://www.umarc.miami.edu>) for more information about the support services available to students.

Independent Learning Initiative

The Independent Learning Initiative is a fee-based academic support program that provides structure, support, instruction, and monitoring for students needing additional guidance during the college experience. During the semester, students will identify and understand their academic strengths and areas for growth, as well as learn strategies, skills, and technologies to enhance their academic and personal success in college. Participants learn to monitor their academic progress and critically evaluate their current skills and strategies to work towards becoming a successful independent student. For more information about the program or to apply, please visit our website (<http://www.umarc.miami.edu>).

UMX 100: The University of Miami Experience

The University of Miami Experience (UMX 100) is a graded, comprehensive virtual self-paced course specifically designed to assist first year students in making a successful transition to the University of Miami. Freshman and transfer students are automatically enrolled. UMX 100 provides an opportunity for students to utilize UM resources necessary for success in college and beyond. Specifically, students will be exposed to campus leadership opportunities, academic and career planning, university traditions, study abroad opportunities, personal wellness programs, as well as advising and registration through videos, power points, blogs, and more. These resources and opportunities are only a click away. Send us an email (umx@miami.edu) if you have any questions about UMX 100.

The course will open on the following dates each semester:

Fall Semester	July 1st
Spring Semester	January 1st

Cane Cards

<http://pt.ref.miami.edu/other-services/cane-card/index.html>

The Cane Card is an on-campus student identification card. Students, faculty, and staff must present a government issued photo ID such as a driver's license or passport when acquiring their card. The Cane Card provides access to on-campus student residences, the Otto G. Richter Library, computer laboratories, the swimming pool, the Patti and Allan Herbert Wellness Center (for those who purchase a membership), and other facilities where access has been granted. The Cane Card is also used to control lending privileges at the library, access to athletic and other events (fee required), the purchase of discounted Metrorail tickets, U-Print services, and meal plan privileges. All University of Miami students, faculty and, staff are required to carry their Cane Cards for identification purposes while on campus.

- Lost or stolen Cane Cards should be reported to the Cane Card office at 305-284-3096 during the week or anytime by accessing your MyUM account, under the financial tab.
- Lost or stolen cards may also be reported to security 24 hours per day at 305-284-6666.
- After being reported stolen or lost, a card will be deactivated to prevent unauthorized use.
- Lost or stolen cards will be replaced for a \$25 fee (Fee waived in certain circumstances. Please contact the Cane Card office for additional details).
- Damaged cards will be replaced for free upon exchange of the original damaged card.
- For all issues with Cane Express accounts, call Student Account Services at 305-284-6430.

Career Services

<http://www.HireACane.com>

Patricia and Harold Toppel Career Center

(305) 284-5451 | toppel@miami.edu

The Toppel Career Center provides innovative and dynamic career services to students and alumni of the University of Miami. Furnished with the latest technology, including videoconferencing, 360-degree video recording, and lecture capture, the Center's six interview suites, a technology lab, a conference room, and a multipurpose Loft offer a variety of spaces (<http://hireacane.miami.edu/about/reserve-space>) for students to meet their career-related needs. The Center is often described as "like no other" by visitors and is a model for career services throughout the country. Over six times larger than the average career center, the 12,000 square-foot building on Ponce De Leon Boulevard houses career programs and workshops,

networking events, professional individualized advising, practice interviews, industry panels, walk-in peer advising, company presentations, on-campus interviews, and more.

Career Education

Regardless of the path you take, a comprehensive career planning process begins *as soon as you step on campus*. Professional staff at the Center assist students with their career development utilizing a three-part model (<http://hireacane.miami.edu/about>) that provides the tools necessary to Explore (strengths, interests, values, skills, and abilities), Prepare (career and industry research, practice interviews, and internships), and Connect (building meaningful relationships and growing a professional network).

Advising Services

Toppel offers a variety of options for career advising. You can set up an individual or small group advising with highly trained and motivated career peer advisors who have industry-specific knowledge and they can provide you guidance on potential career paths. You can drop by any time Monday through Friday, 9am - 4:30pm, no appointment necessary. The Center even offers online career assessments (<http://hireacane.miami.edu/explore/majors-careers>) that can help you narrow down career options by building self-awareness.

Programs and Workshops

A series of programs and workshops (<http://hireacane.miami.edu/events/education>) is offered throughout the academic year both in person and virtually. Each session provides information and skill-building activities in the areas of resume development, interviewing skills, social media for the job search, securing internships, and much more. In addition, programs designed to increase awareness of specific career paths and professional opportunities are offered. These are often conducted by outside speakers and panelists who are UM alumni and/or recognized specialists in their fields.

Career Preparation & Networking

Through the Center's vision, *Empowering and Connecting 'Canes to Achieve a Lifetime of Career Fulfillment*, the staff encourages students to develop meaningful relationships with professionals in their area(s) of interest. The Toppel Career Center provides many opportunities for you to network with employers and alumni, including panel programs, employer meet-ups, job shadowing (UShadow (<http://hireacane.miami.edu/explore/ushadow>)), on-campus recruiting, and career fairs.

Career Fairs and On-Campus Recruiting

Career Expo (<http://hireacane.miami.edu/events/fairs>) is the largest career fair, typically bringing in over 100 employers and 1,000 students and alumni biannually in September and February. Toppel also organizes smaller industry-specific career fairs that focus on more specialized areas. Representatives from a variety of industries from around the world visit campus to meet, interview, and discuss career opportunities with students. In addition, the On-Campus Recruiting (<http://hireacane.miami.edu/gain-experience/on-campus-recruiting>) program brings employers to campus for company information sessions and to interview students for jobs and internships in the interview suites. Last year, over 1,000 interviews were conducted in the Center's interview suites. You can apply for these positions through Toppel's free online career management system Handshake (<https://miami.joinhandshake.com>).

Career Crawls

Career Crawls (<http://hireacane.miami.edu/gain-experience/career-crawls>) are immersive trips that allow students to explore career paths in a specific industry. They take place in a variety of domestic and international cities, where students have the opportunity to connect with a specific city's University of Miami community through employer site visits and receptions with alumni.

Toppel Internship Program

The Toppel Internship Program (TIP) (<http://hireacane.miami.edu/gain-experience/tip>) is designed to provide valuable career-related work experience through internships with participating employers. TIP allows students to earn a one-credit transcript notation from the Toppel Career Center for internships they have already secured. Students can also search Handshake (<https://miami.joinhandshake.com>) for hundreds of opportunities available to them. Part-time internships require at least 160 working hours while full-time internships require at least 320 working hours.

UCAN

If you are interested in jobs and internships outside of South Florida, the Center is a member of the University Career Action Network (UCAN) (<http://ucan-csm.symplicity.com/students>), a highly selective consortium of private institutions across the country. Participating schools, including Brown, Duke, Emory, Princeton, Harvard, and others, share internship opportunities across the network. You will be strongly encouraged to complete at least one internship while here, and these partnerships will help you meet this goal.

The Launch Pad at Toppel

The Launch Pad at Toppel (<http://www.thelaunchpad.org>) provides support to all entrepreneurs and inventors at the University of Miami. The Launch Pad's programs are co-curricular and voluntary by design. Pragmatic, concrete, and experiential, they provide the just-in-time knowledge entrepreneurs need to assess and develop their ideas and plans for a new enterprise. The Launch Pad offers guidance, encouragement, and immediate access to a

dedicated local commercial network. It brings entrepreneurs into the local business community as early as possible. The Launch Pad's programs are exercises in experiential capitalism that fulfill a key educational obligation: to teach learners not just how to find a job, but also how to make a job.

Connecting with the Toppel Career Center

The Toppel Career Center's vision is to empower and connect all 'Canes to achieve a lifetime of career fulfillment. Currently, over 2/3 of all undergraduate students utilize the Center's services each year, including close to 1,500 unique visits to career fairs and nearly 4,000 unique visits to career education opportunities. Evidence shows that students who visit the Career Center are more likely to earn internships and ultimately have better career outcomes at the time of graduation. Visit us in person at 5225 Ponce De Leon Blvd., online at HireACane.com (<http://www.HireACane.com>), or by logging into Handshake (<https://miami.joinhandshake.com>) and activating your account as soon as you arrive on campus! You can also keep up with what we're doing by following any one of our social media platforms: LinkedIn (http://www.linkedin.com/groups?gid=1295647&trk=hb_side_g), Facebook (<http://www.facebook.com/pages/Toppel-Career-Center-at-the-University-of-Miami/70221785028?ref=ts>), Twitter (<http://www.twitter.com/toppel>), Instagram (<http://instagram.com/hireacane>), YouTube (<http://www.youtube.com/toppelcareercenter>), Flickr (<http://www.flickr.com/photos/hireacane>), WordPress (<http://toppelpeers.wordpress.com>), Pinterest (<http://pinterest.com/umtoppel>), and Snapchat (username: HireACane).

Commuter Student Involvement

orientation.studentaffairs.miami.edu

The Orientation and Commuter Student Involvement (OCSI) is located on the on the second floor of the Shalala Student Center, suite 203. OCSI offers a variety of services and programs for students from Miami-Dade and Broward Counties who live at home and commute to the University of Miami. For more information, please visit our website (<http://miami.edu/csi>).

Great Start Pre-Orientation Program for First-Year Commuter Students

Great Start is an overnight, pre-orientation program designed to promote and emphasize college adjustment and campus involvement opportunities. The program's goal is to help students feel like a part of the University and give them a chance to meet other commuter students. Students who participated in Great Start have said the program greatly contributed to a positive transition from high school to college. Commuter student leaders serve as Program Coordinators, Steering Committee members, and Counselors. Applications are available in the fall on the OCSI website (<http://miami.edu/greatstart>).

Commuter Assistant/Transfer Assistant Program

The Commuter Assistant (CA)/Transfer Assistant (TA) Program provides first-year commuter and incoming transfer students with an experience that mirrors the programs and services offered by Resident Assistants and First Year Fellows to first-year students living on-campus in a Residential College. All first-year commuter students and interested new transfer students will be assigned to a CA or TA group and will begin meeting with this group during New Student Orientation. The CA/TA serves as a mentor, plans programs that will aid commuter or transfer students in their transition to college, and works with the Department of Orientation and Commuter Student Involvement to plan, promote, and implement initiatives specifically focused on first-year commuter or incoming transfer students. CAs and TAs release informative newsletters to their student groups and also host a monthly breakfast called "Good Morning, Commuters!" for off-campus students. CAs and TAs are hired during the spring semester.

Association of Commuter Students

The Association of Commuter Students (ACS) is a second home for its members. ACS, a student organization, provides social support, service opportunities, school spirit involvement, and a physical space through which commuters bond with fellow students and to participate in all that the University has to offer. ACS provides its members with a working knowledge of UM that gives them the opportunity to become fully involved in campus life. Brought together by a simple fact of life, commuting to campus, ACS members have forged bonds that extend beyond this commonality. For more information on ACS, click here (<http://orientation.studentaffairs.miami.edu/commuter-students/association-of-commuter-students>).

Counseling Center

counseling.studentaffairs.miami.edu

The Counseling Center is the primary provider of mental health services for UM students. The Counseling Center provides short-term individual, couples, and group therapy as well as psycho-educational outreach programming and consultation. Urgent care and limited career and psychological assessment are also available. Psychiatric services are available to those under the care of a Counseling Center therapist. The Counseling Center staff consists of experienced professionals from the fields of mental health counseling, psychology, social work and psychiatry.

For hours of operation please click here (<http://counseling.studentaffairs.miami.edu/appointments/hours-of-operation>). For appointments, students can call the Counseling Center directly at 305-284-5511 or request an appointment in person. The Counseling Center offers walk-in triage service for students in crisis. The Counseling Center is located at 5513 Merrick Drive.

After normal business hours, students can talk to a licensed mental health professional by calling the main Counseling Center phone number at 305-284-5511. This number turns over into an after-hours hotline for students.

Sexual Assault Response Team (SART)

The Counseling Center also coordinates the **Sexual Assault Response Team (SART)**. SART is a 24/7 telephone response line to assist University of Miami students victims of sexual assault. This service is available during the academic year and is for both men and women. The SART hotline number is 305-798-6666.

For more information, visit the SART website (<https://miami.edu/SART>).

Graduate Student Training

The Counseling Center participates in the graduate training programs in the Department of Psychology and the programs of the Department of Educational and Psychological Studies. Doctoral students in psychology take part in the Center's professional activities and have first-hand contact with clinical problems. In addition, pre-doctoral interns obtain professional training at the Counseling Center through the Dr. Jess Spierer Pre-doctoral Internship in Professional Psychology. The pre-doctoral internship at the Counseling Center is accredited by the American Psychological Association.

Dean of Students

www.doso.studentaffairs.miami.edu

The Dean of Students Office provides leadership that is consistent with the University's mission and works closely with students and student organizations, contributing to their co-curricular education and serving as an advocate for their varied interests. The staff works directly with academic, athletic, student affairs, and other administrators in the coordination of institutional efforts to address specific concerns, as well as to enhance the overall quality of the student experience.

Each area within the Dean of Students Office provides students with opportunities for student support, involvement, and leadership. For more information about each of these areas, click the links below.

- Alcohol and Other Drug Education (<https://doso.studentaffairs.miami.edu/units/alcohol-and-other>)
- Greek Life (<https://doso.studentaffairs.miami.edu/units/greek-life>)
- Judicial Affairs (<https://doso.studentaffairs.miami.edu/units/judicial-affairs>)
 - Student Rights and Responsibilities Handbook (<http://www.miami.edu/srr>)
- Sexual Assault Resources - It's On Us (<http://itsonus.miami.edu>)
- Undergraduate Honor Council (<https://doso.studentaffairs.miami.edu/units/undergraduate-honor-council>)
- University Chaplains Association (<https://doso.studentaffairs.staging.miami.edu/units/chaplains-association>)
- Veteran Student Services (<https://doso.studentaffairs.staging.miami.edu/units/veterans-services>)

The Dean of Students Office coordinates efforts in response to various student crises and employs an Associate Dean who is a Licensed Clinical Social Worker. The staff is knowledgeable and prepared to assist all students in their adjustments to campus life. The administration and record keeping of all undergraduate student disciplinary infractions are also the responsibility of the Dean of Students Office.

To contact the Dean of Students Office call 305-284-5353 or visit the University Center, Suite 2250.

The Honor Council - Undergraduate

Honor Council protects the academic integrity of the University by encouraging consistent ethical behavior by students in their academic work. The Honor Council investigates and adjudicates alleged violations of the Undergraduate Student Honor Code (<http://www.miami.edu/honor-code>). The Council is responsible for educating the University community on Honor Code related issues and promoting academic integrity through a variety of educational programs. The Council consists of representatives from the undergraduate schools and colleges.

Members of the University community who would like to request Honor Council programming or an investigation of alleged academic dishonesty are encouraged to call the Honor Council at 305-284-5354 or email (honorcouncil@miami.edu).

Disability Services

<http://umarc.miami.edu/arc/Index.html>

Office of Disability Services (ODS)

The Office of Disability Services (ODS) is the primary university office responsible for the coordination of auxiliary aids and services for students with disabilities. Please visit our website (<http://www.umarc.miami.edu>) for more information.

The Office of Disability Services (ODS) provides academic accommodations and support to ensure that students with disabilities are able to access and participate in the opportunities available at the University of Miami. Individuals with disabilities must request academic accommodations through the Office of Disabilities Services. Accommodations are determined on a collaborative and case-by-case basis and are based on the documentation

provided by the individual. ODS staff will work collaboratively with students to determine what academic adjustments and educational auxiliary aids are reasonable to ensure that students with disabilities are not subject to discrimination.

Information is available to prospective and enrolled students, their parents and/or sponsors. The Office of Disability Services (ODS) is located in the Camner Center for Academic Resources in Whitten University Center N2400. ODS staff can be reached at 305-284-2374 (Voice) or 305-284-1999 (Fax). Office hours are 8:30 am to 5:00 pm, Monday through Friday. Individuals may email the office staff (disabilityservices@miami.edu) for quick responses to questions.

The following deadline dates apply for all requests for academic accommodations through the Office of Disabilities Services:

Fall Semester	June 1st
Spring Semester	December 1st
Summer Semester	6 weeks prior to first day of class

Grievance Procedure

The University of Miami, through the Office of Disability Services, has adopted a grievance procedure providing for prompt resolution of complaints by persons who believe they have been subjected to discrimination based upon their disability.

- All complaints must be directed to the University of Miami, Office of Disability Services, P.O. Box 249003, Coral Gables, Florida, 33124 and addressed to the Director of the Camner Center for Academic Resources.
- All complaints must be in writing and must contain the name and address of the complainant. In the grievance, the student or individual must set forth specific facts in support of his/her complaint. All grievances must be signed by the student or individual.
- All grievances must be filed within 90 days of the alleged discriminatory event. If the complaint involves the denial of a student's request for auxiliary aids and services or other modifications, the grievance must be filed within ten (10) days after the student receives notification that their request for auxiliary aids and services or other modifications has been denied. All additional documentation regarding your appeal must be submitted at the time of the individual's appeal request.
- The grievance will be reviewed and adjudicated by the Director of the Camner Center for Academic Resources, or her designee (the "Director"). In no event, will the designee be the same individual who made the initial determination as to the request for auxiliary aids, services, or other modifications or accommodations.
- An investigation, if deemed appropriate by the Director, will be conducted by the Director following receipt of the grievance. The Director may review information and documentation contained in a student's file and/or any other information an individual may submit in support of his/her grievance.
- Within twenty (20) days of the receipt of the grievance, the grieving party will receive a written decision from the Director.
- The decision of the Director of the Camner Center for Academic Resources shall be considered the final decision on the matter.

Retaliation against a person who files a grievance, or opposes a policy he/she believes to be discriminatory is prohibited.

Persons may contact the Assistant Director of Disability Services, who is responsible for coordinating the University of Miami's 504 compliance efforts at (305) 284- 2374 (P.O. Box 249003, Coral Gables, Florida, 33124), with any questions or concerns.

Individuals, who believe that they were subjected to discrimination on the basis of disability by the University of Miami, are encouraged to use the grievance procedure to resolve their concerns. Individuals may file a complaint directly with the U.S. Department of Education, Office for Civil Rights, at 61 Forsyth St., Southwest, Suite 19T10 Atlanta, GA 30303. To file a complaint with the State of Florida, contact the Commission for Independent Education 325 W. Gaines Street, Suite 1414, Tallahassee, FL. 32399-0400.

International Student and Scholar Services (ISSS)

www.miami.edu/issss

ISSS represents the needs and interests of the University of Miami international community and provides support services and programs for international students, scholars, and academic departments at UM. Every year, approximately 3,600 international students (undergraduate and graduate) and scholars (professors and researchers) from 120 countries representing every region of the world study, teach, and conduct research at the University of Miami.

International students and scholars face some unique challenges as well as opportunities while pursuing their academic goals at UM. The professional and dedicated ISSS staff provides expert advice, information, services, acclimation and culturally relevant activities aimed at supporting their educational endeavors, enriching their U.S. experience, and ensuring their success over the entire course of their stay. ISSS support services and programs encompass:

- **Pre-Arrival Information**
- **Immigration Advising for Students and Scholars in F-1 and J-1 Status**
- **Employment Information and Authorization**

- **Online Tax Return Preparation System**
- **Liaison with Sponsoring Embassies, Government and Agencies**
- **The International Student Grant**
- **Short-Term, Small Emergency Loans**
- **Assistance with Personal and Adjustment Problems**
- **Assistance in Coping with Crises**
- **Advocacy**
- **International Student Orientation**
- **International Scholar Orientation**
- **Advise the Council of International Students and Organizations (COISO)**

On the ISSS website you will find detailed information regarding each of these services and programs. Please do not hesitate to contact us should you have any questions or require additional information. We look forward to assisting you.

1306 Stanford Drive
Whitten University Center, Suite 2275
Coral Gables, FL 33146-6929
Telephone: 305-284-2928
Email: iss@miami.edu

Libraries

<http://library.miami.edu/>

The libraries of the University of Miami (<http://welcome.miami.edu/academics/libraries>) rank among the top research libraries in North America with a combined collection of over 3.6 million volumes, with 95,600 current electronic and print serials. The libraries are located on the Coral Gables, Rosenstiel, and Medical campuses.

Individual and Collaborative Study Space

Learn about the hours (<http://library.miami.edu/hours>) we're open for you.

Access to Millions of Resources

Consult the library website (<http://library.miami.edu>) to get access to millions of resources, experts, and learn more about all the spaces and services available to you.

Expert Assistance for Every Subject

Librarians (<http://sp.library.miami.edu/subjects/staff.php?letter=Librarians%20by%20Subject%20Specialty>) are available to support students in all courses and majors. Consider us part of your network.

Online Research Guides for Courses and Majors

Online research guides (<http://sp.library.miami.edu>) can help you find the resources you need for course assignments, research projects and more.

Jobs

We offer a variety of opportunities for student employment. Check out our openings today (<http://library.miami.edu/student-jobs>).

Learning Commons

Discover and explore the services and resources (<http://library.miami.edu/learningcommons>) available to support you on your academic journey

Ombudsperson and University Troubleshooters

www.ombuds.studentaffairs.miami.edu

The Ombudspersons and University Troubleshooters provide open channels of communication between students and the university by listening to student concerns, investigating the facts and attempting to resolve situations in the best possible way. Ultimately, the goal is to resolve matters and assist students in their success at the University. The Ombudspersons and University Troubleshooters do not bypass or circumvent those individuals who have responsibility for departments or classroom instruction. Nor will they eliminate certain structured grievance and appellate mechanisms already established by the University.

Ombudsperson

An Ombudsperson interprets University policy for students and make recommendations to the central administration when policy changes are needed. The University of Miami has two Ombudspersons for students. The Academic Ombudsperson works most closely with issues with faculty, coursework, grade appeals, etc. The Administrative Ombudsperson works most closely with administrative issues such as financial registration, access concerns, and university polices and procedures. Ombudspersons connect students to faculty and administrators who will listen, answer questions, interpret policies/procedures and provide guidance on the appropriate steps to consider for a resolution. The Ombudspersons seek to resolve matters informally before they become matters in a formal grievance-appeal proceeding and works with students in establishing next steps to assist in their success at the University. However, if a formal grievance-appeal is most appropriate, they can provide guidance on the process.

University Troubleshooters

University Troubleshooters are faculty members and administrators who serve as a resource for students seeking assistance. They represent in a wide range of campus departments, who assist students with academic and administrative related matters. If a student has spoken to the appropriate University Troubleshooter and have not brought resolution to a student's concern, students should contact the Ombudsperson. For a listing of University Troubleshooters, click on the following links: Academic Troubleshooters (<https://ombuds.studentaffairs.miami.edu/who-can-help/academic-troubleshooters>) or Administrative Troubleshooters (<https://ombuds.studentaffairs.miami.edu/who-can-help/administrative-troubleshooters>).

For more information, visit [miami.edu/ombudsperson](http://www.miami.edu/ombudsperson) (<http://www.miami.edu/ombudsperson>), call 305-284-4922, email ombudsperson@miami.edu or visit Ashe Building 244.

Student Health Service

<https://studenthealth.studentaffairs.miami.edu/>

The Student Health Service provides primary care, specialty care and pharmacy services to eligible (http://www.miami.edu/sa/index.php/student_health_center/general_information/#Eligibility) University of Miami students. You are not required to have the Health Center sponsored insurance plan to utilize our services. Appointments can be scheduled at mystudenthealth.miami.edu (<https://caneid.miami.edu/cas/login?service=https://mystudenthealth.miami.edu>), services are also available on a "drop in" basis.

Contact Information

Telephone: 305-284-9100

Fax: 305-284-4098

Hours of Operation

Fall and Spring semesters: 8:30 a.m. to 5:00 p.m., Mondays, Tuesdays, Wednesdays, and Fridays. On Thursdays: 9:00 a.m. to 5:00 p.m. Sundays: 11:00 a.m. to 4:00 p.m.

Winter break, Spring break, and Summer sessions: Monday through Friday from 8:30 a.m. to 5:00 p.m.

The Health Service is closed on Saturdays and University holidays. After hours assistance is available by calling 305-284-9100.

For sudden, severe illness or serious accident dial 911. For illnesses or injuries requiring immediate attention, students are urged to go to an Emergency Room. After hours assistance for urgent situations can be obtained by dialing 305-284-9100. Students with United Healthcare insurance may also contact the United Healthcare Nurseline by calling 800-436-7709 and selecting the Health Resources option. For less urgent conditions, you may visit one of the local Urgent Care Centers (https://studenthealth.studentaffairs.miami.edu/_assets/pdf/urgent-care-centers.pdf).

Eligibility/Access

The Health & Counseling Centers Fee, is mandatory for students regardless of credit hour load and all students registered in an off-campus program who are enrolled in the University sponsored student insurance plan (<https://studenthealth.studentaffairs.miami.edu/insurance-information/domestic-students>).

Employees may be charged the Health and Counseling Centers fee on their initial bill, however the charge will be removed from their bill soon after the last day to drop or add a class, if they remain eligible for tuition remission benefits. Dependent of UM employees are treated the same as all other students..

Health Insurance

Domestic students enrolled in six or more credit hours per semester (or considered full time) are required to obtain adequate health insurance (see exceptions (<https://studenthealth.studentaffairs.miami.edu>)). The annual premium for the health insurance plan offered through the University is added to each student's fees. Domestic students with adequate alternative coverage may request cancellation of the insurance fee via CaneLink. Insurance cancellation must be renewed each year via the United HealthCare

(UHCSR) [waiver portal](https://urldefense.proofpoint.com/v2/url?u=https-3A__studentcenter.uhcsr.com_&d=DwMGaQ&c=y2w-uYmhgFWijp_IQN0DhA&r=LxZr5vQ1AW1tJhe48NNcoMkwDx3MH1b2w2xh2mA8fo0YTWvT-6KkgmgR5TvU6jg8&m=_QrEeY5VrtZJWrrjc_BpDyE0aXHbv_87sQDdE) (https://urldefense.proofpoint.com/v2/url?u=https-3A__studentcenter.uhcsr.com_&d=DwMGaQ&c=y2w-uYmhgFWijp_IQN0DhA&r=LxZr5vQ1AW1tJhe48NNcoMkwDx3MH1b2w2xh2mA8fo0YTWvT-6KkgmgR5TvU6jg8&m=_QrEeY5VrtZJWrrjc_BpDyE0aXHbv_87sQDdE)

You or your designee will need your student ID (C#), date of birth, and insurance information in order to submit a waiver request. You will receive a waiver approval or denial (if we are unable to confirm insurance coverage) from waiverstatus@uhcsr.com within 5 business days of waiver submission..

Deadlines to waive the insurance are:

- July 25 for the Fall semester
- January 25 for the Spring semester
- April 25 for Summer I
- June 25 for Summer II

Domestic students can check the status of their insurance waiver/cancellation request via CaneLink. The insurance premium will be prorated for those students entering for the first time in the Spring or Summer semesters. No waiver and/or refund will be granted after the above dates.

Students who have previously waived the insurance charge can reinstate the insurance prior to the Spring semester or first Summer session by completing the reinstatement request form and checklist. Coverage can also be reinitiated at the start of the Fall semester by choosing **not** to re-waive the charge, or at other times during the academic year, if within 30 days of termination of other similar coverage, by completing the reinstatement request form and checklist (<https://studenthealth.studentaffairs.miami.edu/insurance-information/domestic-students>). Documentation of termination may be requested.

Deadline for reinstatement of insurance is January 25th for the Spring semester. Please do not consider your reinstatement complete until reinstatement has been verified via CaneLink, i.e. the charge has been posted to your student account and all charges on your account have been paid.

All international students are required to enroll in the University sponsored health insurance program. The annual premium for this coverage is added to each student's fees.

Any additional questions regarding the health insurance requirement should be directed to the Student Health Service at 305-284-9100 or to studenthealth@miami.edu.

Immunization

All students are required to provide proof of immunization against measles, mumps and rubella; and tetanus, diphtheria and pertussis. All new students must also provide proof of immunization against hepatitis B (<https://studenthealth.studentaffairs.miami.edu/immunization-information/required-immunization>) and meningococcal meningitis (<https://studenthealth.studentaffairs.miami.edu/immunization-information/required-immunization>) **or** sign a waiver declining these immunizations. An immunization (<https://studenthealth.studentaffairs.miami.edu/immunization-information/required-immunization>) form must be completed and returned to the Student Health Service prior to arrival on campus. For students less than 18 years old, the meningitis/hepatitis vaccine waivers must be signed by a parent or legal guardian.

All international students must also be screened for tuberculosis by completing page two of the immunization form (<https://studenthealth.studentaffairs.miami.edu/immunization-information/required-immunization>).

Deadlines for submission of immunization records are Fall - August 22nd, Spring - January 15th, Summer - April 15th. Failure to comply with this requirement will interfere with registration. Immunization information must be entered at mystudenthealth.miami.edu (<https://mystudenthealth.miami.edu>) prior to faxing or mailing the form to the Student Health Service for verification. Immunization compliance can also be verified at mystudenthealth.miami.edu (<https://mystudenthealth.miami.edu>). Instructions on the use of mystudenthealth.miami.edu (<https://mystudenthealth.miami.edu>) is available at [miami.edu/student-health](http://www.miami.edu/student-health) (<http://www.miami.edu/student-health>).

Most students will be able to obtain the required immunization information from their prior medical providers or from their prior high school, college or university. Students who believe that they were previously immunized but are unable to provide proof of immunization may either obtain blood tests confirming immunity or obtain the necessary immunizations. Immunizations and blood tests documenting immunity are available at the Student Health Service. All charges are in addition to processing fees for late forms.

Immunization against varicella (chicken pox) is suggested and is available at the Student Health Service for a reasonable charge.

Pharmacy

Students with the Health Service sponsored insurance plan receive enhanced benefits if prescriptions are filled at the Walgreens pharmacy located on the first floor of the Lennar Medical Center.

Lennar Walgreens Pharmacy

Hours: Monday – Friday 9:00 am – 6:00 pm

Phone: 305-351-0606

Fax: 305-351-0608

Study Abroad

Dept. Code: SAP

Opportunities for study abroad may be available for some graduate degree programs during the summer, fall, spring and intersession terms.

Students may participate in programs led by faculty members or may participate in semester exchange program options offered by the MAIA program.

For further information contact:

Office of Study Abroad
PO Box 248263
Coral Gables, FL 33124-1610
305-284-3434
e-mail: studyabroad@miami.edu

In some programs it is possible to earn graduate credit hours for study taken abroad. The curriculum must be worked out by the student in conjunction with an advisor.

Undergraduate Housing and Residence Life

hrl.studentaffairs.miami.edu

Housing and Residential Life

The University of Miami offers undergraduate on-campus housing in five residential colleges and University Village.

Each residential college has residential faculty members, an Area Director/Assistant Area Director, and student staff who all live in the residential college with the resident students to support and promote student well-being, safety, academic achievement, student learning, and development. Numerous social, educational, cultural, and recreational programs are offered throughout the academic year.

General Highlights

- The University has both single and double rooms. Singles are limited and assigned based on seniority living on campus and, thus, entering students are typically assigned to double occupancy rooms.
- All non-local freshmen students are required to live in University housing for two academic semesters, as long as space is available. This policy does not apply to freshmen students living with parents or legal guardians in Miami-Dade or Broward Counties. Non-local freshman must complete the Live-On Requirement exemption Request Form in order to be exempt from this requirement.
- University Village, an apartment-style residential community, is an available option to juniors and seniors, who have completed 60 or more credit hours. The apartments are fully furnished and include in-apartment washers and dryers, full-size kitchen appliances (stove, refrigerator, microwave, & dishwasher), and reserved parking (extra fee).
- All housing facilities are co-educational with men and women living on alternate floors or alternating separate suites or apartments. Gender inclusive housing is available upon request.

Applying for On-Campus Housing

- Admitted undergraduate students, following verification of acceptance to the University and payment of the enrollment deposit, can apply for housing via CaneLink (<http://www.canelink.miami.edu>).
- Students are encouraged to apply for housing as soon as possible after paying the enrollment deposit. New freshmen housing applications should be submitted by May 1; applications received from new freshmen after May 1 will be accommodated on a space available basis.
- The \$500 pre-payment is paid by credit card at the time of application.
- Assignments to buildings, rooms, and specific roommates are made according to the date of application, receipt of the housing prepayment, and overall availability.
- Whenever possible, requests for roommates are honored. However, if specific preferences are not available, the University reserves the right to assign students to other roommates.

The housing agreement is for the entire academic year (both fall and spring semesters), unless the applicant is:

1. applying only for spring semester housing
2. applying only for one of the offered summer housing sessions

3. graduating in December (must notify HRL directly)
4. participating in a University of Miami study abroad experience spring semester (must notify HRL directly)
5. not enrolling in the University spring semester (must notify HRL directly)

Housing cancellations received through May 31 will result in a \$500 cancellation penalty. Cancellations received after May 31 will result in:

- the canceling student being responsible for the fall semester housing charges, unless or until the vacancy created by the cancellation can be filled by another qualifying University student applying for housing
- if filled, the canceling student will only be assessed the \$500 cancellation penalty

Housing cancellations for the spring semester received through December 1 will result in a \$500 cancellation penalty. Cancellations for the spring semester received after December 1 will result in:

- the canceling student being responsible for the spring semester housing charges, unless or until the vacancy created by the cancellation can be filled by another qualifying University student applying for housing
- if filled, the canceling student will only be assessed the \$500 cancellation penalty for early termination

Note: Written notice of cancellations must be made to the Department of Housing and Residential Life office directly.

Dates of Housing Availability

Fall Semester	August 14, 2018 - December 13, 2018
Spring Semester	January 9, 2019 - May 10, 2019

Off-Campus Housing Resources

The Department of Housing and Residential Life also provides assistance to students, staff, and faculty with identifying off-campus housing options, including a web-based search engine of community listings.

For more information about housing on-campus or assistance with off-campus housing, please visit our website (<http://hrl.studentaffairs.miami.edu>), call 305-284-4505, or email (housing@miami.edu).

University Dining Services

To read more about the University of Miami Dining Services program visit our website link below.

University of Miami Dining Service (<http://business-services.miami.edu/departments/auxiliary-services/dining-services>)

Veterans

Veterans' Benefits

The University of Miami maintains a Veterans' Affairs (V.A.) Office in the:

Office of the University Registrar
1306 Stanford Drive
Whitten University Center, Room 1230
Coral Gables, FL 33146

Mailing Address:
P.O. Box 248026
Coral Gables, Florida 33124-6914

This office assists veterans and dependents of veterans who are entitled to V.A. educational benefits under Chapter 30, 31, 33, or Chapter 35 of Title 38, U.S. Code, or Chapter 1606. The University of Miami participates in the Yellow Ribbon Program for qualified Chapter 33 recipients.¹ Anyone needing information on Veterans' Benefits is advised to contact the Office of the University Registrar or visit their website (<https://registrar.miami.edu/forms-and-services/veterans-affairs>).

V.A. students with previous post-secondary educational training/experience must request an official transcript(s) be sent to the university. If the transcript has not been received prior to the end of the student's initial semester, or as specified in the guidelines under the program he/she is enrolled in, the Veterans' Affairs Office will not re-certify the student for V.A. educational benefits. The Veterans' Affairs Office may re-certify the student after the transcript has been received.

The V.A. student's previous training and/or experience will be evaluated by the university. Should credit(s) be accepted and/or awarded, the V.A. student's tuition and training time may be reduced proportionally. The V.A. and the student will receive a written notice of the credit(s) allowed.

¹ The University of Miami's Yellow Ribbon Program is available to students in the Fall and Spring semesters only.

Standards of Progress Policy for Veterans

Satisfactory progress is indicated by a Satisfactory Progress Average (SPA), which is a variation of the Quality Point Average (QPA). The SPA is computed by the following formula:

A	4
B	3
C	2
D	1
E	0
IE	0
F	0
IF	0
NG	0

- Note that "E's", "F's", "IE's" and "IF's" are included in the SPA.
- A grade of CR will be counted as CR=2.
- The SPA is determined by dividing the total quality points earned by the credits attempted.

When a course is dropped with a grade of "W", the V.A. requires a student to repay any benefits received for that course unless the V.A. determines there are mitigating circumstances involved.

Benefits will not be paid for courses in which a student receives an NG or NC or IPs that do not convert to a letter grade.

- An SPA of 2.0 or greater for undergraduate students, or 3.0 or greater for graduate students, is satisfactory progress.
- Less than 2.0 for undergraduate, and less than 3.0 for graduate students, is not satisfactory.
- Law and M.D. students will be considered to be making satisfactory progress as long as they meet the academic standards set by their schools for retention in their degree programs.
- The SPA is non-cumulative. It is computed each term on a one-term basis.
- Any term a student's SPA is less than 2.0 for undergraduate or 3.0 for graduate, he/she will be notified that he/she is not making satisfactory progress. He/she will be certified, in a probationary status, for only one additional semester.
- If, at the end of this additional semester, his/her SPA for that semester is still below the satisfactory level, the V.A. will be notified of the unsatisfactory progress and his/her educational benefits will be terminated.
- A student whose V.A. educational benefits have been terminated for unsatisfactory progress may petition the Veterans' Affairs Office to be re-certified after one semester has elapsed. Please address your request to:

VA Certifying Official
c/o Office of the University Registrar
University of Miami
P.O. Box 248026
Coral Gables Florida 33124-6914

- The Veterans' Affairs Office may re-certify the student for V.A. educational benefits only if there is a reasonable likelihood that the student will be able to attain and maintain satisfactory progress for the remainder of the program.

For V.A. Payment of Benefits Purposes

All V.A. Students are required to notify the V.A. Certifying Official, every semester, in writing, their intent to use their benefits, and therefore to be certified for that semester.

- An "I" (incomplete) designation for a course must be converted to a credit grade counting toward graduation, or a failing grade, by the end of **one calendar year** unless permission for a delay is granted by the Academic Dean.
- An "NG" (no grade) designation for a course must be converted to a credit grade counting toward graduation, or a failing grade, by the end of **one regular semester** unless permission for a delay is granted by the Academic Dean.
- If permission is obtained, a memo signed by the Academic Dean must be given to the Veterans' Affairs Office during the semester in which the "I" or "NG" was to be removed. This memo should also state the period of time for which the delay is approved.

- If a memo giving permission for a delay in the “I” or “NG” removal is not received by the end of the semester in which the “I” or “NG” was to be removed, the V.A. will be notified of the incomplete grade resulting in a loss of educational benefits for that course.

Please consult with our office regarding regulations for “IP’s” received in Thesis, Research, or Dissertation.

There is an official period after each registration in which a student may drop a course without a “W” appearing on his/her grade report. This period is not to be confused with the last date to drop a course with a “W” grade. Please check the academic calendar on the University (<http://www.miami.edu/registrar>) Registrar’s website (<http://www.miami.edu/index.php/registrar/calendar>) for dates.

Class Attendance and Absences

- Regular and punctual class attendance is vital for all students.
- It is the student’s responsibility to know the instructor’s policies regarding examinations, penalties for absences, and late or missed work.
- A copy of the student’s transcript will be placed in the student’s permanent file maintained by the Veterans’ Affairs Office.

Because of the far-reaching effects of these revisions in the V.A. educational benefits program, it is suggested that you exercise care and judgment in your program planning and in the selection of your courses. V.A. educational benefits will only pay for courses that are toward the program in which you are enrolled.

Veterans and children of deceased or totally disabled veterans receive training allowance in proportion to the schedule carried. The full load required to receive full training allowance is 12 credits in undergraduate school (9 credits in Graduate School).

Undergraduate Policies and Procedures

While the University makes every effort to provide academic counseling to its students, its basic policy places the responsibility for planning an academic program upon the student.

The University of Miami relies on electronic means, e.g. email, CaneLink, university-specific app (*scheduled to launch in the 2018-2019 academic year*), for correspondence with students. Students are required to maintain a working email address and are expected to update their personal biographical information annually via their CaneLink account. Students who fail to maintain a working email account may not receive critical university information.

Students are expected to familiarize themselves with the requirements of:

- the University,
- the schools in which they are enrolled, and
- their major department.

Requirements refer to those stated in the Bulletin at the time of admission to degree status, unless a student has not been continuously enrolled. In such cases, the Bulletin in effect at the time of re-admission is the one to be used. Under special circumstances, a student may appeal the bulletin decision. In such cases, the determination of the Bulletin in effect is made by the readmitting School or College.

Academic core requirements will not be waived for students under any circumstances.

The work of each student is under the supervision of an academic Dean and of the appropriate Scholarship Committee. A student who fails to maintain an adequate academic record may be dismissed from the University.

Admission of a student to the University of Miami for any semester does not imply that such student will be re-enrolled in any succeeding academic semesters. If a student whose record is unsatisfactory is for some reason permitted to continue in attendance, the appropriate scholarship committee or Dean may specify the standard that must be attained, and any other conditions to be met.

A student who graduates and plans to enter a graduate school or professional school at the University of Miami must apply for admission to the appropriate school of the University in accordance with application deadlines of respective schools.

Not all the regulations and procedures described above pertain to the Graduate School, the Law School, and the School of Medicine. The specific regulations of these schools are stated in their respective Bulletins.

Admission

The University of Miami is a member of the National Association for College Admission Counseling and subscribes to its Statement of Principles of Good Practice.

Advanced Placement/Credit

The University allows students to receive college credit hour toward graduation from the following programs: Advanced Placement, International Baccalaureate, Dual Enrollment, and College Level Examination Program. To have Advanced Placement, International Baccalaureate, or College

Level Examination Program credit hours evaluated, the student must submit an official test result report to the Office of Undergraduate Admission. The University of Miami does not give credit hour for CLEP Foreign Language and General Examinations. Students taking Dual Enrollment courses (college courses taken while still in high school) must submit an official college transcript for review of potential transfer credit hour. Please refer to the transfer student section for requirements to transfer college coursework.

A student must submit official AP, IB, Dual Enrollment transcripts or CLEP results no later than the end of the first semester of enrollment for review. Documents submitted after this time period will not be reviewed and credit hour will not be awarded.

The University will accept no more than 60 credit hours from these programs to count toward the 120 credit hours required for graduation.

Early Admission

A limited number of carefully selected students who are currently enrolled in high school and who have completed three years of study may be admitted to the University as freshmen. Early admission applicants typically have a very strong academic background and demonstrate a mature character.

Students who wish to apply under Early Admission must have the support of his/her parents, guidance counselor, and high school. Early applicants must also schedule an interview with the Office of Undergraduate Admission.

Early Admission applicants must submit official high school transcripts, SAT or ACT examination results, and all other supporting documents required to complete the application as part of the admission process.

Early Admission applicants will be notified of an admission decision by June 1 or after receipt of grades from the final high school year completed.

Since every applicant must be appraised individually, no general qualifications can be listed. Students interested in early admission may send inquiries and requests for applications to the Office of Undergraduate Admission.

Freshman Admission

The Admission Committee reviews applications and bases admission decisions on the following factors:

- **The Secondary School Record.** The applicant must be in the process of completing graduation requirements at a regionally accredited secondary school or must be a graduate of an accredited secondary school. The applicant must have successfully completed a solid college preparatory program including English, Mathematics, natural sciences, social sciences and foreign language.
- **Standardized Tests.** Applicants attending schools in the United States must submit official SAT or ACT results. The results of these tests, together with the secondary school record, provide a better measure of the ability of a candidate to perform college level work successfully than can be obtained by either measure alone. Applicants graduating from a secondary school outside of the United States **should not** submit SAT or ACT results.
- **The Counselor's Evaluation Form.** This form is to be completed by the applicant's secondary school counselor and includes rank in class, test score information, and an evaluation of potential for academic success in the student's area of interest.
- **The Essay.** Since each applicant is considered individually, the Essay provides the opportunity to present information that may assist the Admission Committee as it evaluates the application for admission.

See admission procedures for freshmen (http://www.miami.edu/admission/index.php/undergraduate_admission/apply/freshman/freshman_application_instructions).

GED Scores

Submitting GED Scores

An applicant may apply to the University upon completion of the GED in lieu of completing high school. When applying with the GED, the applicant must submit official high school transcripts up to the time of withdrawal, as well as the official GED score report and diploma.

Applicants submitting the GED must achieve the following scores to be considered for admission. These scores should be considered a guideline and do not guarantee admission to the applicant.

For exams taken in English:

A score of 175 or higher should be obtained on all four subject test.

For exams taken in any language other than English:

A score of 175 or higher should be obtained on all four subject test.

It is strongly suggested that applicants submitting the GED in any language other than English also submit a TOEFL score.

Non-Degree Enrollment

Adult Student Access Program (A.S.A.P.)

For information and policies regarding enrollment for classes in a Non-Degree seeking status, please visit this page: (p. 555)

For more information, please contact:

The Adult Student Access Program
Division of Continuing Studies
University of Miami
Coral Gables, FL 33124-1610
305-284-4000

Transfer Admission

Transfer admission may be granted in most fields of study to students who have earned credit hours from other regionally accredited colleges or universities. Courses completed with **passing grades of C or higher** at other colleges and universities and acceptable for academic credit hours by the University of Miami, will be verified, and where appropriate, will be translated into University of Miami equivalents by the Office of Undergraduate Admission. However, the Dean of the College or School within the University from which the student plans to graduate determines which transferred courses may be counted toward meeting graduation requirements of that College or School.

Transfer of Credit Hours to UM

Work taken at other institutions will appear on the University of Miami transcript in separate entries as:

1. The total number of transferable credit hours attempted and quality points earned, regardless of grades, and
2. The total credit hours transferred, which shall be the total credit hours for which a grade of C or higher was earned.

*Note: Only the transfer totals earned are added to the University of Miami totals. Total credit hours attempted and quality points earned elsewhere are **not included** in the University of Miami totals.*

The University does not accept transfer credit hours for courses in which a grade of C- and below (or the equivalent grade) was earned. However, grades of C-, D, and F are used to calculate the transfer admission grade point average.

Credit hours are not transferred from institutions not accredited by the appropriate regional accrediting association. Limited exceptions may be made with the approval of the Dean in the College or School of the student's major. Credit hours transferred from institutions not in existence long enough to attain regional accreditation must be validated by the attainment of a C average or better in the first 12 credit hours of course work taken at the University of Miami.

The University does not have a coursework forgiveness policy. The grades of any repeated courses will be averaged.

A student may not repeat a course in which a grade of C or higher has been earned. This is considered an illegal repeat.

Upper division course requirements (300 level or above) at the University may not be satisfied with community college courses.

After being offered admission and enrolling, a student must submit any final college transcripts with grades, AP, IB, AICE or CLEP examination scores for review by the end of the first semester of enrollment. Any documents listed above which are submitted after this time period will not be reviewed and credit hours will not be awarded.

Required Credit Hours in Residence at the University of Miami

A student transferring credit hours from a 2-year community or junior college (this being the last school attended) must complete a minimum of **56 credit hours in residence** at the University of Miami to earn an undergraduate degree.

A student transferring credit hours from a 4-year college or university (this being the last school attended) must complete a minimum of **45 credit hours in residence** at the University of Miami to earn an undergraduate degree.

At least **half of the credit hours** required for the chosen Major or Minor must be completed at the University of Miami.

See Admission procedures for transfer students (http://www.miami.edu/admission/index.php/undergraduate_admission/apply/transfer_applicants/transfer_application_instructions).

Undergraduate International Admission

ELIGIBILITY FOR ADMISSION (http://www.miami.edu/admission/index.php/undergraduate_admission/apply/international_applicants/eligibility_requirements_by_country)

Admission Procedures for International Students

Educational Documents

Diplomas, Certificates

Copies should be enclosed with the application. Students from countries following the British educational system must submit certified photocopies, or ask the examinations council to mail confidential results to the University of Miami. Reports of scores in school-leaving examinations (e.g., Baccalaureate) must also be submitted.

Transcripts, Statements of Marks

A transcript must contain the following information: subjects studied; marks (grades) awarded; length of class periods; number of periods per week for each subject; and grading scale with minimum passing mark. Year-by-year records of marks should be sent to the University of Miami directly from U.S. institutions. Certified records from foreign institutions may be submitted by applicants, but the University may sometimes insist that such transcripts be sent directly to the University of Miami from the issuing institutions. All secondary and tertiary transcripts must be submitted.

English Translations

Documents in a language other than English must be accompanied by certified English translations. Notarized translations will not be accepted. Translations supplement but do not replace original documents. Please remember to send both.

Syllabus of university study (description of each course or subject studied accompanied by certified English translations. Notarized translations will not be accepted).

A current (within the past six months) bank or government sponsorship letter guaranteeing payment for tuition and fees, books, room and board, medical insurance and personal expenses for one calendar year (two semesters and two summer sessions) is required.

Examinations for International Students

All international students whose native language is not English, including those applying for transfer from U.S. institutions, are required to submit the results of the Test of English as a Foreign Language (TOEFL) or the International English Language Testing System (IELTS). The TOEFL code for the University of Miami is 5815.

The SAT score report is **not required and should not be submitted for admission consideration** from applicants who are attending schools outside the United States. Applicants should only submit an SAT score report if they qualify for merit scholarship consideration.

Please see the TOEFL Score Requirements (http://www.miami.edu/admission/index.php/undergraduate_admission/apply/international_applicants/toefl_or_other_english_proficiency_requirements).

Conditional admission: Academically qualified applicants who are unable to take the TOEFL, or who have scored less than the required minimum, may be offered admission to undergraduate programs with the condition that they successfully complete level five of the University of Miami Intensive English Program or obtain a 550 TOEFL and higher. University of Miami TOEFL code number is 5815, and the IELTS code number is 4861.

Institutional TOEFL scores are designed for academic placement use at the University of Miami. Those needing TOEFL for admission to the University of Miami or for use elsewhere should take the TOEFL iBT instead. Visit www.ets.org/toefl/ (<http://www.ets.org/toefl/>) for more information about the TOEFL iBT.

Please see the IELTS Score Requirements (http://www.miami.edu/admission/index.php/undergraduate_admission/apply/international_applicants/toefl_or_other_english_proficiency_requirements).

IELTS is the International English Language Testing System. It measures ability to communicate in English across all four language skills – listening, reading, writing and speaking – for people who intend to study or work where English is the language of communication.

IELTS Course ID (codes): Undergraduate Admission – 4861; Graduate Admission – 4862. For more information, visit http://bandscore.ielts.org/course_info.aspx?OrgId=3187.

Programs of Study

International students are eligible to apply for all programs offered at the University of Miami. It should be noted that medicine and law are studied at the graduate level in the United States, and it is therefore inappropriate for undergraduate international applicants to request these programs.

Financial Information

The University of Miami has no financial assistance for international students other than academic scholarships. International students must provide funds for all of their expenses during the entire period of study, including travel and vacations. Students who would not be able to cover their expenses are best advised not to apply for admission.

General Education Requirements

Philosophy

The University of Miami's General Education Requirements ensure that graduates have acquired essential intellectual skills and have engaged in a range of academic disciplines. The General Education Requirements provide students with the opportunity to study methods and achievements in all areas of human inquiry and creative endeavor and to cultivate abilities essential for the acquisition of knowledge. The General Education Requirements allow students to create an integrative map for their academic careers, providing a context for more focused studies.

As an institution of higher learning in an increasingly diverse and global community, our goals are to produce graduates who have been exposed to a broad spectrum of educational opportunities and to prepare them for successful participation in the world. The University's General Education Requirements consist of coursework taken before, within, and in addition to students' specialized study in their areas of concentration. The aims of the General Education Requirements are designed to ensure that graduates of the University will have acquired essential intellectual skills and exposure to a range of intellectual perspectives and academic disciplines. Whereas the requirements of majors specified by schools and colleges within the University emphasize depth of learning, the General Education Requirements stress breadth of knowledge and the cultivation of intellectual abilities essential for the acquisition of knowledge.

Areas of Proficiency

The Areas of Proficiency requirements ensure that students either already possess, or develop at the University, the ability to express themselves effectively, to use quantitative skills with facility, and to reason cogently.

English Composition

Effective writing skills advance ideas efficiently and persuasively, so the expectation is that students become adept at using writing as an effective communication tool. Students fulfill this requirement by satisfactorily completing ENG 105 together with ENG 106 or ENG 107, or the equivalent. Appropriate Advanced Placement (AP) or International Baccalaureate (IB) scores in English composition may be used to satisfy this requirement. An appropriate score on the SAT or ACT examination may earn a student exemption from, but not credit for, ENG 105.

Students will be able to:

- Gather information, synthesize data, compare various points of view, and present results in writing.
- Develop the ability to read texts critically and to use textual evidence to support a sophisticated written argument.
- Consider audience, tone, organization, and standard conventions in relation to specific rhetorical tasks

Effective Fall 2017, new students without prior college credit in English Composition will be placed as follows:

- ENG 103: ACT English score below 18 or SAT Evidence-Based Reading and Writing or Critical Reading score below 430, or TOEFL iBT Writing score below 18.
- ENG 105: ACT English score 18-31 or SAT Evidence-Based Reading and Writing or Critical Reading score 430-690, or TOEFL iBT Writing score 18 or above.
- ENG 106 or ENG 107: ACT English score 32 or above or SAT Evidence-Based Reading and Writing or Critical Reading score 700 or above

All requirements for the English Composition General Education Requirements must be completed prior to attaining junior year classification.

Quantitative Skills

In a world increasingly influenced by science and technology, it is important for students to acquire the capacity to understand and use essential quantitative skills. The Quantitative Skills requirement helps students learn to use quantitative skills and tools to solve problems, including the interpretation, manipulation, and application of quantitative data. Students fulfill this requirement by completing either a Department of Mathematics course numbered MTH 108 or higher or a quantitative skills course approved by the student's college/school and the University Curriculum Committee in consultation with appropriate academic units.¹

Students may be able to fulfill this requirement through credit earned through the following tests: AP, IB, A-Level, and Cambridge Pre-U. The University has an equivalency chart (<http://admissions.miami.edu/undergraduate/application-process/ap-ib-clep-credits>) that illustrates how credit/exemption may be earned through these tests.²

Students will be able to:

- Select and use appropriate quantitative methods and tools to solve problems.
- Interpret, manipulate, and apply quantitative data to solve problems.

¹ Students in the following majors in the Frost School of Music may take MTH 101: *Algebra for College Students* instead of MTH 108: Instrumental Performance, Keyboard Performance, Vocal Performance, Studio Music and Jazz Instrument, Studio Music and Jazz Vocal, Music Education, and Music Therapy. Students in the following majors in the Frost School of Music may take MTH 113: *Finite Math* instead of MTH 108: Music Business Entertainment Industries, Music, Musicianship, Artist Development and Entrepreneurship, Music Theory-Composition, and Media Writing and Production.

² Students in the Frost School of Music : An appropriate score on the SAT, ACT or proctored ALEKS examination may earn a student exemption from, but not credit for, the math requirement of the student's degree program.

Areas of Knowledge

The Areas of Knowledge requirement is designed to help students understand and appreciate intellectual achievements in major areas of human inquiry and creative endeavor. Students satisfy this requirement through the Cognates Program, which aims to provide a broad array of intellectual and cultural exploration.

In the Cognate Program for the Areas of Knowledge requirement, students examine creative expression in the arts, literature, and philosophy; study human development and behavior; and explore the mathematical, scientific, and technological world. Students fulfill the requirement by completing three cognates, one from each of the three areas of the university curriculum: Arts & Humanities (A&H); People & Society (P&S); and Science, Technology, Engineering & Mathematics (STEM). A cognate is a group of at least three courses for at least nine credit hours with a shared theme or topic determined by the faculty. Each cognate has course options that allow students to complete the cognate in a manner that meets their interests, while staying within the focus of the cognate.

While students are required to take three cognates to fulfill the Areas of Knowledge requirement, there is no limit to the number of additional cognates students may complete. All cognates completed are listed on the students' transcripts.

The university offers a large number and range of cognates. Additionally, each major and minor fulfills the cognate requirement in one Area of Knowledge. All approved cognates are visible in a cognate search engine (<https://cognates.miami.edu>) that allows students to search for cognates based on cognate features, cognate courses, and keywords. Each cognate is administered by a department or program that is designated as the "Responsible Academic Unit" (RAU) for the cognate. Inquiries about a cognate should be directed to the cognate's RAU.

The following rule applies to all cognates: A course may not be used to satisfy the requirements of more than one cognate. This rule applies whether the cognate requirement is being met by a major, a minor, or a designated cognate. The fact that a school requires students to take courses which the school construes as outside the major or minor, but must be taken to fulfill the requirements for that major or minor, does not allow the course to be counted for both purposes. On the other hand, the fact that a course is listed as one which must be taken to meet the requirements for a major or minor does not necessarily preclude a student from participating in a cognate which has that course as one of its options. In many cases, the student could take one of the other courses included in the cognate.

Arts & Humanities

Arts & Humanities cognates engage students in the study of the most enduring and influential works of art, imagination, and culture. Through study, creation, and performance, courses in this area enable students to understand the works of artists, musicians, novelists, philosophers, playwrights, poets, historians, and theologians. These courses cultivate the ability to interpret, critically evaluate, and experience the creative products of human culture and expression.

Students will be able to:

- Critically evaluate and interpret the creative products of humanistic and artistic expression, applying appropriate vocabulary and concepts for their description and analysis.
- Understand the creation and performance of art.

The following departments and programs offer courses that are used in Arts & Humanities cognates: Africana Studies; American Studies; Architecture; Art & Art History; Cinema & Interactive Media; Classics; Dance; English; History; Judaic Studies; Latin American Studies; Modern Languages & Literatures; Music Theory – Composition; Musicology; Philosophy; Religious Studies; Strategic Communication; and Theatre Arts. Others will be added as cognates are approved.

People & Society

People & Society cognates help students understand and analyze the organization of society and the patterns of social change in the past and in the contemporary world.

Students will be able to:

- Analyze the organization of society.

- Analyze patterns of social change.

The following departments and programs offer courses that are used in People & Society cognates: Accounting; Advertising; Aerospace Studies; Africana Studies; American Studies; Anthropology; Business Law; Classics; Communication Studies; Criminology; Economics; Ecosystem Science & Policy; Educational & Psychological Studies; Entrepreneurship; Geography; Health Sector Management; History; Human Resource Management; International Studies; Journalism & Media Management; Judaic Studies; Kinesiology & Sport Sciences; Latin American Studies; Legal Studies; Management; Marine Affairs; Marketing; Military Science; Modern Languages & Literatures; Music Media & Industry; Nursing; Philosophy; Political Science; Psychology; Public Administration; Public Health; Regional Studies; Religious Studies; Sociology; Strategic Communication; Teaching & Learning; Urban Studies; and Women's & Gender Studies. Others will be added as cognates are approved.

Science, Technology, Engineering & Mathematics (STEM)

Science, Technology, Engineering & Mathematics (STEM) cognates develop students' abilities to think critically about mathematical, scientific, and technological issues, through an understanding of processes and methods of scientific inquiry involving experimentation, observation, and quantitative analysis. The cognates nurture literacies that enable students to make informed decisions in an increasingly complex world.

Students will be able to:

- Understand the use of quantitative tools, experimentation, and observation to analyze and solve mathematical, scientific, environmental, and technological problems.
- Interpret quantitative data and draw useful conclusions.

The following departments and programs offer courses that are used in Science, Technology, Engineering & Mathematics cognates: Aerospace Engineering; Anthropology; Architecture; Art; Atmospheric Science; Audio Engineering; Biochemistry; Biology; Biomedical Engineering; Business Law; Business Technology; Chemistry; Cinema & Interactive Media; Civil, Architectural & Environmental Engineering; Computer Information Systems; Computer Science; Economics; Ecosystem Science & Policy; Educational and Psychological Studies; Electrical & Computer Engineering; Engineering Science; Finance; Geography; Geological Sciences; Healthcare Science; Industrial Engineering; International Finance & Marketing; Journalism & Media Management; Kinesiology & Sport Sciences; Management Science; Marine Science; Marketing; Mathematics; Mechanical Engineering; Microbiology & Immunology; Molecular Biology; Neuroscience; Nursing; Philosophy; Physics; and Psychology; Public Health; Real Estate; and Strategic Communication. Others will be added as cognates are approved.

NOTES

The three cognates taken to fulfill the Areas of Knowledge requirement (including cognates fulfilled by majors and minors) must have different RAUs. No more than two Areas of Knowledge may be fulfilled by cognates whose RAUs are in the same school or college, except for the College of Arts and Sciences. Majors and minors may cover more than one Area of Knowledge but may be used to fulfill the cognate requirement in only one of those areas. A course may count in only one cognate used to fulfill the Areas of Knowledge requirement (including cognates fulfilled by majors and minors). Students may petition for individual course substitutions in cognates by application to the cognate's RAU. Transfer courses, Advanced Placement, International Baccalaureate, CLEP, dual enrollment, etc., that are transferred in with specific UM course equivalencies can be used in cognates. Courses that transfer in with non-specific UM course credit hours can be used in cognates only by application to the cognate's Responsible Academic Unit (RAU).

Transfer students entering the university with 30 or more credits may take an individualized cognate as one of the three required cognates. Individualized cognates allow for flexible use of transfer credits to fulfill a cognate requirement, as approved by the dean/advising office in the student's school/college.

Grades

Academic Standing, Probation, and Dismissal

At the end of each semester the University shall determine whether a student is in Good Academic Standing, on Academic Probation, or subject to Academic Dismissal. Some schools and colleges may have exceptions to the Good Academic Standing, Academic Warning, Academic Probation and Academic Dismissal policies listed below.

Good Academic Standing

To be in Good Academic Standing a student must not be on Academic Probation or subject to Academic Dismissal.

Academic Probation

Students other than first-semester freshmen (non-transfer student) whose UM cumulative grade-point average (CGPA) in University of Miami courses is below the following levels shall be placed on Academic Probation.

Credit Hours Earned	CGPA
Fewer than 33	1.7
33-64	1.8

65-96	1.9
More than 96	2.0

First-semester freshmen who have a semester grade-point average below 1.3 shall be placed on Academic Probation. In addition, students who fail to make satisfactory progress toward meeting the degree requirements specified by their School or College may be put on Probation by the Academic Standards Committee of the School/College. Students on Academic Probation must meet with their academic advisor prior to the following semester and shall be restricted to a 13-credit hour load.

Academic Dismissal

A student who remains on probationary status after two consecutive semesters on Academic Probation shall be subject to Academic Dismissal. A student who has been on Academic Probation for one semester and has a CGPA below 1.0 shall also be subject to Academic Dismissal. The decision to dismiss shall be made by the Academic Standards Committee of the School or College in which the student is enrolled. If a decision is made not to dismiss, the student shall remain on Academic Probation.

Appeals and Readmission

Students who wish to appeal their Academic probation or dismissal for academic reasons, must do so in writing to the School or College Academic Standards Committee within thirty days of the notice of dismissal. Those who have been dismissed for academic reasons shall not be considered for readmission to any school or college at the University until at least two regular semesters have elapsed since their dismissal.

Faculty Senate Student Affairs Committee Standard Academic Appeals Process

The Faculty Senate Student Affairs Committee (FSSAC) has responsibility for undergraduate student academic appeals. The FSSAC includes faculty representatives from all undergraduate schools as well as three non-voting ex officio representatives: a graduate and undergraduate student representative and the University ombudsperson. The FSSAC reviews undergraduate student academic appeals that have not been resolved at the department, school, or college levels. As noted in section II below, the FSSAC hears cases only after they have gone through the departmental and college process. The processes are the same for grade and non-grade appeals except as noted below.

I. Time Constraints

Appeals must be filed within a year of the occurrence of the academic action resulting in the appeal and prior to the completion of all degree requirements or withdrawal from the University. Exceptions to this deadline may be permitted by the FSSAC for good cause.

Each level of appeal should aim to review the appeal and arrive at judgment within a two month period from the date the appeal reaches them. The entire process should be completed within one year.

II. Order of Appeal

A student appeal regarding a faculty or administrative academic action must be addressed to the following entities or persons in this order:

1. The faculty member or administrator responsible for the course, program, or activity.
2. The department/program chair/director or administrative superior of the faculty member or administrator.
3. The Dean or designee of the school or college offering the course, program or activity.
4. If the school, college or administrative unit has a committee constituted to hear student appeals, that committee must be consulted before proceeding to the next level.
5. The ombudsperson. The student is to provide the materials listed in Section III below to the ombudsperson who will review the merits of the appeal, and attempt to resolve the matter. The ombudsperson, as part of his/her review should give the student a preliminary assessment as to whether the matter, as presented by the student at that time, is reviewable by the FSSAC.
If the matter is the appeal of a final grade, and only after all the other steps are taken, the ombudsperson may refer the matter to the Provost who will decide whether or not to refer the appeal to the FSSAC.
For a non-grade-appeal, the student has the final authority to decide whether to take the appeal to FSSAC. If s/he chooses to do so, the ombudsperson shall forward the appeal and the accompanying documentation to the FSSAC via the Faculty Senate Office.
6. The Provost may request that the FSSAC review an appeal. If, but only if, s/he does so, the FSSAC shall have jurisdiction to review a grade-related appeal.
 - a. As part of the request, the Provost shall forward to the FSSAC, via the Faculty Senate office, the materials submitted by the student as indicated in Section III, below.
 - b. The FSSAC will review the student's written appeal (see section III below), confer with the appropriate faculty, administrators, and others as it deems necessary in making its recommendation to the Provost. The FSSAC may request an interview with the student, additional information or access to records, interviews with relevant faculty or administrators, or additional information or access to records kept by faculty or administrators.
 - c. The FSSAC will communicate its findings and recommendations to the Provost. Copies shall be provided to the Faculty Senate.
7. The final decision with respect to the grade-related appeal will be made by the Provost and communicated to the student in writing. Copies shall be provided to the Faculty Senate Office and to the Chair of the FSSAC.
8. For non-grade-related academic appeals:

- a. The FSSAC shall act upon those appeals and report its findings and recommendation to the Provost. The Committee shall forward to the Chair of the Faculty Senate a copy of its recommendation to the Provost.
- b. The Provost shall communicate his/her decision on each recommendation to the student concerned, to the Chair of the Committee, and the Chair of the Faculty Senate.

III. Materials for an Appeal

When bringing an appeal, the student must state in writing issues s/he wishes to have considered. The appeal must include:

1. An appeal letter clearly stating the conditions as seen by the student, and offering reasons for granting the appeal.
2. The appeal letter must indicate if the student wishes to make a personal appearance and, if so, the reasons why the appearance is necessary.
3. Documents of support (e.g., examinations, term papers, syllabi, or medical documentation of illness) that the student wishes to have examined.
4. All written decisions made at earlier levels of the appeal by individual faculty/administrators, departments/programs/administrative units, college or school committees, and deans which are available to the student or in the student's possession.

IV. Other Notes and Special Conditions

1. If the appeal is based on or related to a charge made by the student of discrimination on the basis of race, color, national origin, religion, sex, sexual orientation, age, or handicap, a representative of the appropriate University office will be contacted and, as appropriate, consulted in the appeal process.
2. If the appeal is based on or related to a disability:
 - a. The ADA Coordinating Committee shall serve in an advisory capacity.
 - b. The student is to include in the materials provided, the appropriate forms from the Office of Disability Services documenting:
 - i. An evaluation of the disability
 - ii. Recommendations related to the disability
 - c. The FSSAC does not consider appeals based upon the grant, denial or modification of an accommodation by the Office of Disability Services. Instead, any such appeal is as prescribed by the Office of Disability Services Grievance Procedure only.

The Grading System

A	Excellent attainment
B	Good attainment
C	Fair attainment
D	Poor attainment (earns credit hour but may not fulfill requirement for a major)
F	Failure (effective Fall 1995)
W	Course dropped on or before the last day for withdrawing from classes as published in the official calendar of the University. Credit hour can be earned only by successful repetition of the course.
WL	Late Withdrawal—Administrative; Only used for Complete Withdrawal (Effective Summer 2017)
I	Incomplete work in passing status with the instructor's permission to complete the course. An "I" will be assigned only if the instructor is satisfied that there are reasonable non-academic grounds for the student's incomplete work. ¹ An "I" is not intended to be assigned in order to permit a student to repeat a course without registration or to permit a student to do additional work in order to improve upon grades earned during the semester. The student who receives an "I" must complete the course with a passing grade within the time frame specified by the professor of the course but not longer than the end of one calendar year, or prior to graduation, whichever occurs first. An Academic Dean may approve an extension initiated by the course instructor. An "I" not completed prior to the student's graduation shall be changed to an "IE" or "IF" by action of the student's Academic Dean. ²
IP	Denotes in progress grade assigned upon satisfactory completion of the first semester of a two-semester sequence, with the final grade for both courses to be submitted at the end of the second semester of the sequence. Please note that all "IP"s must be converted to a letter grade or "IF" at graduation. "IP" will also be converted to "IF" upon any departure from the University for a period in excess of one year. ³
IF	Symbol indicating that an "I" grade was not appropriately completed. ⁴ The symbol "IF" is equivalent to an "F" when computing a student's average.
CP	Completed
CR	Grade signifying that credit only is awarded based on a "C" average or better.
NC	Grade signifying that no credit hour is awarded based on a course average below a grade of "C".
NG	Symbol assigned by the Office of the Registrar indicating that the instructor has not reported the student's grade. For a student to receive credit hour for the course, the instructor must report a passing grade prior to the student's graduation, or by the end of one regular academic semester, whichever comes first. An Academic Dean may approve an extension initiated by the course instructor. An "NG" not replaced by a passing grade, or by a "W", prior to the student's graduation shall be changed to an "F" by action of the student's Academic Dean. ⁵

Credit Only Option

The credit only option has been established to encourage students to explore academic areas outside their major and minor fields of concentration. Students may use this option with free electives and receive a CR (Credit Received) or NC (No Credit). These courses become part of a student's record, but they do not count in the grade point average as computed by the University of Miami.

Grade Point Average

The grade point average is used to determine:

- class rank
- graduation and university honor eligibility
- good standing, probation, and dismissal status
- scholarship eligibility

Your official grade point average is based only on the work you have completed at the University of Miami. The only exception to this policy is for determining whether a student qualifies for university honors established by the minimum grade point requirement at the time of graduation. For graduation purposes, cumulative grade point average is defined as either the average of all grades earned at the University of Miami or the combined average of all graded work taken at the University of Miami and elsewhere whether or not the transfer work is accepted toward a degree at the University of Miami, whichever is lower.

Quality points per credit hour are awarded as follows:

A+	4.00
A	4.00
A-	3.70
B+	3.30
B	3.00
B-	2.70
C+	2.30
C	2.00
C-	1.70
D+	1.30
D	1.00
E (Prior to Fall 1995)	0.00
IE ¹	0.00
F (Effective Fall 1995)	0.00
IF	0.00

Courses marked with an "IE" or "IF" count as credit hour attempted but are not counted in credit hours earned and do not carry quality points.⁵

Credit hours marked CR are counted as credit hours earned but are not counted in credit hours attempted and do not carry quality points. Courses marked with the symbols I, IP, W, NC, and NG do not carry credit hours attempted, credit hours earned, or quality points.

The grade point average is determined by dividing the total quality points earned by the total credit hours attempted.

Military service credit hour, some foreign university credit hour, correspondence course credit hour, credit by examination, etc., are not awarded quality points and do not enter the computation of the grade point average.

- ¹ Faculty Senate legislation #83032(B)
- ² Faculty Senate legislation #2000-24(B)
- ³ Faculty Senate legislation #2001-29(B)
- ⁴ Faculty Senate legislation #85005(B) and #97001(B)
- ⁵ Faculty Senate legislation #85001(B)

Honor Code

The Honor Code, initiated at the request of the Undergraduate Student Body Government, ratified by student referendum, approved by the Faculty Senate, by the President of the University, and administered by students, protects the academic integrity of the University of Miami by encouraging consistent ethical behavior among its undergraduate students. The Code provides standards that prohibit all forms of scholastic dishonesty, including

cheating, plagiarism, collusion, and falsification or misrepresentation of experimental data. The Code covers all written and oral examinations, term papers, creative works, assigned computer related work, and any other academic work done at the University by an undergraduate student.

All undergraduate students are responsible for reading, understanding, and upholding the Honor Code. Signed pledges are required for written work submitted for evaluation, but the absence of a signed pledge does not free a student from the ethical standards required by the Code. Procedures for dealing with infractions of the Code, including provisions for appeals, are printed in the text of the Honor Code. Copies may be obtained from the Office of the Dean of Students or from the office of the Undergraduate Student Body Government, or on-line (<http://www.miami.edu/honor-council>).

In keeping with the traditional prerogatives of university faculties, nothing in the Code infringes on the faculty's assignment of grades undertaken in a class. Instructors are informed when students have been found guilty of infractions involving their classes. Courses in which students have been failed for academic dishonesty may neither be dropped nor repeated under the terms of the freshman repeat rule.

Honor Rolls

The Dean's List

The Dean's List is composed of those undergraduate students who are enrolled in a degree-seeking program and have attained high scholastic achievement for the semester. To attain the Dean's List, a student must, for the semester:

1. have registered for and have completed 12 or more graded credit hours (excluding the credit hours earned in courses taken for credit only);
2. have attained a quality point average of 3.50 or higher for the semester;
3. have no courses with pending grades (I or NG).

The Dean's List will be announced by each college and school at the end of the semester. The Office of the Registrar will post this achievement to the student's permanent record.

The Provost's Honor Roll

The Provost's Honor Roll is composed of those undergraduate students who are enrolled in a degree-seeking program and have attained a high scholastic achievement for the semester. To attain the Provost's Honor Roll, a student must, for the semester:

1. have registered for and have completed 12 or more graded credit hours (excluding the credit hours earned in courses taken for credit hour only);
2. have attained a quality point average of 3.75 or higher for the semester;
3. have no courses with pending grades (I or NG).

The Provost's Honor Roll will be announced by the Provost's Office. The Office of the Registrar will post the achievement to the student's permanent record, and distribute the Provost's Honor Roll Certificate.

The President's Honor Roll

The President's Honor Roll is composed of those undergraduate students who are enrolled in a degree-seeking program and have attained the highest possible scholastic achievement for the semester. To attain the President's Honor Roll a student must, for the semester:

1. have registered for and completed 12 or more graded credit hours (excluding credit hours earned in courses taken for credit only);
2. have attained a quality point average of 4.0 for the semester;
3. have no courses with pending grades (I or NG).

The President's Honor Roll will be announced by the Office of the Registrar who will post the achievement to the student's permanent record, and distribute the President's Honor Roll Certificate.

Graduation

Degrees

It is the responsibility of the student to be sure he/she makes satisfactory progress toward, and fulfills requirements for, the degree he/she seeks. He/she may obtain help in the office of his/her Academic Dean.

To receive a Bachelor's degree from the University, the student must earn at least 120 credit hours (more in some schools), with a C average (2.0) or better as well as a C average for all work done at the University of Miami.

Students must also meet all of the degree requirements of their respective schools and should not expect requirements in composition, mathematics, foreign languages, or other subject areas to be waived for any reason.

- A student transferring credit hours from a 2-year community or junior college (this being the last school attended) must complete a minimum of **56 credit hours in residence** at the University of Miami to earn an undergraduate degree.

- A student transferring credit hours from a 4-year college or university (this being the last school attended) must complete a minimum of **45 credit hours in residence** at the University of Miami to earn an undergraduate degree.
- In addition, each student must complete at least half of the credit hours specified for his or her major in residence at the University of Miami.
- Not more than 30 credit hours of correspondence work and extension work combined will be accepted toward a degree, and neither correspondence nor extension work may be credited as a part of the last 45/56 credit hours of the student's program.
- Not more than 30 credit hours based on military experience will be awarded toward the degree.
- Credit hours earned in a manner other than by course registration, i.e. proficiency examination, CLEP, placement tests, etc., may not be used to meet the final 45/56 credit hour residency requirement, however such credit by examination may be earned while the student is enrolled in the courses needed to meet the final 45/56 credit-hour residency requirement.
- Once a degree has been awarded, no changes will be made to the academic record.

Dual Degree

- To obtain two different undergraduate degrees, a student must complete all the requirements for each degree.
- A second undergraduate degree on the same level requires a different major and a different minor.
- If the degrees are in two different schools, a student must meet the requirements with distinctly different majors and minors, wherever applicable, in each school.
- Students must obtain approval from the Office of the Senior Vice Provost and Dean of Undergraduate Education to pursue dual degrees in different schools.

As a general rule, college credit hours more than 12 years old are not recognized for degree purposes. Students in this category should consult their academic deans.

A student must apply for graduation on CaneLink during the semester in which they expect to graduate.

University Graduation Honors (Latin Honors)

University Graduation Honors (*Latin Honors - Summa / Magna / Cum Laude*) will be determined by a minimum GPA unique to the school or college from which the student is graduating.

- University Graduation Honors only applies to undergraduate students.
- The GPA required will change each academic year (beginning with the fall semester) and will be based on the cumulative GPAs of the previous year's graduating class.
- The top 5% of the graduating class will receive *Summa Cum Laude* within each individual school or college; the next 10% will receive *Magna Cum Laude* and the next 10% *Cum Laude*.
- For the determination of University Graduation Honors, cumulative GPA is never rounded off and is the lower of:
 - the average of all grades earned at the University of Miami (UM cumulative graduation GPA), OR
 - the combined average of all graded work taken at the University of Miami or elsewhere (whether or not the transfer work is accepted toward a degree at the University of Miami).
- Students must meet the required GPAs by the completion of the final semester within his/her school or college to be eligible to graduate with the honor.
- The appropriate honor will automatically be placed on the student's final transcript and diploma.

Departmental Honors

Among the departments offering approved programs for honors study at the junior-senior level for both majors and elective students are American studies, art and art history, biochemistry and molecular biology, biology, business administration, chemistry, computer science, engineering, English, finance, French, German, history, international finance and marketing, international studies, Judaic Studies, marine science, mathematics, meteorology, microbiology and immunology, philosophy, political science, psychology, religious studies, sociology, Spanish, and women's and gender studies. Admission into the program is by invitation, but any student who believes himself or herself qualified may apply to the Chairman or the Departmental Honors Advisor of the major department, preferably during the sophomore or early junior year. Upon successful completion of the required program and with approval by the faculty of the department, the notation Departmental Honors in ... is included in the candidate's diploma and transcript.

Departmental Honors are designed primarily to provide an opportunity for the student to intensify and deepen his or her knowledge of the major, to permit closer associations with professors in the student's area of concentration, and to prepare the student for research, thesis preparation, and other work at the graduate level in the major areas.

Departmental Honors requirements vary by departments; the prospective Departmental Honors student should confer with the Honors Advisor within the department about specific requirements for graduation with Departmental Honors.

Diplomas and Transcripts

No diplomas or official transcripts are released from the Office of the University Registrar without the approval of the Office of Student Account Services.

The last date on which application may be made for each graduation period is published in the Academic Calendar. The academic deans are the only officers authorized to approve placing the student's name on the candidate degree list.

Diplomas are issued after the student's graduation has been awarded by the school/college and noted on the student's official transcript. The diploma must be issued in the name on the student's academic record. Addition or omission of a middle name is acceptable. The addition of a middle name will be acceptable only as it appears on the student's application for admission. If the middle name is not on the application or if the student wants another version, documented proof of a legal name change must be presented to the Office of the University Registrar.

Official transcripts are issued only upon receipt of a secure electronic request through the university's online transcript system or a written and signed request from the student is received in the office. Payment for the transcripts is required before they will be sent.

Unofficial transcripts are available free of charge to students through CaneLink.

FIRST YEAR SEMINARS

Conceived as alternatives to the typical survey courses that incoming students take, First-Year Seminars offer a limited number of students a small class focused on a specific topic. The seminars are interdisciplinary in nature and/or experimental in subject and design. Seminars are taught by distinguished faculty from a wide variety of academic disciplines and offer students the opportunity to engage in research from their first semester on campus. No student may take more than one. First-Year Seminars are 3 credit hour courses that may be used to fulfill general education requirements in STEM, People & Society, or Arts & Humanities, as they can be a part of cognates.

Seminar Courses

- FFA 190-199. First-Year Seminars in Arts
- FLT 190-199. First-Year Seminars in Literature
- FNS 190-199. First-Year Seminars in Natural Science
- FPR 190-199. First-Year Seminars in Philosophy/Religion
- FSS 190-199. First-Year Seminars in the Social Sciences

Foote Fellow Honors Program

<https://admissions.miami.edu/undergraduate/academics/programs-of-distinction/foote-fellows/index.html>

The Foote Fellows Honors Program recognizes the most educationally accomplished incoming students at the University of Miami. Foote Fellows have distinguished themselves both in and out of the classroom, are self-motivated, and think independently. Admission to the Foote Fellows Honors Program is by invitation.

Within the curricular framework of their school or college, Foote Fellows enjoy maximum freedom to explore a multitude of educational resources. Many Foote Fellows leverage this opportunity to take additional majors and/or minors and to study abroad.

At each of the nine undergraduate schools at the University of Miami, a dedicated advisor helps Foote Fellows chart their academic path and attain access to distinctive learning opportunities and educational guidance, such as special school-based seminars, faculty-mentored research, networking opportunities, and off-campus internships.

In addition, Foote Fellows have access to opportunities outside their school. Special Foote Fellow lectures are held throughout the academic year. "Books That Matter," a rigorous, multidisciplinary seminar in reading and analyzing significant works of nonfiction, is offered to Foote Fellows. In their junior and senior years, Foote Fellows are invited to join advanced, interdisciplinary, and integrative seminars taught by leading faculty members from across the University. Foote Fellows also benefit from focused advising regarding post-baccalaureate distinguished fellowships and awards, support and information about co-curricular opportunities from a dedicated program manager, and networking events with other Foote Fellows from all disciplines.

To graduate with the Foote Fellows Honors Program distinction, Foote Fellow students must achieve a minimum GPA of 3.5 by the completion of the final semester.

Eligibility for the Foote Fellows Honors Program transcript distinction for each student is determined by the lower of two GPAs:

1. UM cumulative graduation GPA
2. Combination GPA (UM cumulative graduation GPA + Transfer GPA)

The Foote Fellows Honors Program reflects the educational vision of former University of Miami President Edward T. Foote, who retired in 2000 after serving the University for twenty years.

Student Status

Academic Bankruptcy

Students entering college sometimes perform at an unacceptable academic level. They either drop out or are dismissed. Some individuals with this experience re-evaluate their educational goals and desire to return to college. Their academic record, however, may present an insurmountable obstacle. Undergraduate students in this category who want the opportunity for a fresh start at the University without this handicap may apply for admission or readmission with the request that their prior academic record be disregarded.

In order to be considered for academic bankruptcy, a student's combined college grade point average must be below 2.00 as calculated by the Office of Admission.

Application for Initial Admission to the University with Academic Bankruptcy

The applicant must apply to the Office of Admission and:

1. Must have been admissible to the University as a senior in high school,
2. Must have attended an accredited institution for at least one year and must not have attended any college or university for the preceding six months, and,
3. Must not be admissible to the University based on his or her college-level work.

Application for Readmission to the University with Academic Bankruptcy

A University of Miami student who has dropped out or who has been dismissed may request Academic Bankruptcy on meeting these conditions:

1. The student must apply to the Office of the University Registrar.
2. At least six months must have elapsed since the end of the semester in which the student was last in attendance at the University of Miami.
3. Detailed written evidence must be provided with the readmission application, showing that the conditions or factors that caused the poor performance have changed sufficiently, so that there is a reasonable expectation of future satisfactory performance.

Conditions of Approval

1. If Academic Bankruptcy is approved, no course credit hours earned previously will be displayed on the transcript for credit hours attempted, credit hours earned, or quality points earned; however, all grades¹ earned previously will remain on the transcript.
 2. Readmission applicants with approval from the dean of the accepting school, may have Academic Bankruptcy apply only to those credit hours taken by the student when last in attendance at the University of Miami, so that credit hours earned at another institution subsequent to the date the student last attended the University are not affected.
- ¹ All grades, good or bad, are invalidated during this process and will not be reinstated at any future time.

Academic Bankruptcy will be granted only once for any student.

Certification of Enrollment

Students who require certification of enrollment for insurance or education loan purposes may obtain an enrollment letter via their CaneLink (<https://canelink.miami.edu>)¹ account or by submitting a request in writing to the Office of the University Registrar. Enrollment verification via CaneLink is available after the last day to drop without a "W". Please refer to the University's academic calendar for specific dates.

Enrollment Verification letters will include only information maintained in the university's official academic record system. The Office of the University Registrar will not alter, amend or add anything to the standard letter. Notarization is available upon request.

Students will be certified as currently enrolled once they have met their financial obligations. If a student is delinquent in paying his/her tuition and fees statement balance and/or Monthly Payment Plan, the University will not process transcript and/or diploma requests. Course selection/modification will not be permitted for any previous, current or future semesters. The student is not considered enrolled during the term in question, which means that certification of enrollment cannot be provided for insurance, student loan deferment or repayment purposes. Non-payment also means the student is ineligible for financial assistance awarded for the term in question. A late payment fee may be assessed on delinquent accounts.

Students who require enrollment certification for scholarship purposes only, will be conditionally certified until financial obligations are met.

¹ For students who do not have a Social Security number, verification letters are generated by the Office of the University Registrar. Letters are typically generated in seven (7) business days but may take longer during our registration period and the first two weeks of classes.

Classification of Students

Students are classified in three ways:

1. By course load (full- or part-time)
2. By objective (degree sought, non-degree, transient, audit, etc.)
3. By year

Course Load

A student is a full-time student if he/she carries not less than the minimum normal load, 12 credit hours per semester in most schools, nine credit hours in the Graduate School (please refer to the Graduate section for exceptions). The minimum credit hour loads in a summer session will vary for each category, according to the length of the sessions. (A typical full-time class schedule for fall and spring semesters not requiring override approval from an advisor consists of 15 credit hours. In some cases, students are recommended to enroll in fewer than 15 credit hours.) Please refer to the university's full-time/half-time policy (<https://registrar.miami.edu/general-information/policies/full-time-half-time-policy>). For spring semester, Intersession courses can be included when evaluating full-time status. It is important to note that tuition charges for Intersession courses typically are

separate from and in addition to charges for the spring semester. Full-time status may vary from one college or school to another. Students should consult with the dean of his/her college or school for details.

Objective

A degree student is one whose immediate educational objective consists wholly or principally of work normally credited to a University of Miami bachelor's or higher degree. To qualify for this status, a student must meet the standards for admission.

A non-degree student is one who is not pursuing a degree program. Such students are those who, although eligible for degree candidacy, have requested permission to take a limited or special selection of credit hour courses without regard to requirements for a degree. This classification includes high school graduates and students with previous college credit hour

1. who do not want degree status;
2. whose applications for degree status are incomplete;
3. who are taking work toward teacher certification;
4. who are workshop applicants;
5. who are visiting summer school students. (Students under 21 years of age who have not completed high school will not be admitted to this status.) Non-degree students are sub-classified as transient, special, etc.

An undergraduate non-degree student may petition the Director of Admissions to have his/her status changed to that of degree student. Up to 30 credit hours earned in non-degree status may be applied towards a degree, but only to the extent approved by the appropriate academic dean. It is therefore important that the degree student identify himself/herself as such, early in his/her program.

Transient Student

A transient student is one who is enrolled at the University of Miami with the sole intention of using credit hours earned toward graduation elsewhere.

Audit Student

An audit student is one who enrolls as an observer or listener only. Auditing is allowed only when there is space available in the class. Audit status may be restricted by the Dean in the case of laboratory, studio or performance courses where audit status is not appropriate. Audit students receive no credit hour, do not prepare written assignments or take examinations, are not eligible for residence in campus residence halls, and do not receive student privileges except for the use of the library. No entries are made on the permanent academic record for audited courses.

Students wishing to change from audit status to credit hour status must obtain all necessary approvals within two weeks following the last day of registration for Fall and Spring semesters and no later than the fifth class day following the last day of registration for Summer Sessions. No changes except withdrawals from the course are permitted after this time.

Note: Fee for auditing a course is non-refundable. Please refer to financial information section of the bulletin.

Year

- A freshman is a degree-seeking student who has earned 0 to 29 credit hours.
- A sophomore is a degree-seeking student who has earned 30 to 59 credit hours.
- A junior is a degree-seeking student who has earned 60 to 89 credit hours.
- A senior is a degree-seeking student who has earned 90 credit hours or more.

Undergraduates Taking Graduate Coursework

University of Miami undergraduates within 30 credit hours of meeting the requirements for the Baccalaureate Degree may be considered for concurrent admission to graduate study in non-degree graduate status, and in this status may take and receive credit hour for graduate courses, while completing the requirement for the baccalaureate. The application may be found on the Graduate School website (<https://grad.miami.edu>).

Admission to Graduate Status requires:

1. Must have a minimum of 3.000 G.P.A.
2. The submission of an Undergraduates to Take a Graduate Course form (which can be obtained at the Graduate School) which will not require the application fee;
3. The written approval of the Chairman of the Department, the Dean of the Undergraduate School or College, and of the Graduate Dean prior to registration on the form.

Admission to Graduate status does not automatically admit the student, upon graduation, to status as an applicant for a graduate degree at the University of Miami.

The graduate credit hours earned may NOT be used to meet undergraduate graduation requirements or be used to meet the 120 credit hour requirements at the University of Miami.

No more than six (6) credit hours may be taken in one semester, and no more than a total of twelve (12) credit hours may be taken while in Graduate Status. Students may take no more than 15 credit hours of combined undergraduate and graduate courses per semester.

Students electing Graduate status must register and be processed centrally at the Office of the Registrar.

Eligibility for University Extracurricular Activities

Full participation in University-sanctioned extracurricular activities and organizations is open to all full-time students who are not on academic probation and who have been assessed the Student Activity Fee. Extracurricular activities include, but are not limited to the following: academic, athletic, dramatic, or musical organizations or teams; student organizations registered with the Committee on Student Organizations (COSO); fraternities and sororities; student publications; program boards; and University committees.

Students on probation may participate in any activity required as partial fulfillment of their degree program; may attend meetings of organizations; and may play intramural sports. They may not otherwise compete, perform, or hold a leadership position. At the beginning of each fall semester, the activity's faculty or staff advisor or appropriate committee chairperson shall determine with the Office of the Provost the eligibility of each participating student. Some activities apply stricter standards, and may monitor academic progress and review eligibility during the academic year. Students should consult with the individual activity for specific requirements.

Readmission

Undergraduate students who have not attended the University for at least one semester should request readmission through the Office of the University Registrar no later than two weeks before the beginning of classes, in the semester they wish to re-enroll. Readmission to the University is contingent upon approval of the Dean of the school/college the student is applying to and clearance from the Office of Student Account Services.

International students who seek readmission must receive clearance from International Admission and submit a bank letter to receive an I-20 from International Student and Scholar Services.

Specific details on the readmission process can be found here (<https://registrar.miami.edu/general-information/policies/readmission>).

Students who have attended another college or university since they were last enrolled at the University of Miami, will be required to provide a transcript of their work. Failure to disclose all prior institutions attended may result in disciplinary action.

An undergraduate student who has applied to graduate for a given semester will not be eligible to register for any subsequent semester until the student applies for readmission or admission to a new program. A candidate for graduation may wish to continue his/her studies in one of the following situations:

1. If the student fails to graduate and further registration is needed, they must delete their application for graduation in CaneLink and within twenty-four hours, registration for subsequent semesters or sessions should be available. Students should contact the Office of the University Registrar for assistance.
2. If the student graduates and wishes to pursue a second bachelor's degree, the student must apply for readmission, stating his/her new degree objective.
3. If the student graduates and wishes to take additional course work without a degree objective, the student must apply for unclassified status.

Proof of immunization must be provided to the Student Health Service before readmission to the University of Miami. Failure to do so may prevent you from registering for classes.

Inactive Status

Inactive status is available to continuing, undergraduate, degree-seeking students who intend, and qualify, to re-enroll at the University of Miami after leaving the university for a designated period of time. This status is used when students will not be taking classes at another institution. Students interested in this option may obtain further information here (<https://registrar.miami.edu/general-information/policies/inactive-status>) or by visiting the Office of the University Registrar.

Non-UM Programs

Students who study through a non-UM program, domestic or study abroad, and would like to have those credit hours applied toward their UM degree, should apply for Non-UM Program status. For more specific information on the Non-UM program please see the application (<http://cdn.miami.edu/wda/registrar/Documents/non-um-program-application-2017.pdf>).

Non-UM is only available in the Fall and Spring semesters.

As of July 1, 2017, the fee will be \$350 per semester.

Student Identification Numbers

All students at the University of Miami will receive an identification number that is unique to them. This number supplements the social security number, which is also required by the university in order to provide information to the federal government and approved agencies. Access to social security numbers is limited to staff who have a legitimate need for that information.

Transfers Between Schools and Colleges

Undergraduate students who have compiled fewer than sixty (60) credit hours may transfer between schools and colleges provided that such students:

1. Demonstrate their academic admissibility to the new program (as defined by class rank and SAT scores) at the time of their original matriculation at the University;
2. Satisfy any special criteria required for admission by a particular program (e.g., auditions in the arts, portfolios in architecture, etc.); and
3. Obtain the approval of the Dean of the receiving school or college.

It is a general policy of the University that students admitted to degree seeking status may not transfer to an unclassified status.

Students who have compiled 60 or more credit hours with an average of 2.0 or higher and who have satisfied all of the above three conditions may be eligible to transfer between schools and colleges pending space availability and additional program requirements.

Graduate Policies and Procedures

grad.miami.edu

All graduate work (except for the Master's Degree in Law, J.D. in Law and M.D. degree) at the University of Miami is under the direction of the Dean of the Graduate School and the Graduate Council.

All graduate students at the University of Miami are subject to the general standards and requirements of the University and its various programs in regard to attendance, examinations, payment of fees, and conduct, as well as to the specific requirements of the Graduate School. The graduate student is expected to assume the initiative in completing all requirements in the time specified.

Admission requirements are described in the *Bulletin* of the Graduate School, and may be obtained from the individual department or program.

Applications are processed through the various Schools and Colleges. Visit the Graduate School website (<http://grad.miami.edu>) and click apply to review the application process.

Prospective students should note that "graduate study" means an integrated program of advanced, specialized study, based on an undergraduate major and/or adequate background, presupposing academic and personal maturity, and making much more than average demand upon the industry, initiative, and scholarship of the student. The term must be distinguished from "post-graduation study" which means merely that courses, not necessarily of graduate level, are taken after the student has received a bachelor's degree.

To preserve its ideals of scholarship, conduct, and character, the Graduate School reserves the right and the student by his/her registration concedes the right to require the withdrawal of any student for any reason deemed sufficient by the Graduate School at any time.

Academic Policies

Time to Completion

Time to completion starts when a student begins any program in the Graduate School, whether it be a master's or doctoral program. All work must be completed within six years of the time of admission to graduate work, for those studying for the various master's degrees; and within eight years for those studying for doctoral degrees. For those admitted directly into a Ph.D. program without a master's degree in that field, work must be completed within eight years. Individual programs may set a shorter time period. Exceptions to the time to completion policy may be granted by the Dean of the Graduate School at the request of the Graduate Program Director.

Recency/Validation for Over-Aged Credit Hours

Graduate credit hours transferred from another university may not be applied toward a graduate degree at the University of Miami if their age at the time of acceptance into the University of Miami program exceeds six years. On an individual basis, students may be permitted to validate over-aged credit hours by examination, with program approval.

Continuous Enrollment

To maintain status as a graduate student, registration in each fall and spring semester is required. Otherwise, admission lapses and readmission must be granted. Doctoral students for whom course work is no longer appropriate should consult their program for registration guidance.

Registration

Graduate students can register on the first day of registration and through the registration period. For more information on registration, students should contact their respective School or College. See academic calendar for dates of registration periods here (<http://www.miami.edu/index.php/registrar/calendar>).

Full-Time Study

The categories of full-time students include:

1. Graduate students taking 18 or more graduate credit hours during the calendar year (9 credit hours in a regular semester or 6 credit hours in a summer semester. In online programs, 6 credit hours in each regular semester and 6 credit hours during the summer.)
2. Graduate teaching and research assistants taking 16 or more graduate credit hours during the calendar year (8 credit hours in regular semester or 6 credit hours in a summer semester).
3. Graduate students enrolled in any course numbered 800 or above, i.e., any 800-level course required for the completion of the degree.
4. All MBA for Executive and Professional students are considered full-time.

In all cases, determination as to whether or not a student is in full-time study is the privilege of the Dean of the Graduate School.

The maximum number of credit hours allowed for full-time study is 12 for each semester and six for each summer semester. Exception to this policy can only be made by the Dean of the Graduate School or his/her designee and requires a signed recommendation from the Program Director.

For thesis and dissertation students, full-time registration is required during the semester or summer session in which a candidate defends the thesis or dissertation. Students who wish to have this requirement waived must have a written request provided to the Graduate School by the Dean of their respective College or School, or the Dean's designee.

No full-time faculty member may be a full-time student, whether or not working toward a degree. Nor may a full-time student be a full-time faculty member.

No full-time student will be a principal investigator in any grant or contract, whether in name or fact. And no principal investigator will be a full-time student.

Exceptions to these rules may be made in cases in which students are encouraged to apply individually for small research grants that are consistent with and contribute to their field of study and their dissertation work, and, in certain programs, in which students in a terminal degree status are obliged, as a part of their degree program, to teach as *de facto* faculty members. (Note: Faculty from the School of Nursing and Health Sciences and from the Physical Therapy program are permitted to pursue doctoral degrees in their home program/school.)

Withdrawals

Withdrawals, either from individual courses or from a graduate program, should be processed through the office of the Dean of the School or College of the student's program. Students who wish to officially withdraw from joint or dual degree programs should consult the office of the Dean of the School or College for both disciplines. The date of withdrawal is that on which the student notifies the office of the Dean or the date of receipt of a letter requesting withdrawal. No withdrawal from the University is official until the student has consulted with the Dean of his/her school or college and has completed the necessary forms.

Students wishing to officially withdraw from the University of Miami must provide the Office of the Registrar notification of their intent to withdraw. Initial notification may be made in person, in writing, by fax, or by telephone. This notification will be recorded and used for notification purposes for the Federal Government. Repayment of any federal funds will be based on the date of notification.

Students must also follow the required process as set forth by their school/college for withdrawing from courses. This process often requires that a signature from a Dean or the Dean's representative be obtained on a Change of Course form. In some cases, students can complete the Change of Course form (hard copy or through the CaneLink system) without an approving signature. Change of Course forms must be submitted to the Office of the Registrar for final processing/review.

To officially withdraw from the MBA Program or Master of Science in Professional Management program, students must inform the Office of Graduate Business Programs in writing prior to the beginning of a course/term. Tuition will be refunded on a prorated basis based on the number of class meetings attended. No tuition refund will be granted when class attendance has exceeded 50% of class meetings. For further information contact: Office of Graduate Business Programs, 305-284-2510, email (mba@miami.edu).

Military Withdrawal

Tuition refunds of 100% are granted to students who withdraw due to military service, provided they do not receive credit hour for the course (see below under "Credit Hour for Courses After the 12th Week of the Semester").

If you receive federal financial aid and withdraw before you complete 60% of the semester, a pro rate calculation will determine the amount of financial aid you have earned. It is based on the amount of time you were enrolled. This calculation is independent of any charges incurred at the university.

Credit Hour for Courses After the 12th Week of the Semester

The following statement of policy was adopted by action of the Academic Deans' Council April 14, 1967:

1. On recommendation of the Dean of the school or college, students who withdraw after the 12th week of the semester because of official orders to active duty with the Armed Forces of the United States may be awarded credit hour in any course in which they have achieved a C or better up to the time of withdrawal. Instructors must certify that the student had achieved satisfactory accomplishment on the basis of previous work in the course by awarding an appropriate grade. Accomplishment of less than C should be entered on the permanent record as a withdrawal without prejudice (W).
2. Credit hour granted for a course under this policy should count toward graduation.
3. There should be no refund of tuition for courses for which credit hour has been granted. Refunds of courses not awarded credit hour should be on the same basis as complete withdrawals for military service.
4. The above recommendations are procedures for determining the awarding of credit hour and do not release the student from the usual withdrawal procedures.

Veterans and children of deceased or totally disabled veterans attending the University as students under the government's educational benefits bills must also clear their withdrawal with the main campus Veterans Affairs Officials in the Office of the Registrar who can be contacted at:

Phone: 305-284-2294 or
Email: registrar@miami.edu

Leave of Absence

Leave may be obtained by petition of the Program Director followed by the approval of the Dean of the Graduate School. Leave of Absence officially stops the time to completion clock. The Petition for Leave of Absence form may be found on the Graduate School website (<http://grad.miami.edu>).

Grades and Credit Hours

The same letter grades are used for graduate and undergraduate students, but with somewhat different meaning.

A	Excellent accomplishment
B	Good accomplishment
C	Fair, but below that expected of graduate students (C- is the lowest passing grade. Some programs may require higher standards.).
S	Symbol used for acceptable (U-unacceptable) thesis, dissertation, practicum, and internship credit hour. It may be used for regular courses under special circumstances with the prior approval of the instructor, department chairman, and the Dean of the Graduate School. The Graduate School considers a grade of "S" to indicate a minimum of a 3.0 GPA in a graduate course if a student has taken no prior coursework on the graduate level. A grade of "S" reflects that a student is in good academic standing.
D	Poor (not acceptable for credit hour toward the advanced degree)
F	Failure
W	Course dropped prior to the last day for withdrawing from classes as published in the official calendar of the university. Courses dropped after last date must have approval of Dean of the Graduate School. Credit hour can be earned only by successful repetition of the course.
I	Incomplete work in passing status with the instructor's permission to complete the course. (Not to be used for thesis or dissertation credit hours). The "I" should be changed to a letter grade within one (1) calendar year after it is given, unless the Academic Dean of the student's primary school or college and the Dean of the Graduate School approve the delay. If the "I" is not changed within one year, credit hour can be earned only by successful repetition of the course. (Note: Fellowships and financial aid may be withdrawn if there is an excess accumulation of "I"s on a student's transcript).
NG	Symbol assigned by Enrollment Services indicating that the instructor has not yet reported the student's grade. For a student to receive credit hour for the course, the instructor must report a passing grade prior to the student's graduation. ¹

¹ Faculty Senate Legislation #85005(B)

An average of B (3.0) is required for a graduate degree, and no "D" credit hour may be counted toward the degree. All work leading to the graduate degree and taken as a graduate student will be counted in computing the quality point average, including courses graded "D".

No transferred credit hours are calculated into the University of Miami G.P.A.

Award of Academic Merit

Students who obtain a 3.8 G.P.A. or better will receive an Award of Academic Merit from the Graduate School. The Award is posted on the transcript.

Quality points are awarded as follows:

A+	4.00
A	4.00
A-	3.70
B+	3.30
B	3.00
B-	2.70
C+	2.30
C	2.00
C-	1.70
D+	1.30
D	1.00
F	0.00

The quality point average is then determined by dividing the total of quality points earned by the total of credit hours attempted. The symbols "S", "W", and "I" are not counted as credit hour attempted.

Graduate Repeat Rule

A student may repeat a course *in which a failing grade was earned*, but the repetition of the course will not eliminate the previous grade from the record. A course may be repeated only once unless written authorization is provided by the Dean of the Graduate School. All grades are included in the computation of the quality point average. If a course in which an unsatisfactory grade (as determined by the program advisor) was earned is repeated and the repeat grade is a "C-" or higher, the number of credit hours required for graduation will be increased by the number of credit hours repeated.

Graduate School of Business Repeat Rule

Graduate students in the Miami Business School who fall below the 3.0 GPA may be placed on academic probation. Within one semester after their GPA falling below 3.0, Master's students wishing to repeat a course may petition their program director to do so. If the petition is approved by the Graduate Program Director, the grade obtained in their second attempt will replace the original grade for purposes of calculating their GPA for clearance for graduation only. Authorization to repeat a course is limited to courses in which an unsatisfactory grade was earned (as determined by the Graduate Program Director). Additionally, a course may be repeated only once and students may not repeat more than two courses. The student's transcripts will continue to show all attempts and the GPA computation will include all grades earned for purposes other than computing the GPA for clearance for graduation. If a course in which an unsatisfactory grade of lower than a B- was earned is repeated and the repeat grade is "C-" or higher, the number of credits required for graduation will be increased by the number of credits repeated. Registrations which involve repeating a course in which a grade of "A" or "B" has already been earned may not earn quality points or credit hours, nor count as credits attempted.

Graduate Student Grade Appeal Process

The Academic community is unanimous in its position that the grade an instructor assigns to a student is the instructor's responsibility and privilege. Any effort to alter this would be a violation of academic freedom. It is the instructor's responsibility to establish criteria for assigning grades. Grounds for appeal of how a grade was assigned are:

1. Award of a grade based on the student's race, religion, color, sex, age, disability, sexual orientation, gender identity or expression, veteran status, national origin or any other characteristic set forth in the University's Non-Discrimination Policy;
2. Award of a grade based on conduct that violates the University's anti-harassment or anti-retaliation policies; or
3. Failure to adhere to the grading criteria established for the course;
4. Violations of other policies/procedures for grading that are clearly defined in the *Faculty Manual*.

The Faculty Senate Student Affairs Committee (FSSAC) has responsibility for graduate student grade appeals, except for MD and JD programs. To facilitate grade appeals from graduate students, the FSSAC will have a non-voting *ex officio* faculty representative of the Graduate School. The FSSAC reviews graduate student grade appeals that have not been resolved at the department, school/college, or Graduate School levels. The FSSAC reserves the right to not hear appeals that require extensive knowledge of specialized or technical issues, including but not limited to, dissertations, theses, qualifying exams, recitals, and clinical/research assignments. The Graduate School has responsibility for all other graduate academic appeals.

I. Time Constraints

The appeal process must be initiated before the completion of the following semester (i.e. Fall or Spring) of the assignment of the grade resulting in appeal and prior to the completion of all degree requirements or withdrawal from the University. Each level of appeal should aim to review the appeal

and deliver a judgement within a 20 academic day period from the date the appeal is submitted. The entire process should be completed within one calendar year. Exceptions to this deadline may be permitted by the FSSAC for good cause.

Timeline Goals:

1. Student Appeal to the Graduate School Level must follow completion of all internal (i.e., home School or College) grade resolution and/or appeals processes, and then has 20 academic days from the completion date of the internal process to contact the Academic Ombudsperson and/or directly to the Dean of the Graduate School regarding an appeal.
2. Academic Ombudsperson has 20 academic days to review, provide a preliminary assessment to the student about whether it is reviewable by FSSAC, after receiving information from the student. The student may appeal directly to the Dean of the Graduate School (step 3).
3. The Dean of the Graduate School has 20 academic days to review, decide whether to forward to FSSAC, after receiving all information from the student.
4. FSSAC has 20 academic days to review/hear appeal, and to submit recommendation to Dean of Graduate School.
5. Dean of the Graduate School has 20 academic days to review recommendation of the FSSAC, and to inform student of final decision.

II. Order of the Appeal

Attempts to resolve issues regarding a grade must be addressed to the following entities or persons in this order:

1. The faculty member of administrator responsible for the course, program or activity.
2. The department/program chair/director and/or administrative superior(s) of the faculty member or administrator.
3. The Dean or designee of the school or college offering the course, program, or activity. If the school, college or administrative unit has a committee constituted to hear graduate student appeals, that committee must be consulted before proceeding to the next level, i.e., for advice from the Ombudsperson or appeal to the Graduate School.
4. The student is to provide the materials listed in Section IV below to the Academic Ombudsperson who will review the merits of the potential appeal, and attempt to resolve the matter. The Academic Ombudsperson, as part of his/her review should give the student a preliminary assessment as to whether the matter, as presented by the student at that time, is reviewable by FSSAC. After, and only if, all other steps are taken, the Ombudsperson may refer the matter to the Dean of the Graduate School.
5. Appeal to the Graduate School Level. If the student has exhausted all levels of appeals in their School/College and has consulted with the Ombudsperson, then the student is to provide the materials listed in Section IV below to the Dean of the Graduate School, who will review the merits of the appeal and attempt to resolve the matter. As part of his/her review should give the student a preliminary assessment as to whether the matter, as presented by the student at that time, is reviewable by FSSAC.
6. After, and only if, all the other steps are taken the Dean of the Graduate School (or designee) will decide whether or not to refer the appeal to the FSSAC. If, and only if, the Dean of the Graduate School (or designee) does so, the FSSAC shall have jurisdiction to review a grade-related appeal. As part of the request, the Dean of the Graduate School shall forward to the FSSAC, via the Faculty Senate office, the materials submitted by the student as indicated in Section IV below.

III. Faculty Senate Student Affairs Committee (FSSAC) Appeals Process

The FSSAC will review the student's written appeal (see Section IV below), confer with the appropriate faculty, administrators, and others as it deems necessary in making its recommendation to the Dean of the Graduate School. Students may present written materials to the FSSAC, or request an additional in-person meeting with the FSSAC. The FSSAC may request an interview with the student, additional information, or access to records, interviews with relevant faculty or administrators, or additional information or access to records kept by faculty or administrators.

The FSSAC will communicate its findings and recommendations to the Dean of the Graduate School. Copies shall be provided to the Faculty Senate. The final decision with respect to the grade-related appeal will be made by the Dean of the Graduate School and communicated to the student in writing. Copies shall be provided to the Faculty Senate Office and to the Chair of the FSSAC.

IV. Materials for an Appeal

When bringing an appeal, the student must state in writing issues they wish to have considered. The appeal must include:

1. An appeal letter clearly stating the circumstances of the grade as seen by the student, and offering reasons for granting the appeal.
2. The appeal letter must indicate if the student wishes to make a personal appearance and, if so, the reasons why the appearance is necessary.
3. Documents of support (e.g., examinations, term papers, syllabi, or medical documentation of illness) that the student wishes to have examined.
4. All written decisions made at earlier levels of the appeal by individual faculty/administrators, departments/program/administrative units, college or school committees, and/or deans which are available to the student or in the student's possession.

V. Other Notes and Special Considerations

If the appeal is based on or related to a charge made by the student of discrimination on the basis of race, color, national origin, religion, sex, sexual orientation, age or handicap, a representative of the appropriate University office will be contacted and, as appropriate, consulted in the appeal process.

If the appeal is based on or related to a disability:

- The ADA Coordinating Committee shall serve in an advisory capacity.
- The student is to include in the materials provided the appropriate forms from the Office of Disability Services documenting
 - An evaluation of the disability
 - Recommendations related to the disability

The FSSAC does not consider appeals based upon the grant, denial or modification of an accommodation by the Office of Disability Services. Instead, any such appeal is as prescribed by the Office of Disability Services Grievance Procedure only.

Levels of Graduate Study

Graduate study implies the need for a minimum of formal courses and a maximum of independent work under faculty supervision. Coursework, in itself, is not necessarily a determinant of graduate progress and achievement. The appropriate determinants are the ability of the qualified student to master the various qualifying and comprehensive examinations that a program requires of the student. All work taken by a graduate student in the major area or area of concentration shall be at the graduate level (600 or above). With the permission of the program of major concentration a student may take elective credit hours (not prerequisite to the major) at any level provided the following limits are observed:

Total Graduate Course Credit Hours	Maximum Course Credit Hours Below 600 Level
30	3
31 or above	6

Approval for students enrolled in a graduate degree program to take undergraduate credit hours can be made only after a minimum of 12 credit hours are completed. Undergraduate credit may not count toward the graduate degree requirements. Undergraduate credit may not be awarded retroactively, nor are credit hours accepted from another institution.

RA, TA, GA Hourly Guidelines

To receive a stipend an RA, TA, GA must be a full-time student.

Graduate students with appointments as RAs, TAs or GAs will be expected to work 20 hours per week with the exception of efforts directly required for dissertation research.

International students may work on campus provided the student is maintaining F1 status and does not work more than a total of 20 hours per week (including any off campus work the student may have been authorized to perform) while school is in session. Questions regarding work for international students should be directed to International Student and Scholar Services (<http://www.miami.edu/iss>).

Graduate students with Assistantships and Fellowships will be classified with the following designations. *(FE) Fellows, *(RA) Research Assistant, *(TA) Teaching Assistant, *(GA) Graduate Assistant, *(TR) Trainee. *Please contact the Graduate School for specific codes.

Definitions

FE (Fellow)

Responsibilities do not include the provision of direct services to the University and require internal/external fellowship support.

RA (Research Assistant)

Responsibilities are mainly conducting research and/or assisting with research projects.

TA (Teaching Assistant)

Responsibilities are mainly teaching and/or assisting in the area of teaching.

GA (Graduate Assistant)

Responsibilities are mainly in professional support of University operations and programs. Graduate students should not be hired to perform clerical duties.

TR (Trainee)

Designated as such by specific federal guidelines which indicate a complex process wherein the trainee takes on an increasingly independent role in the selection, conceptualization, and execution of research projects under the supervision of an experienced mentor.

In definitions where the word "mainly" is used, "mainly" is defined as greater than 50%.

Requirements for Teaching Assistants

1. Graduate teaching assistants who are the instructors of record and responsible for assigning grades in an undergraduate course must have a master's in the teaching discipline or 18 graduate credit hours in the discipline.

2. Graduate teaching assistants must be directly supervised by a faculty member in the teaching discipline, must attend regular in-service training provided by the Graduate School and/or provided by the specific graduate program, and must be reviewed by the supervising faculty member at least once a semester.
3. Graduate Teaching Assistants who have previous teaching experience and indication of competency may be exempted from Teaching Assistant training by the Graduate Program Director in the discipline. The Graduate Program Director must then notify the Graduate School of any exemptions that are granted.

Policy on Outside Employment for RA/TA/GA

A graduate student must have prior approval from the chair or advisor to work outside the department, since such activities might impede progress toward his/her degree. Any question or concern should be discussed with the Dean of the Graduate School.

1. A graduate student is allowed to supplement his/her stipend by tutoring undergraduate students in courses in which he/she has no direct responsibility at the time.
2. A graduate student who is teaching a class or lab of a multi-section course using a common syllabus and common exams may not tutor any student in any section of that course.
3. A graduate student, like any other member of the teaching faculty, may offer review sessions for his or her students to which he or she may invite students from other sections of the same course. The graduate student arranging such sessions may not under any circumstances take money from the students in attendance.
4. A graduate student may use his or her office for tutoring or may ask departmental permission to use a classroom or other appropriate university facility.
5. The graduate advisor or department chair may require a graduate student to limit his or her outside employment or tutoring activity if, in the view of the department, such activity is impeding the graduate student's academic progress or keeping him or her from fulfilling responsibilities within the department.
6. International students should clear their work instructions with International Student and Scholar Services. Questions regarding work for international students should be directed to International Student and Scholar Services (<http://www.miami.edu/iss>), Phone: 305-284-2928, E-mail: iss@miami.edu.

Graduation

It is the responsibility of the student to apply for graduation through CaneLink during the student's final semester before the date indicated on the Academic Calendar (<https://registrar.miami.edu/dates-and-deadlines/academic-calendars>) and the Schedule of Classes. These dates are published here (<http://www.miami.edu/index.php/registrar/calendar>). Students who previously applied for graduation but did not receive the degree must repeat the application procedure. Deadlines for the commencement program are firm. Students may walk in the commencement ceremony, but the program will indicate "in progress" if information is missing. Students will be degree candidates until they have been cleared for degree conferral by the Graduate School.

Commencement ceremonies are held in May and December only. Those completing degree requirements during the fall, spring or summer sessions may, if they wish, participate in the commencement ceremonies of the previous or following May or December. Doctoral students participating in the hooding ceremony and master's students marching in the commencement ceremony must have the approval of the graduate advisor, director, or appropriate person in the program to participate in the ceremonies.

Participation in graduation for students in all graduate programs is contingent upon the following:

1. The student must have met the requirements for his or her program.
2. The student must have a minimum of 3.00 cumulative grade point average; all students receiving master's degrees must have completed a minimum of 30 credit hours; all Ph.D., D.M.A., and Ed.D. students must have completed a minimum of 60 credit hours.
3. The student (Ph.D., D.M.A., and Ed.D. candidates) must be admitted to candidacy one semester prior to graduation.
4. The student may not have any outstanding debt including, but not limited to, tuition, fines, and fees. Tuition for the last semester of study must be paid in full by the beginning of the final semester.
5. The student must complete an electronic thesis or dissertation (ETD) according to the Graduate School's requirements and submit the final three forms, online surveys and agreements (if required) in the semester the student wishes to graduate. All students are required to adhere to the following deadlines (and the requirements associated with these deadlines) posted on the ETD website (<https://grad.miami.edu/electronic-thesis-and-dissertation>): 1) Deadline to defend the thesis, dissertation, or doctoral/lecture recital essay; 2) Deadline to submit the full draft of the thesis, dissertation, or doctoral/lecture recital essay draft for formatting review by the Dissertation Editor; 3) Deadline to produce the final PDF; and 4) Deadline for completion. It is recommended that students begin the ETD process early in the semester by discussing with their advisors a suitable timetable for completing the defense of their thesis or dissertation. Students should check the Academic Calendar (<https://registrar.miami.edu/dates-and-deadlines/academic-calendars>) for the defense deadline date set for the semester they wish to graduate. The Graduate School also encourages students to familiarize themselves with the ETD process posted on the Graduate School website (<http://grad.miami.edu>), or contact the Dissertation Editor early in the semester at grad.dissertation@miami.edu if they have questions regarding any aspect of the ETD process.

Clearance for Degree Conferral

For the Graduate School to clear a student for graduation:

1. All original documents (official transcripts from previous degrees, GRE scores, etc.) must be on record in the Graduate School (except for MBA students).
2. The Admission to Candidacy form must have been completed by the program at least one semester before graduation. The Graduate School does not require application to candidacy for master's, D.P.T., nor D.N.P. degrees.
3. Student must defend the dissertation, doctoral essay, lecture recital essay, or thesis by the deadline specified in the Academic Calendar for the semester the student wishes to graduate.
4. Student must upload one Dissertation Editor-approved PDF of the dissertation, doctoral essay, lecture recital essay, or thesis conforming in style to the standards set by the Graduate School to the ETD database and submit the final three forms to the Graduate School in the semester the student wishes to graduate. All students are required to adhere to the following deadlines (and the requirements associated with these deadlines) posted on the ETD website (<https://grad.miami.edu/electronic-thesis-and-dissertation>): 1) Deadline to defend the thesis, dissertation, or doctoral/lecture recital essay; 2) Deadline to submit the full draft of the thesis, dissertation, or doctoral/lecture recital essay draft for formatting review by the Dissertation Editor; 3) Deadline to produce the final PDF; and 4) Deadline for completion.

Class Attendance and Absences

Regular and punctual class attendance is expected of all graduate students. It is the student's responsibility to know the instructor's policies regarding examinations, penalties for absences, and late or missed work.

V.A. students will be provided a grade report at the end of each semester period. A copy of the report will be placed in the student's permanent file maintained by the Veteran Affairs Office. Because of the far-reaching effects of these revisions in the V.A. educational benefits program, it is suggested that you exercise care and judgment in your program planning and in the selection of your courses.

Student Responsibility

Standards of study and conduct in the Graduate School are set and maintained, not by fiat of the Graduate School, but rather by the faculty who determine the standards. The Graduate School through its Council sets no course requirements for a degree. It does set certain general residence, grade and examination standards. Fundamentally the Graduate School devolves responsibility upon the student and the appointed committee. Within this broad responsibility the recommendation for the degree rests with the committee.

All graduate students at the University of Miami are subject to the general standards and requirements of the University and its various departments in regard to attendance, examinations, payment of fees, and conduct, as well as to the specific requirements of the Graduate School. The graduate student is expected to assume the initiative in completing all requirements at the time specified.

To preserve its ideals of scholarship, conduct, and character, the Graduate School reserves the right and the student by his/her registration concedes the right to require the withdrawal of any student for any reason deemed sufficient by the Graduate School at any time.

It is the responsibility of the student to be informed concerning all regulations and procedures required. In no case will a regulation be waived or an exception granted because a student pleads ignorance of the regulation or asserts that he/she was not informed of it by an advisor or other authority. The student should become familiar with the Bulletin, including

1. The section presenting the requirements for the degree to be undertaken;
2. The offerings and requirements of the major department;
3. The Graduate Student Honor Code.

After the applicant has been admitted to the Graduate School but before the first registration, the student should consult the School or College and program in which the major work will be done concerning course requirements, deficiencies, if any, the planning of a program or special regulations. Programs may have additional degree requirements that are not listed in this Bulletin. All registrations require the signature of the Dean of the School or College (or his/her representative) in which the degree is to be awarded.

Only a Graduate Program, with approval of the Dean of the Graduate School, may waive requirements stated in this Bulletin.

Graduate Student Code of Ethics

Graduate students agree to abide by the Graduate Student Honor Code.

The University of Miami expects all graduate students to adhere to the highest standards of ethics and academic integrity. All forms of academic fraud are strictly prohibited. These include, but are not limited to, plagiarism, cheating, collusion, falsification, violation of professional ethics or misrepresentation of research data. Students certify that all work (whether an examination, dissertation, thesis, research paper, research project, form of creative expression, experimental data, or any other academic undertaking) submitted for evaluation, presentation, or publication meets these standards. Additionally, graduate students are expected to respect and appreciate the diversity of the community and to respect the rights of others, be they property, privacy, opinion, or expression. Any student found to be in violation of these standards is subject to disciplinary actions by the

student's program and/or the Graduate School through the process described in the Graduate Student Honor Code. All graduate students are bound by the rules and regulations of the University of Miami that apply to them.

Graduate School Grievance Guidelines

Introduction

These University of Miami Graduate Grievance Procedures provide an opportunity for the resolution of disputes involving graduate students in a fair and collegial manner. These Graduate Student Grievance Procedures supersede all prior such procedures in effect or formerly utilized at the graduate level. They do not supplant UM Students Rights & Responsibilities or any other published policy or procedure relating to graduate students.

Purview of the Guidelines

The formal grievance process described herein is intended for cases not involving grades or matters covered by the Honor Code, which have not been resolved at the department or program level, and it is available only after a final determination within the relevant School or College has been reached. Students are encouraged to seek assistance from the University Ombudsperson for possible resolution before initiating the formal graduate grievance process. The procedures set forth here are applicable to any of the following types of grievances by graduate students who are enrolled in any graduate program at the University of Miami, except exclusively in the M.D. and J.D. programs:

1. grievances alleging improper dismissal or suspension from a graduate program;
2. grievances alleging the improper withholding or termination of financial support of any kind;
3. grievances alleging any other improper treatment, either substantive or procedural, of a graduate student by a faculty member, department or program, or university agency or administrator except:
 - a. allegations of improper evaluation of the quality and/or quantity of academic work (see UM Student Rights & Responsibilities);
 - b. allegations of unfair recommendation for employment or further graduate study;
 - c. allegations of discriminatory treatment arising from the student complainant's age, race, gender, sexual preference, handicap, national origin, or religion. (Such allegations ordinarily are handled by the Office of Equality Administration).
 - d. grade appeals (certain appeals are reviewed by the Faculty Senate Affairs Committee,-FSSAC; see UM FSSAC Standard Grade Appeals Process- Graduate Students).

Constitution of the Committee and Grievance Panel

The Graduate Council Grievance Committee (GCGC) is a standing committee comprised of the Schools' and Colleges' alternate representatives to the Graduate Council. Grievances as understood herein shall be heard by *ad hoc* appeals panels, constituted from time to time by the Dean of the Graduate School to review individual graduate grievances. The grievance review panel (GRP) shall consist of five disinterested members: four faculty members of the GCGC and one graduate student appointed by the executive board of the Graduate Student Association. Notice of the constitution of the GRP shall be given by the Office of the Dean of the Graduate School in writing to all parties to the grievance within ten (10) days after the grievance review request is properly filed.

Any party to the grievance may challenge the disinterestedness of a GRP member in writing to the Dean of the Graduate School within five (5) days after notification of the appointment. The challenge must specify reasons that would prevent the committee member or graduate student from making an unbiased recommendation with respect to the grievance. If such a challenge is determined to be valid by the Graduate Dean, a substitute appointment shall be made and the process will resume accordingly.

Procedure and Time Limits for Filing a Grievance

After a final determination has been made in the relevant School or College (or by the head of the relevant administrative office in the event of a grievance against a university agency), a student who believes he or she has grounds for appeal within the purview of these guidelines may file a written grievance review request with the Office of the Dean of the Graduate School. The request shall describe the student's allegations in a clear and concise fashion and shall clearly identify the individual(s), program(s), department, School or College, and/or University agency or administrator against whom the grievance is brought. The student's written grievance review request shall be filed within thirty (30) days of the final determination. No grievance review request nor any other appeal of any kind will be granted after this time limit has expired unless a written extension of time is granted by the Dean of the Graduate School based on a written request from the grievant stating good cause.

Definitions and Assumptions

Burden of Persuasion

The burden of persuasion is on the grievant.

Final Determination

This grievance process is available only after a final determination within the relevant School or College has been reached. This provision is intended to require the grievant to exhaust the remedies available within the relevant School or College before appealing to the Graduate Dean. In the case of a student in an interdisciplinary program who does not yet have a chair and/or committee assembled, the Dean of the Graduate School shall make a final determination in the student's case subject thereafter to the appeal contemplated by this policy. An appeal of the decision of the Dean of the Graduate School allows this same procedure, except that the GRP shall be constituted by the Office of the Provost from the pool of GSGS

members. Written notice of the constitution of the GRP in the case of a student in an interdisciplinary program without a chair or committee, shall be given by the Office of the Provost to all parties to the grievance within ten (10) days after the grievance review request is properly filed. All other deadlines, requirements, procedures, and the hearing format remain the same.

Originals

Wherever possible, the party in possession of an original document in support of or rebuttal to or at issue in the grievance shall provide it to the GRP within the time frames set out in the Hearing Materials and Preparation Deadlines. If a party has only a copy of a document not received by him, her, or it, the copy shall serve as an original. Digital documents or email messages in contention shall be printed and may then serve as originals.

Party

A party is the student grievant or the individual, program, department, School or College, or University agency or administrator against whom the student brings his or her grievance.

Time Limits

All time limits shall be calculated based on working days of the Fall and Spring Semesters, excluding reading and exam periods and University holidays. Grievances originally filed after the end of the Spring Semester will be heard at the beginning of the following Fall Semester. Any stated time limit herein may be extended with the written consent of the grievant and the Dean of the Graduate School.

Written

Any document to which these guidelines refer as written signifies electronic or paper (hard) copy. Email messages and digital or other electronic versions meet the requirement that a form or notice be provided in writing.

Deadlines for Hearing Materials, Preparation, and Witness Identification

All materials to be considered for review by the members of the GRP must be submitted in writing to the Office of the Dean of the Graduate School at least fourteen (14) days before the scheduled date of the hearing, at which time such materials will be distributed to all parties to the grievance and to the members of the GRP. Thereafter, to the extent that any of the parties wishes to have additional materials considered by the GRP, such materials must be received by the Executive Assistant to the Dean of the Graduate School no later than seven (7) days before the scheduled date of the hearing, at which time all such additional written materials will be distributed to the parties as well as to the members of the GRP. Any party submitting written materials for consideration shall submit the original(s) and five (5) copies thereof to the Dean of the Graduate School at his, her, or its own expense.

The name of any witness to be called by any party at the hearing shall be provided in writing to the Office of the Graduate Dean no less than five (5) days before the scheduled date of the hearing, at which time the names will be distributed to the parties and members of the GRP.

Hearing

The grievance review hearing is chaired by a designated member of the GRP. The hearing is staffed by the non-voting Associate Dean of the Graduate School and the non-voting Executive Assistant of the Dean of the Graduate School, who will audio-record the hearing to assist the panel and Dean in rendering their decision. The audio-recording will be kept at the Graduate School for one year following the conclusion of the grievance. The hearing will proceed as follows:

1. GRP chair's introduction, summary of issues, and process overview.
2. Student's presentation of issues (15 minutes maximum).
3. University representative's presentation of issues (15 minutes maximum).
4. Optional: Presentation(s) by witnesses (limited to 3 per side and a maximum of 15 minutes total per side).
5. Questions by members of the GRP.
6. All presenters and witnesses are excused.
7. Deliberation by GRP.

Presentation of the issues should be concise and relevant. Undoubtedly the dispute is somewhat complex or it would not have reached this stage. Points of dispute or ambiguity may be summarized or illustrated by anecdote at the hearing. Experience suggests, however, that the best approach is to minimize formal presentations and allow the GRP members maximum time for questions.

GRP Decision and Authority

No additional substantive information may be submitted by any party following the hearing, unless requested by the GRP. The GRP may but need not seek additional information from other sources during its deliberations, which will be conducted in closed session. Following its deliberations, and within ten (10) days of the date of the grievance review hearing, the GRP will make its confidential advisory recommendation to the Dean of the Graduate School [Office of the Provost in the event of a student in an interdisciplinary program who does not yet have a chair or committee]. The subsequent decision by the Dean of the Graduate School [Office of the Provost], which shall be rendered within ten (10) days of the GRP's recommendation, is final.

Note: The above guidelines pertain only to matters which do not involve representation by an attorney. If an attorney is involved in the grievance, the Office of Legal Counsel at the University should be contacted.

Modifications

These procedures may be modified or withdrawn with or without notice.

Research Policies

University of Miami Policy on Inventions, Intellectual Property, and Technology Transfer

I. GENERAL

1.1

General

Although the University does not undertake research or developmental work principally for the purposes of commercialization, patentable inventions and other works with commercial application may result from activities carried out by Applicable Personnel. The University has an obligation to appropriately develop innovations to both benefit the public and generate resources that further support the academic mission of the University. The purpose of this policy is to outline rights and responsibilities regarding inventions, intellectual property and technology transfer and to provide guidelines for the protection, management and commercial application of Innovations.

1.2

The policy is applicable to:

1. All full- and part-time faculty, staff and employees, students, fellows and non- employees who use University funds, facilities or other resources, or participate in University-administered research, including visiting faculty and industrial personnel, regardless of obligations to other companies or institutions;
2. Innovations conceived, created, made or disclosed on or after the Effective Date of this policy, and to those prior Innovations disclosed to the Office of Technology Transfer (OTT) as agreed by Applicable Personnel.

1.3

Responsible Official: The Provost is responsible for administration of this policy.

Policy Review: The Technology Transfer Policy Committee (TTPC) is responsible for review of proposed changes to the Faculty Manual in relation to this policy.

II. DEFINITIONS and ABBREVIATIONS

For the purposes of this policy, the following definitions shall apply.

Applicable Personnel: all full- and part-time faculty, staff and employees, students, fellows and non-employees who use University funds, facilities or other resources, or participate in University-administered research, including visiting faculty and industrial personnel, regardless of obligations to other companies or institutions.

Commercialization Costs: costs incurred by the University for evaluating, protecting, defending, enforcing, marketing, negotiating, licensing, assigning, transferring and otherwise commercializing Innovations and/or University owned Intellectual Property.

Courseware: course syllabi, assignments, assessments, and/or other materials that are first created and made available to students as part of the educational curriculum at the University.

Creations: copyrightable works created in the course of Applicable Personnel's scholarly and artistic pursuits, including literary works, textbooks, other scholarly books, journal articles, novels, poems, plays, musical compositions and other artistic works to disseminate for scholarly study or artistic expression; a student work created using student dedicated resources, as part of the educational curriculum at the University, including Capstone projects, papers, dissertations and articles.

Gross Revenue: the amount received by the University under a license or assignment of the University's rights in Innovations, including option or license fees, milestone payments, royalties and proceeds from sale of equity.

Incidental Use: use of none of the University's resources other than its library, limited secretarial or administrative resources, the University's computers and/or Applicable Personnel's office space. Use of University laboratories, clinics and equipment may also be construed as an incidental use in accordance with written policies jointly developed by a school or college and the TTPC.

Innovations: patentable or un-patentable inventions, discoveries, processes, compositions, research tools, data, ideas, databases, know-how, copyrightable works that are not scholarly or artistic Creations and tangible property, including biological organisms, engineering prototypes, drawings,

and software created, conceived or made by Applicable Personnel within their normal duties (including clinical duties), course of studies, field of research or scholarly expertise or making more than Incidental Use of University's resources.

Intellectual Property (IP): patent applications and patents, copyright registrations and renewals, trade secrets and trademarks. IP may be categorized as Creations or Innovations as detailed in Section III.

Net Revenue: Gross Revenue, less all Commercialization Costs and a 15% deduction for administration of OTT.

CDA: Confidential Disclosure Agreement

IP: Intellectual Property

MTA: Material Transfer Agreement

OTT: Office of Technology Transfer

TTPC: Technology Transfer Policy Committee

III. OWNERSHIP

3.1

Consistent with long-standing academic tradition, Creations are owned by the author(s), unless otherwise agreed in a contract between the University and Applicable Personnel, including:

1. the University has expressly commissioned the Applicable Personnel in writing to produce, or participate in production of, the work with University's funds for a specific University purpose;
2. the University has expressly assigned the Applicable Personnel in writing to produce or participate in the production of the work; or
3. the work is otherwise subject to contractual obligations.

3.2

Creations meeting one of the above criteria (a-c) will be treated as Innovations and shall be owned by the University.

3.3

Innovations are owned by the University; revenues derived from commercialization of Innovations will be shared with the Applicable Personnel as detailed in Section VI.

1. Applicable Personnel are required to assign and hereby do assign to the University all Innovations. This assignment includes the right for the University to claim priority and recover for third party infringement or misappropriation.
2. This assignment and abiding by this policy are conditions of employment and continued employment, access to University's resources and/or receipt of funding by the University.
3. This policy governs in the event of any inconsistent obligation to which Applicable Personnel may agree, including in any consulting agreement.

3.4

Intellectual property made or developed with not more than Incidental Use of University resources and not within normal duties (including clinical duties), course of studies, field of research and scholarly expertise of Applicable Personnel will belong to the Applicable Personnel. If Applicable Personnel are uncertain about the disposition of rights, they should make full disclosure of the potential Innovation or Creation to the OTT for determination of rights, as further described in Section 5.2.

3.5

Criteria for ownership of Courseware developed by Applicable Personnel follow the guidelines for Creations and Innovations.

IV. ADMINISTRATION OF THE POLICY

4.1

The Provost is responsible for oversight and administration of this policy. The Director of the OTT reports to the Provost or Provost's designee.

4.2

The TTPC is a committee consisting of seven voting faculty members, including the Provost or Provost's designee, the Vice Provost for Research and 5 additional faculty members, chosen by the Provost in consultation with the Faculty Senate chair. The Director of OTT and a member of the Office of General Counsel will serve as advisors to the TTPC. The five faculty members will serve two-year terms, which may be renewed.

1. The TTPC is charged with review of proposed changes to the Faculty Manual in relation to this policy;

2. TTPC proposed changes must be approved by the Provost and subsequently undergo the standard procedure for changes to the Faculty Manual, with final approval by the President and the Board of Trustees; and
3. The TTPC will meet at least annually and otherwise as necessary and will be chaired by the Provost or Provost's designee.

4.3

The OTT:

1. Evaluates Disclosure Forms and determines the commercial potential and the most appropriate mechanism, if any, for protecting each Innovation;
2. Works with Applicable Personnel to identify and engage potential commercial partners for their Innovations;
3. Undertakes negotiation and execution of agreements pertaining to Innovations, including licenses, data transfers, assignments, Material Transfer Agreements (MTA) that cover transmission of Innovations (outbound MTA), as well as Confidential Disclosure Agreements (CDA);
4. Receives Gross Revenue and distributes Net Revenue received from commercialization of Innovations; and
5. Interacts with University's research, compliance and finance units, including the Office of the Vice Provost for Research, Office of General Counsel, Office of Research Administration, Business Services, University Advancement, University Compliance Services and other units to ensure appropriate conduct of business and protection of the University's interests and recommend contractual language related to all Innovations.

4.4

Appeal Process. Disagreements with decisions made pursuant to this policy should be addressed to the Provost for final resolution.

4.5

Failure by Applicable Personnel to comply with the requirements of this policy may constitute unprofessional conduct and may lead to penalties including:

1. The individual being deemed ineligible to hold principal investigator status on sponsored projects;
2. The individual being deemed ineligible to enter into technology transfer agreements; and
3. In the case of University Faculty, referral to the Senate's Committee on Professional Conduct for such other sanctions as it may recommend to the President and/or the Senate.

V. DISCLOSURE, REVIEW AND PROTECTION OF INNOVATIONS

5.1

Disclosure

1. Applicable Personnel are required to make timely and complete disclosure of Innovations to the OTT via submission of a Disclosure Form, available on the OTT website; early disclosure facilitates engagement of the OTT and allows for specific discussion and guidance toward determination of commercial potential.
2. In general, disclosure to the OTT should occur at least 45 days prior to public disclosure of the Innovations, including submitting an abstract, poster, article, grant application or talking about the Innovation outside the University; this allows time for the OTT to evaluate commercial potential and identify mechanisms for protection of the Innovation.
3. On the Disclosure Form, the Applicable Personnel will report:
 - a. the percent contribution of each of the Applicable Personnel to the Innovation;
 - b. primary department and school for each Applicable Personnel;
 - c. any center, institute or other department that supported the work that led to the Innovation;
 - d. any Intellectual Property or tangible materials of a third party, including those that were generated at a previous institution or place of employment that has relevance to the disclosure;
 - e. any non-University inventors (i.e., inventors who are not Applicable Personnel as defined in this policy), including, individuals acting as independent contractors, or individuals at other universities, institutions, companies, foundations or other entities; and
 - f. the source of funding for the work that led to the Innovation and details regarding specific technology transfer language (for example, ownership of allocations, sharing of revenue or licensing of Intellectual Property) in the funding agreements.

5.2

Review and Protection of Innovations

1. The OTT will evaluate each Innovation Disclosure Form to determine
 - a. commercial potential;
 - b. what Intellectual Property protection, if any, would be appropriate to facilitate the University's ability to incentivize investment in the commercial development of the Innovation; and
 - c. whether or not the Disclosure Form is premature or incomplete, in which case, the Applicable Personnel may be asked to resubmit the Disclosure Form when additional information is obtained.

2. Evaluation for such Innovation as described in Section 5.2(a) will be made to Applicable Personnel within 90 days of receipt of a complete Disclosure Form.
3. Applicable Personnel will cooperate with the OTT in its efforts to evaluate, protect and transfer Innovations, including executing documents and taking other actions as reasonably requested by OTT. The University encourages Applicable Personnel to participate through the OTT in the process of commercialization.
4. Applicable Personnel are required to consult with the OTT to ensure that appropriate agreements are in place prior to disclosing the University's Innovations or sending materials embodying Innovations outside the University (for example, to another university, institution, company, foundation or other entity).
5. Lack of patentability need not eliminate commercial potential for an Innovation and will not alter the University's ownership of the Innovation.
6. The OTT is responsible for directing the filing of University-owned Intellectual Property. The OTT may delegate this authority including by written agreement in connection with commercializing an Innovation. As an example, the University retains qualified law firms to draft, submit and prosecute patents.
7. The OTT decides when and whether to enter into agreements conveying Innovations and the terms and conditions in such agreements.
8. Applicable Personnel are required to record all research data and information accurately and clearly and to keep all such data in a permanent and retrievable form. In addition, with regard to a patentable Innovation, original laboratory data must be kept for the life of the patent. Tangible property, including biological materials, chemical compounds, etc., must be securely stored. All of the foregoing are the University's property. Exceptions to these requirements may be adopted in writing by the TTPC.
9. It is the University's policy to publish research results as soon as possible; however, if publication may reveal an Innovation, Applicable Personnel should seek advice from OTT as to how and when to publish the results in order that patent or other protection is not compromised.
10. Applicable Personnel are obligated to refrain from any act that would impair the University's rights in any Innovations and must maintain the confidentiality of Innovations, along with custody of applicable data and tangible property, consistent with the University's decisions regarding protection and commercialization. This is especially important when the Innovations have been supported by outside entities through a grant or contract.
11. If Applicable Personnel leaves the University, all the Innovations arising prior to their departure remain the property of the University, and cannot be practiced, including being commercialized, without the University's written agreement;

5.3

Release of Technology

1. In rare cases, the OTT may recommend that the University return the rights to an Innovation to the Applicable Personnel. When this situation occurs, the University will generally transfer its rights, and if so by in a written agreement that will allow the University to practice and have practiced the Innovation for research, education and/or patient care, at no cost, and may include other provisions to protect the University's interests;
2. Such a release will not be given until all pre-existing commitments to third parties, including sponsoring agencies, with regard to Innovations have been cleared;
3. Prior to conducting activities, including research and clinical trials, that could reasonably appear to influence the financial value of the released Innovation, the Applicable Personnel must disclose the potential conflict of interest.
4. Improvements, new developments and modifications to these returned rights, otherwise satisfying the definition of Innovations, remain subject to this policy;
5. Release may be conditioned upon reimbursement to the University for all Commercialization Costs and 10% of the Applicable Personnel's net income from the released Innovation.

VI. DISTRIBUTION OF REVENUE DERIVED FROM COMMERCIALIZATION OF INNOVATIONS

6.1

Sharing of Revenue - Guidelines

1. Multiple units may contribute to the support of work that leads to an Innovation, including the departments and schools/colleges of Applicable Personnel, as well as centers or institutes of which the Applicable Personnel are members.
2. Distribution of Net Revenue will follow the percent allocation for Applicable Personnel as agreed upon on the Disclosure Form. Absent agreement on the percent allocation among Applicable Personnel, and subject to notice of a dispute being resolved pursuant to Section 6.1(i), the Applicable Personnel will share equally.
3. Distribution to departments will follow the percent allocation for Applicable Personnel. For those schools/colleges without departments, the department share will be distributed to the school/college.
4. The Applicable Personnel are responsible for disclosing whether a center or institute has provided financial or other support for the work that led to the Innovation, including laboratory space, supplies or significant administrative support. In such cases, upon disclosure of the Innovation, the involved department (or school/college in the absence of departments) will work with the center or institute to agree upon sharing of the department Net Revenue with the center or institute. As centers and institutes often include faculty from more than one school or college, the Provost or Provost's designee will mediate disputes related to the department's share.

5. In the event that departments, centers or institutes from different schools/colleges contribute to an Innovation, sharing of Net Revenue will follow the allocation as determined in 6.1(c) and (d).
6. University may make alternative arrangements for distribution of Gross Revenue or Net Revenue, whether due to co-ownership, grant, funding contract, gift or other agreement, only after review and approval of the Provost or Provost's designee.
7. The OTT is authorized to delay distribution where additional expenses are anticipated, including those associated with filing for patent protection in foreign countries.
8. The University has no fiduciary or other duty regarding whether or when to liquidate equity. Unless equity is liquidated, there is no Net Revenue to distribute.
9. Any dispute regarding the distribution of Net Revenue may be addressed as set forth in Section 4.4 of this policy.

6.2

Formula for Sharing of Revenue

1. Accrued as a result of Innovations licensed or assigned prior to the effective date of this policy, and in the absence of special funding/gift agreements:
 - a. Commercialization Costs will be deducted from Gross Revenue; this does not include 15% for administration of OTT; and
 - b. The first \$1,000 of cumulative Net Revenue shall be paid to the Applicable Personnel
2. Cumulative Net Revenue will then be distributed 1/3 to the Applicable Personnel; 1/3 to the departments of the Applicable Personnel and 1/3 to the University.
 - a. Accrued as a result of Innovations licensed or assigned on or after the effective date of this policy, and in the absence of special funding/gift agreements:
 - b. Commercialization Costs will be deducted from Gross Revenue; however, the 15% for administration of OTT will not be deducted from Gross Revenue until initial cumulative Net Revenue equal to \$25,000 has been distributed to the Applicable Personnel; after which
 - c. Ongoing Commercialization Costs will be deducted from cumulative Gross Revenue, followed by deduction of 15% for administration of OTT;
 - d. Cumulative Net Revenue greater than \$25,000 and up to \$2 million will be distributed 1/3 to the Applicable Personnel, 1/3 to the department(s), as well as institutes and centers, as described in Sections 6.1c - 6.1e and 1/3 to the University.
 - e. Cumulative Net Revenue greater than \$2 million will be distributed 1/3 to Applicable Personnel; 1/3 to the school/college, with the Dean of the Applicable Personnel school/college having the authority to determine sharing of Net Revenue between department(s)/center(s)/institute(s) within the school/college; 1/3 to the University.

6.3

Additional Information

1. In the absence of extenuating circumstances, distributions of Net Revenue will generally be made within three months of receipt but no less than semi-annually.
2. If Applicable Personnel should change departments within the University, the department share of revenue will generally not follow the Applicable Personnel, except under special circumstances and only as agreed upon by the Dean of the school/college in which the original department resides.
3. If an Applicable Personnel should leave the University, the portion allocated to the Applicable Personnel's department will remain with the department.
4. Payments made to Applicable Personnel must be made to the Applicable Personnel and cannot be assigned by the Applicable Personnel to other parties or entities, except upon the Applicable Personnel's death, in which case the personal representative of the Applicable Personnel's estate will notify the University Controller's Office, in order to ensure that the appropriate paperwork and permissions are received for distribution of the revenue to the Applicable Personnel's estate/heirs.

Admission

Eligibility for Admission

In addition to holding the baccalaureate degree from an institution accredited by SACS or another regional accrediting body (or equivalent credential for international applicants), the applicant for admission to the Graduate School should have the prerequisite coursework required by the program to which he/she is applying. In general, those applying for graduate admission should have achieved an overall average grade of "B" or better (3.0 G.P.A. on a 4.0 scale). International students will be required to give evidence of adequate knowledge of English through a TOEFL or IELTS test score. University of Miami faculty members above the rank of instructor are not eligible to apply for the doctorate at the University of Miami. (Note: Faculty from the School of Nursing and Health Sciences and from the Physical Therapy program are permitted to pursue doctoral degrees in their home program/school.)

For specific admission requirements see also statements of the various programs.

Admission of a student to the University of Miami for any semester does not imply that such student will be re-enrolled in any succeeding academic semesters.

All those wishing to take courses for graduate credit hour, whether or not they wish to become candidates for a degree, must make application for admission directly to the program of interest prior to registration.

Requirements for Admission Application

1. The completed application form.
2. Official transcripts of **all** college work, both undergraduate and graduate. International applicants must have their educational credentials earned outside the United States verified by an approved international credentialing evaluation service. Contact the specific program to which you are applying for details on this process.
3. The official score report of the appropriate entrance examination.

GRE	All applicants must submit recent (within five years) Graduate Record Examination (GRE) scores which include 1) the aptitude portion (verbal & quantitative); 2) the most relevant advanced test in the major field if required by the program. GRE scores are valid for 5 years after the test date.
GMAT	Applicants for the Master or Ph.D. of Business Administration, the Master of Professional Accounting, or the Master of Science in Taxation must submit the Graduate Management Admissions Test (GMAT) scores. GMAT scores are valid for 5 years after the test date.
TOEFL/IELTS	International applicants whose native language is not English must take the Test of English as a Foreign Language (TOEFL) or the International English Language Testing System (IELTS) in addition to the Graduate Record Examination or Graduate Management Admissions Test. The TOEFL and IELTS scores are valid for 2 years after the test date.

4. Letters of recommendation sent directly to the graduate program director of the academic program.
5. Other requirements may be required/requested by individual programs. Contact the specific program to which you are applying for their requirements, or for exemptions from the entrance examination.
6. Application fee of \$85 for all graduate programs except master's and doctoral programs in the Frost School of Music, which have a \$100 application fee.
7. All materials and the fee should be sent directly to the program as indicated on the application.

Materials submitted in support of an application cannot be released for other purposes nor returned to the applicant.

Categories of Admission

1. *Regular* admission with or without specified deficiencies. Under circumstances in which it is difficult to evaluate the academic background of intellectually qualified applicants, they may be admitted with specified deficiencies based on evaluative criteria established and maintained by the school or college. Such status is often appropriate for international students or students with extensive professional experience relevant to the desired discipline. The Graduate School allows only one semester in deficiency status. Graduate Council notification is required for programs requesting deficiency status beyond one semester. For all regular admissions with deficiencies, students must receive a list of documented requirements to remove the deficiency and specific milestones. Students who fail to qualify at the end of that time will be requested to withdraw from the Graduate School.
2. *Post-Baccalaureate*. This category provides an opportunity for graduate study for
 - a. qualified applicants who, for good reason, do not wish to work toward an advanced degree. This would be appropriate for those students who have special objectives for professional study or scholarly work;
 - b. students enrolled in a graduate program elsewhere but desiring to earn graduate credit hour at the University of Miami for the purpose of transferring it to the other institution;
 - c. students already holding the master's degree or doctorate but who desire additional coursework in their field.
Those admitted to a post-baccalaureate status should realize that their future admission to regular status is improbable unless they achieve the qualifications originally appropriate to admission to those categories. This is to say that the mere accumulation of graduate course credit hours is not sufficient to permit entrance into another graduate category. No more than a total of 12 credit hours may be taken while in post-baccalaureate status.

Transient students described in (b) above should have sent to the Graduate School a letter from the Dean of the School or College of the student's program from which they expect to earn a degree, stating that they are in good standing there and have permission to transfer credit hour. If possible, this letter should indicate specific courses to be taken. The students described in (c) above should have a transcript showing their most recent graduate work and graduate degree [to be sent directly by the issuing institution to the Graduate School].

3. *Certification/Professional Goals*. This category provides an opportunity for graduate study for qualified teachers or professionals who do not wish to work toward an advanced degree but, who for professional reasons, need to continue to take graduate courses and have already taken 12 credit

hours in Post-Baccalaureate Status. No credit taken in this status can be applied toward a graduate degree at the University. A letter explaining the need for the course work by the student's employer must accompany the application.

Every applicant for admission can be assured that all credentials will be carefully studied in an effort to select appropriately qualified students. Each application for admission is examined by the members of the faculty responsible for the graduate program. The program informs each applicant of the results.

It is expected that most applicants for admission will be candidates for an advanced degree. Except under unusual circumstances those who already hold an advanced degree are not admitted to candidacy for the same degree. Graduate programs vary as to whether students who do not hold the master's degree are required to initiate graduate studies at that level.

Applicants should note the following:

1. M.B.A. applicants should send applications and all documents to:
The Office of Graduate Business Programs
Miami Business School
P.O. Box 248505
Coral Gables, FL 33124
For further information you may contact mba@miami.edu
2. all other correspondence, applications, and documents should be sent directly to the academic department;
3. no action is taken until a file is complete and all documents are available;
4. application files should be complete at least one month before registration, much earlier for some applications, as specified elsewhere in this *Bulletin*;
5. admission to graduate status does not imply admission to candidacy for a degree;
6. some programs close admissions early because of limited capacity;
7. materials submitted in support of an application are not released for other purposes and cannot be returned to the applicant.

International Students Admissions

All international students who have been admitted to a program of full-time study at the University of Miami need to enter the U.S. on a student visa. To apply for an F-1 visa, you must provide the U.S. Embassy or Consulate with a Form I-20 or DS-2019, passport, statement of funds, and other documents as required by the U.S. Embassy or Consulate. Please visit the International Student and Scholar Services (<http://www.miami.edu/iss>) (ISSS) website for further information regarding visas, travel, pre-arrival information, etc. The Form I-20 or DS-2019 can only be issued after you have been admitted and have submitted proof of adequate financial support for your studies and living expenses. For questions regarding issuance of the Form I-20 or DS-2019, please contact your individual department.

Readmission

Students who have not been continuously enrolled must request readmission and adhere to the readmission deadlines outlined in the Academic Calendar (<https://registrar.miami.edu/dates-and-deadlines/academic-calendars>). Contact the appropriate program office well in advance of registration. If additional college work has been completed elsewhere since the last enrollment at the University of Miami, an official transcript of this will be required. Recency of credit hour rules will apply. The application for readmission to the Graduate School may be found on the Graduate School website (<http://grad.miami.edu>). If you are an applicant for readmission and also an international student, please contact International Student and Scholar Services at iss@miami.edu and 305-284-2928.

Dual Degree and Accelerated Degree Programs

The University offers unique combined degree programs that culminate with students receiving both the undergraduate and graduate degrees concurrently or an accelerated program of study in which they receive an undergraduate degree and then a graduate degree the following year.

These programs are intended for exceptional students to acquire both undergraduate and graduate degrees, in five years rather than the 4 plus 2 years (approximately) that is traditionally expected.

Please note: Many financial aid programs, including those offered by the University and the federal and state governments are restricted to coursework required to complete an undergraduate degree.

Requirements

Students must have undergraduate student status and a cumulative G.P.A. of at least 3.0 at the time of application. Students should discuss the program and possibility of entering the program with an academic advisor. The program may require application at the time of matriculation to the undergraduate degree or prior to the beginning of final exams in the junior year.

Undergraduate students must take the GRE Examination before the end of their classification as a senior and attain a combined score of more than 297 on the verbal and quantitative portions.

Once admitted into a dual degree or accelerated program:

In their senior year, students may take a maximum of 12 graduate credit hours, with a maximum of 6 credit hours per semester. While in senior status, to register, students must complete and submit the Graduate School's Application for Undergraduates to Take a Graduate Course form which is available on the Graduate School website (<https://grad.miami.edu>). This form must accompany the Add/Drop and/or Course Request form to ensure that students are registered with the correct registration status. Add/Drop and/or Course Request forms without this approval form will not be processed. Undergraduate students must register for courses with graduate status in the Office of the University Registrar. This process cannot be facilitated via online registration.

Financial Implications

Many financial aid programs, including those offered by the University and the federal and state governments are restricted to coursework required to complete an undergraduate degree.

Students are eligible for undergraduate aid only as long as they are undergraduates. Students enrolled in combined or accelerated degree programs are permitted undergraduate federal and University aid for a maximum of four academic years or to the point at which the number of graduate credit hours in a term exceeds the number of undergraduate credit hours, whichever comes first. During that time frame the student's undergraduate enrollment status will be determined using only undergraduate level courses in which the student enrolls. Graduate level courses in which the student enrolls during such semesters will not be used to determine the student's undergraduate enrollment status. Once a student is registered at the graduate level for financial assistance his/her status is considered graduate for all subsequent semesters.

Once registered as a graduate student, a student cannot revert to undergraduate status.

For further information, contact the Office of Financial Assistance at ofas@miami.edu, call 305-284-6000, or visit the office in the Whitten University Center.

Graduation Clearance Requirements

For dual degree programs, the student must apply for undergraduate and graduate graduation at the same time. Degrees from dual degree programs are conferred at the same time.

For accelerated degree programs, the student must apply for undergraduate graduation in one semester, and for graduate graduation in a subsequent semester.

The student must meet the requirements of the Graduate School specified in the Bulletin for the awarding of the graduate degree.

Students enrolled in a dual degree or accelerated program can take a **maximum of 6 graduate credit hours per semester in their senior year for a maximum of 12 graduate credit hours** without incurring additional costs **if they are full-time undergraduate students** during this period.

Students should register for courses towards their graduate degree as "G" credit hours and not as "U" credit hours. These registrations must be completed prior to taking courses. Retroactive add/drops will not be processed.

Summary of Guidelines for Dual Degree and Accelerated Programs

- Take at least 12 undergraduate credit hours per semester. This qualifies you for the opportunity to take up to 6 graduate credit hours per semester at no additional cost.
- Graduate credit hours can be taken only in the senior year in a dual degree or accelerated program (based on the number of credit hours earned towards the undergraduate degree).
- The maximum number of graduate credit hours allowed per semester is 6.
- The maximum number of graduate credit hours the undergraduate student can take at no additional cost is 12.
- The Application for Undergraduates to take a Graduate Course form should be completed and all signatures must be obtained before registering for graduate credit hours.
- The student can change his/her status to "graduate", or his/her status might be determined to be "graduate" for financial aid purposes during or at the completion of the senior year. This will make the student eligible for graduate financial aid (for US citizens or permanent residents).
- The student cannot be a full-time undergraduate (taking 12 or more undergraduate credit hours) and a full-time graduate (taking 9 or more graduate credit hours) student at the same time.
- Once a student's status changes to graduate (or after they have taken a full load of graduate credit hours) his/her status cannot revert to undergraduate status.
- In a dual degree or accelerated program, an undergraduate student cannot take graduate credit hours in any other year except in the senior year.
- The student should avoid taking any undergraduate credit hours after the student's status has changed to graduate.

For University of Miami Undergraduates

Undergraduates Taking Graduate Coursework. University of Miami undergraduates within 30 credit hours of meeting the requirements for the Baccalaureate Degree may be considered for concurrent admission to graduate study in non-degree graduate status, and in this status may take

and receive credit hour for graduate courses, while completing the requirement for the baccalaureate. The Graduate School's Application for Undergraduates to Take a Graduate Course form is available on the Graduate School website (<https://grad.miami.edu>).

Admission to Graduate status requires:

1. Must have a minimum of 3.000 G.P.A.
2. The submission of an Application for Undergraduates to Take a Graduate Course form (available on the Graduate School website (<https://grad.miami.edu>)) which will not require the application fee;
3. The written approval of the Chairman of the Department, the Dean of the Undergraduate School or College, and the Graduate School Representative **prior to registration**.

Admission to Graduate status does not automatically admit the student, upon graduation, to status as an applicant for a graduate degree at the University of Miami.

The graduate credit hours earned may NOT be used to meet undergraduate graduation requirements or be used to meet the 120 credit hour requirements at the University of Miami.

No more than 6 credit hours may be taken in one semester, and no more than a total of 12 credit hours may be taken while in graduate status. Students may take no more than 15 credit hours of combined undergraduate and graduate courses per semester.

Students electing graduate status must register and be processed centrally at the Office of the Registrar, 305-284-2294.

Master's Degree

The minimum residence requirement is two semesters in full-time study or the equivalent in part-time work. In practice, most students need at least three semesters, or two semesters plus summer work, to complete degree requirements.

Foreign Language

The requirements in a foreign language or languages are established by the student's program. In those cases where the program deems it necessary that the student have competency in a foreign language, the student will be required to demonstrate such competence by examination in one or more languages. The choice of language or languages required will be by the program.

Thesis

Decision as to the thesis subject must be approved by the program. The thesis committee will consist of not less than three members. The committee chair must be Regular Faculty from the student's program or department of concentration (this includes secondary appointments). In addition to the chair, one of the remaining members must also be Regular Faculty or have Graduate Faculty status in the student's program or department of concentration; the third member must be an outside member. "Regular Faculty" are faculty having tenured or tenure-earning appointments of a program or department. A thesis or dissertation committee cannot be chaired by a person unless they hold a higher or equivalent degree as the candidate for the graduate degree. Exceptions to the committee composition may be approved by the Chair of the Department and Dean of the Graduate School. A program may require additional members.

The committee is nominated by the Graduate Program Director of the program concerned. The duties of the thesis committee are similar to those of the dissertation committee. The student who presents a thesis must enroll for at least 6 credit hours of thesis. Ordinarily no more than 6 credit hours may be granted.

The Dissertation Editor will provide information on the guidelines and deadlines that will become critical in the final months of the degree process and this information is located on the Graduate School website (<https://grad.miami.edu>). The Graduate School office telephone number is 305-284-4154 and the email address is grad.dissertation@miami.edu.

Master's degree students who are required to write a thesis must defend their thesis by the deadline specified in the Academic Calendar (<https://registrar.miami.edu/dates-and-deadlines/academic-calendars>) and on the ETD website (<https://grad.miami.edu/electronic-thesis-and-dissertation>), upload one Dissertation Editor-approved PDF conforming in style to the formatting standards set by the Graduate School to the ETD database, and submit the final three forms to the Graduate School in the semester the student wishes to graduate. Final forms include one Certificate of Defense Approval form, one ETD Final Content Approval form, and one ETD Availability Agreement form. The forms are available on the Forms page of the Graduate School website. (<https://grad.miami.edu/policies-and-forms/forms>)

All students are required to adhere to the following deadlines (and the requirements associated with these deadlines) posted on the ETD website (<https://grad.miami.edu/electronic-thesis-and-dissertation>): 1) Deadline to defend the thesis, dissertation, or doctoral/lecture recital essay; 2) Deadline to submit the full draft of the thesis, dissertation, or doctoral/lecture recital essay draft for formatting review by the Dissertation Editor; 3) Deadline to produce the final PDF; and 4) Deadline for completion.

It is the duty of the student to acquire a copy of the guidelines for preparing theses and dissertations and to conform to the requirements therein. It is recommended that students begin the process early in the semester by discussing with their advisors a suitable timetable for meeting these

deadlines. All information pertaining to the formatting and electronic guidelines for electronic thesis and dissertation submission can be found on the Graduate School website (<https://grad.miami.edu>). The Graduate School also encourages students to contact the Dissertation Editor early in the semester at grad.dissertation@miami.edu if they have questions regarding any aspect of the ETD process.

Electronic Theses and Dissertation (ETD) Embargo Policy

Graduate students can elect to withhold their electronic thesis or dissertation for up to two years before the work is available for download from the University of Miami's Scholarly Repository (<http://scholarlyrepository.miami.edu>). The metadata for all theses and dissertations regardless of the availability option elected (i.e., open access, UM campus only, or embargo) will be immediately available for viewing in the university's Scholarly Repository after the Dissertation Editor has approved and released the thesis or dissertation to the repository. If embargo is elected by the student, the existence of the student's information page will appear in the Scholarly Repository right away displaying title, defense date, abstract, committee, keywords, etc., but the PDF of the electronic thesis or dissertation will not be downloadable until the term of embargo elected has expired. After the elected embargo period has expired the electronic thesis or dissertation will be released for open access in the Scholarly Repository. Students requesting embargo should carefully review the details of embargo election described in the ETD Availability Agreement form posted on the Graduate School website (<https://grad.miami.edu>) to ensure they fully understand the terms of access for their embargoed work.

Final Examination

A final public oral defense of the thesis is required. However, none but the members of the thesis committee may interrogate the candidate. In addition there may be required, if desired by the program, a final written integration examination to test the candidate's ability to integrate the whole graduate program and the thesis in relation to it. These examinations must be held at least two weeks prior to commencement.

Research in Residence

Once a student has completed all course and required research credit hours, he or she must enroll in Research in Residence status until the degree has been granted. Research in Residence status is considered full-time enrollment. Time restrictions on obtaining degrees will be strictly enforced and can be waived only by the Dean of the Graduate School. (See Recency of Credit and Time to Completion sections of the Bulletin.) Research in Residence students, while not required, may purchase or receive any prerequisites that are normally available to graduate students.

Comprehensive Examination

In most master's programs (and some doctoral programs) a comprehensive examination, either written, oral, or both, is a requirement. When the thesis is not a part of the program, an examining board, at least one of whose members must be a regular member of the Graduate Faculty, will be appointed by the program.

A student failing the comprehensive examination may be allowed one opportunity to retake it if the student's committee so advises. The re-examination may not be taken during the same semester or summer session, and must be taken within one calendar year.

Transfer of Credit Hour

Upon recommendation of the major program and the approval of the Graduate School, a maximum of 6 credit hours of graduate credit hour, with grades of B or above, may be transferred from another accredited graduate institution, in partial satisfaction of a master's degree requiring less than 36 credit hours. 9 credit hours of graduate credit hour may be approved for transfer to a degree program requiring 36 credit hours or more. Work taken more than six years prior to transfer will not be accepted. All work transferred is subject to examination by the program. Any student wishing to transfer credit hour must first be admitted to a graduate program at the University of Miami. The satisfaction of the requirements of another university does not relieve the student from the University of Miami's requirements. An official transcript of work to be transferred must be on file in the Graduate Office. Credit hours that pertain to or have been counted toward another degree cannot be transferred. Students enrolled in the Master of Business Administration program are not eligible for credit hour transfers.

Exceptions must be approved by the Dean of the Graduate School.

No transferred credit hours are calculated into the University of Miami G.P.A.

A Second Master's Degree

A student enrolled in a University of Miami master's degree program or holding a University of Miami master's degree may earn a second master's degree in a related area at the University by completing a minimum of 21 credit hours in residence toward the second degree, as long as all program and admission requirements for the degree are met and the total credit hours for both masters degrees is at least 60 credit hours. Each degree must have a separate thesis if two thesis options are elected. The second program decides if the areas are related enough to qualify for the reduced number of credit hours. The student must contact the second program during the application process for the second program to determine if the areas are related enough to qualify for the reduced number of credit hours.

Doctoral Degree

(For Ph.D., D.M.A., and Ed.D. candidates only)

General

The Graduate School does not specify course requirements for the Ph.D. However, the Graduate School will not, ordinarily, approve the taking of the qualifying examination until the student has had a minimum of one continuous academic year of graduate work in courses, seminars, and directed or tutorial study. 60 credit hours beyond the baccalaureate degree are the minimum requirement for the Ph.D., and not less than half of the total credit hours must be in work open only to graduate students. At least 24 credit hours must have been taken in residence at the University of Miami. A minimum of 12 dissertation credit hours must be taken. Graduate students studying for the Ph.D. who have received their master's degree in the same field must take at least 24 credit hours in residence at the University of Miami in doctoral status.

The specific course requirements for the Ph.D. are established by the major department or program which may require such additional graduate credit hour as it deems necessary. Such requirements will be found in that part of the Bulletin which lists course offerings.

Dissertation

A student must take a minimum of 12 credit hours of dissertation research except where otherwise stated. Not more than 12 credit hours of research may be taken in a regular semester, nor more than 6 in a summer session.

Ph.D., D.M.A., and Ed.D. degree students must defend their dissertation, doctoral essay, or lecture recital essay by the deadline specified in the Academic Calendar (<https://registrar.miami.edu/dates-and-deadlines/academic-calendars>) and on the ETD website, upload one Dissertation Editor-approved PDF conforming in style to the standards set by the Graduate School to the ETD database, complete any online requirements, and submit the final three forms to the Graduate School in the semester the student wishes to graduate. Final forms include one Certificate of Defense Approval form, one ETD Final Content Approval form, and one ETD Availability Agreement form. All three forms are available on the Forms page of the Graduate School website (<https://grad.miami.edu/policies-and-forms/forms>).

All students are required to adhere to the following deadlines (and the requirements associated with these deadlines) posted on the ETD website (<https://grad.miami.edu/electronic-thesis-and-dissertation>): 1) Deadline to defend the thesis, dissertation, or doctoral/lecture recital essay; 2) Deadline to submit the full draft of the thesis, dissertation, or doctoral/lecture recital essay draft for formatting review by the Dissertation Editor; and 4) Deadline for completion.

The candidate is well advised to have a final, acceptable typescript of the dissertation in the hands of each member of his/her committee a minimum of two weeks prior to the defense. It is the duty of the student to acquire a copy of the guidelines for preparing theses and dissertations and to conform to the requirements therein. It is recommended that students begin the process early in the semester by discussing with their advisors a suitable timetable for meeting the ETD deadlines. All information pertaining to the formatting and electronic guidelines for electronic thesis and dissertation submission can be found on the ETD website (<https://grad.miami.edu/electronic-thesis-and-dissertation>). It is the duty of the student to acquire a copy of the formatting guidelines for preparing theses and dissertations and to conform to the requirements therein. All dissertations are also published by ProQuest/University Microfilms, Inc. The Graduate School also encourages students to contact the Dissertation Editor early in the semester at grad.dissertation@miami.edu if they have questions regarding any aspect of the ETD process.

The dissertation may be written in a language other than English at the recommendation of the dissertation committee and with the approval of the program and the Graduate School. Graduate School approval will be determined on a case-by-case basis. The Dissertation Chair will submit a memorandum from the Department Chair to the Dissertation Editor together with the student's application for admission to candidacy explaining why it is both relevant and appropriate for the dissertation research to be written in a language other than English. Acceptable "relevant and appropriate" reasons for writing the dissertation in a language other than English include, but are not limited to: relevancy to research where presentation in a non-English language expands knowledge of that language; relevancy where the loss or weakening of the research's meaning and impact if primary data, e.g., interviews, are translated into English; or appropriateness where the majority of the bibliographic sources, references, and potential outlets for future publication are anticipated to be in that language other than English. Both the memorandum and the application for admission to candidacy form must be submitted to the Graduate School at the same time. In some cases upon review of the memorandum, the Graduate School may determine that the student will also be required to submit an English translation of the non-English dissertation. For all approved cases, an abstract in English should be included in the final dissertation.

Electronic Theses and Dissertation (ETD) Embargo Policy

Graduate students can elect to withhold their electronic thesis or dissertation for up to two years before the work is available for download from the University of Miami's Scholarly Repository (<http://scholarlyrepository.miami.edu>). The metadata for all theses and dissertations regardless of the availability option elected (i.e., open access, UM campus only, or embargo) will be immediately available for viewing in the university's Scholarly Repository after the Dissertation Editor has approved and released the thesis or dissertation to the repository. If embargo is elected by the student, the existence of the student's information page will appear in the Scholarly Repository right away displaying title, defense date, abstract, committee, keywords, etc., but the PDF of the electronic thesis or dissertation will not be downloadable until the term of embargo elected has expired. After the elected embargo period has expired the electronic thesis or dissertation will be released for open access in the Scholarly Repository. Students requesting embargo should carefully review the details of embargo election described in the ETD Availability Agreement form available on the Graduate School website (<https://grad.miami.edu>) to ensure they fully understand the terms of access for their embargoed work.

Research in Residence

Once a student has completed all course and required research credit hours, he or she must enroll in Research in Residence status until the degree has been granted. Research in Residence status is considered full-time enrollment. Time restrictions on obtaining degrees will be strictly enforced and can be waived only by the Dean of the Graduate School. Research in Residence students, while not required, may purchase or receive any perquisites that are normally available to graduate students. (See **Recency of Credit** section.)

Residence

The student must spend at least two consecutive semesters beyond the first year's graduate work, wherever taken, in full-time study at the University of Miami. With program approval,

1. one summer of full-time study in two sessions can be substituted for one semester of residence, or
2. full-time study for two successive summers can be substituted for two regular semesters.

Residence requirements may be altered only by the Dean of the Graduate School. (At least 24 credit hours must be taken in residence.)

The Supervisory and Dissertation Committees

A supervisory committee is usually appointed when a student is formally admitted to a doctoral program. For the dissertation/doctoral essay/lecture recital essay committee a student needs no less than four members. The committee chair must be Regular Faculty from the student's program of concentration (this includes secondary appointments). In addition to the chair, two members must be Regular Faculty or have Graduate Faculty status in the student's program of concentration. The fourth member must be an outside member. "Regular Faculty" are faculty having tenured or tenure-earning appointments of a program or department. A thesis or dissertation committee cannot be chaired by a person unless they hold a higher or equivalent degree as the candidate for the graduate degree. Exceptions to the committee composition may be approved by the Program Director (or Chair of the Department) and Dean of the Graduate School. A department, program, or school/college may require additional members.

This committee is nominated by the chairperson of the program concerned. It is appropriate for the chairperson to consult with the student regarding the membership of the committee. The supervisory committee is empowered to plan the course of study for the student; to determine deficiencies, if any; to set language and other requirements; to request applicable transfer of credit hour where appropriate and to make up and administer the qualifying examination.

When the student is admitted to candidacy, a dissertation committee is formed. This may be the supervisory committee, but it may also be a committee formed anew to undertake the duties of advising and passing upon the dissertation. The dissertation committee is nominated by the department or program concerned, and appointed by the Graduate Program Director and approved by the Department Chair. The dissertation committee is comprised of at least four members; this includes the committee chair (i.e. the primary research mentor/advisor), who may or may not be from the student's program, department or school (this includes secondary appointments), and must be a permanent member of the Graduate Faculty (<https://grad.miami.edu>). Of the remaining members, it is also required that two shall be members of the program or department of concentration, as well as permanent members of the Graduate Faculty (<http://grad.miami.edu>), and one from outside the program or department of concentration. A program may require additional members. The duties of the Dissertation Committee are:

1. To consult with and to advise students on their research;
2. To meet, at regular intervals, to review progress and expected results;
3. To read and comment upon the draft dissertation;
4. To meet, when the dissertation is completed, to conduct the final oral examination and to satisfy itself that the dissertation is a contribution to knowledge and that it is written in lucid and correct English and submitted in approved form.

No student gains the right to be recommended for the degree simply by fulfilling requirements. This right is reserved to the student's committee. Changes of committee members must be approved by the Graduate Program Director, and submitted to the Graduate School.

Qualifying Examinations

A written qualifying examination is to be taken by each doctoral degree candidate in all doctoral programs, with the exception of Physical Therapy, at the time that the student and the supervisory committee deem appropriate. The major program may specify that its students must take an oral examination as well. In those cases, normally, the student shall pass the written examination before the oral examination is conducted. Upon completion of the examination process, the supervisory committee shall notify the Graduate School and the instructional school or program that the student has passed or failed the examination. A student who fails the examination will be given one opportunity to retake it with the permission of the supervisory committee. After a qualifying exam is failed for a second time, the student is terminated from the program. Some programs do not administer qualifying examinations during the summer months. Check with the Graduate Program Director for specific program requirements.

Admission to Candidacy

When the student has met all requirements and passed the qualifying examinations, admission to candidacy for the degree is approved. No student may receive the degree in the same semester or summer session in which he or she is admitted to candidacy. The student must be admitted to candidacy before the defense of dissertation is scheduled.

Final Examination

A final public oral defense of the dissertation is required. Refer to the Academic Calendar (<https://registrar.miami.edu/dates-and-deadlines/academic-calendars>) for the deadline regarding dissertation defense for each graduation. Graduate programs set the specific requirements and format of the defense. Please contact your Graduate Program Director for details.

Transfer of Credit Hour

Transfer of graduate credit hour from another institution will not be made until the student has completed a like amount of credit hour at the University of Miami, and the transfer has been approved by the supervisory/dissertation committee and the Dean of the Graduate School. Credit hour transferred is subject to the same recency rules as all other credit hour counted toward the degree, and is also subject to examination by the program. An official transcript of work to be transferred must be on file in the Graduate School. Credit hours that pertain to or have been counted toward another degree cannot be transferred.

Florida International University and University of Miami Agreement

Effective as of Fall 2007, students may take up to 6 credit hours at the host institution as long as the following requirements are met:

1. Must be Ph.D. student or Master's student in Latin American Studies.
2. Approval from both home and host institution;
3. Approval of Graduate School Deans;
4. Space at the host institution is available.
5. Approval of the faculty member teaching the course.

Tuition and fees are to be paid at the home institution. Performance level is set at host institution. Contact the Graduate School for more information. The application form can be found here (<http://grad.miami.edu>).

UNDERGRADUATE ACADEMIC PROGRAMS

Architecture

<http://www.arc.miami.edu>

Introduction

The School of Architecture offers a five-year, accredited professional program leading to the Bachelor of Architecture degree. The Bachelor of Architecture fulfills the educational requirements for professional registration. It offers specialized architectural study through upper-level studios and architecture electives, as well as opportunities for the study of liberal arts through the elective sequence.

The School of Architecture's location in Coral Gables within the Miami metropolitan area provides an outstanding laboratory for research and advanced study; the challenges of conservation and development are intense in one of the nation's fastest growing urban areas. These challenges result in an increasing demand for skilled professionals. Students have the opportunity to work with faculty in the exploration of theoretical issues and the resolution of practical problems. The School of Architecture values and sustains a creative, open and supportive environment, emphasizing personalized instruction in small classes and studio courses.

Mission

- Prepare students for professional leadership and lifelong learning in architecture, urbanism and related fields.
- Preserve and develop knowledge for the profession through research and practice.
- Share knowledge locally and internationally through community service.
- Promote building and community design goals of environmental responsibility, social equity and economic sustainability.

Accreditation

The school is a member of the Association of Collegiate Schools of Architecture and the Association of Collegiate Schools of Planning, and is fully accredited by the National Architectural Accreditation Board, who asks each school to include the following paragraph on professional degrees in all literature:

In the United States, most registration boards require a degree from an accredited professional degree program as a prerequisite for licensure. The National Architectural Accrediting Board (NAAB), which is the sole agency authorized to accredit professional degree programs in architecture offered by institutions with U.S. regional accreditation, recognizes three types of degrees: the Bachelor of Architecture, the Master of Architecture, and the Doctor of Architecture. A program may be granted an eight-year, three-year, or two-year term of accreditation, depending on the extent of its conformance with established educational standards.

Doctor of Architecture and Master of Architecture degree programs may require a preprofessional undergraduate degree in architecture for admission. However, the preprofessional degree is not, by itself, recognized as an accredited degree.

The University of Miami School of Architecture offers the following NAAB-accredited degree programs:

B.Arch. (171 undergraduate credits)

M.Arch I (3-year Track – 105 graduate credits)

M.Arch II (2-year Track – 60 graduate credits)

Admission

Applications for incoming freshmen are processed and reviewed by the Office of Admission. Enrollment in the School of Architecture is selective and highly competitive. Applications to the Bachelor of Architecture program are requested by January 1st. Early applications are encouraged.

Freshman

Admission decisions are based on the following factors: secondary school record, SAT/ACT score, counselor's evaluation and the student essay. Portfolio submission is not required for entering freshmen, but is highly encouraged.

Transfer Students

The academic accomplishments of each transfer student will be evaluated on an individual basis. A 3.0 G.P.A. is required for transfer admission. A portfolio is required for advanced placement in the design sequence of the Bachelor of Architecture Program. Application deadline for the School of Architecture program is March 1st.

All transfer students requesting advanced placement in design must provide a portfolio of previous academic design and graphic work and three academic recommendations. Students accepted into third year design will be required to complete a design module during the summer prior to enrollment.

Student Responsibilities

Students in the School of Architecture are responsible for planning their own programs and for meeting degree requirements. It is the student's responsibility to understand and fully comply with all the provisions set forth in this Bulletin and written changes to their program of study. Students

are provided assistance by advisors and faculty members. Written requests for variation from program or school requirements are reviewed by a faculty committee.

Academic Progress and Probation

The School of Architecture will review each student's record at the end of each semester. When a student's semester or cumulative average is less than stated below, or progress toward degree completion is unsatisfactory, the student will be placed on academic probation or warning in accordance with School of Architecture policies and procedures. Students on probation are not permitted to enroll in more than 13 credit hours, shall meet on a monthly basis with their academic advisor, and may have a STOP placed upon their future enrollment until grades for work-in-progress are reviewed. First semester freshmen who have a semester grade-point average below 2.0 shall be placed on probation.

Credit Hours Earned	CGPA
Fewer than 33 credit hours	2.0
33-64 credit hours	2.1
65-96 credit hours	2.2
More than 96 credit hours	2.3

Students must complete all Architecture Design studios with a grade of C- or higher. Students receiving two consecutive C- grades in architecture design studios will have to repeat the later course. Students receiving a grade of D+ or lower in an architecture design studio must repeat the studio and will be restricted to a 15 credit hour semester load. The student will meet with an academic advisor on a monthly basis and will be reviewed prior to continuation.

Academic Dismissal

A student in the School of Architecture whose CGPA or progress toward degree completion falls below the level of the minimum standards of the University of Miami may be dismissed. In the School of Architecture this includes a student who receives three grades of D+ or lower in design courses.

Class Attendance and Absences

Class attendance is mandatory for all architecture courses; three unexcused absences constitutes grounds for dismissal from the course and/or a failing grade. Students are required to be present for an entire design review, therefore, students arriving late or departing early from class will be considered absent. Excused absences require written notification and are granted by the instructor.

Failing Grades or Incompletes

A required architecture course in which a student receives a failing grade must be repeated during the first subsequent semester in which the course is offered. Incompletes can be given only for reasons of serious illness or exceptional hardship.

Student Work

The University may retain selected student work and may place it in the architecture archives for exhibition, publication, or other use as the University deems appropriate. Each student in architecture is encouraged to maintain a design portfolio of every project undertaken throughout the five-year program.

Permission to Take Courses at Another University

A form is available from the Office of Academic Services and should be completed and approved PRIOR to off-campus enrollment. Students are encouraged to provide complete documentation for each course request form. Each student requesting transfer credit hour must supply the University of Miami registrar with certified transcripts. Additionally, each student should review transfer evaluations to be certain that all courses are correctly evaluated for credit hour. The proper transmission and transfer of credit hours is the responsibility of the individual student. The last 45 credit hours towards the degree must be completed at the University of Miami.

Changes to Academic Requirements

The School reserves the right to change academic requirements.

Computer Requirement

Undergraduate and graduate students entering the program are required to purchase their own computers for use in the design studio. The School of Architecture computing resources are accessible via a wireless network with an approved device and subject to School and University policy. Suggested system requirements are published on the School of Architecture web site.

Requirements for Graduation

As part of the 171 credits required for the Bachelor of Architecture curriculum, architecture students must complete a cognate in People and Society and a cognate in either Arts & Humanities or STEM.

Resources

The school's resources, including state-of-the-art computer lab, digital fabrication laboratories and model shop are enhanced by the interdisciplinary opportunities offered by the other schools and colleges of the University of Miami. A distinguished faculty is joined each semester by internationally renowned visiting scholars and designers.

Other programs that offer academic opportunities for undergraduate architecture students include:

- the **Historic Preservation Certificate**
- the **Classical Architecture Certificate**
- the **Master of Urban Design**
- the **Master of Real Estate Development and Urbanism**
- the **M.S. Architecture**
- the **Master in Construction Management**
- the **BSAE/MARCH**
- the **BARC/MBA**

Dual Degree Programs

A six year dual degree program leading to a Bachelor of Science in Architectural Engineering and a Master of Architecture is also available. The program is open to exceptional students who are admitted to the graduate program at the end of their junior year. Upon completion of this program, graduates are eligible for professional registration as both an engineer and an architect.

Major in Architecture

- Bachelor of Architecture (p. 107)

Minor in Architecture

- Architecture (p. 113)

Joint Degrees in Architecture

- Bachelor of Science in Architectural Engineering and Master of Architecture (p. 109)

General overview of Foote Fellows

The Foote Fellows Honors Program recognizes the most educationally accomplished incoming students at the University of Miami. Foote Fellows have distinguished themselves both in and out of the classroom, are self-motivated, and think independently. Admission to the Foote Fellows Honors Program is by invitation.

Within the curricular framework of their school or college, Foote Fellows enjoy unmatched freedom and flexibility to explore a multitude of educational resources. Many Foote Fellows leverage this opportunity to take additional majors and/or minors and to study abroad.

At each of the nine undergraduate schools at the University of Miami, a dedicated advisor helps Foote Fellows chart their academic path and attain access to distinctive learning opportunities at the University, such as special school-based seminars, faculty-mentored research, networking opportunities, and off-campus internships.

Foote Fellows also will be invited to join advanced, interdisciplinary Foote Fellow seminars taught by leading faculty members from across the University. An example is Books That Matter, a rigorous seminar in non-fiction reading that is offered in sessions for first-year and for upper-class students. Freshman Foote Fellows benefit from early move-in to the residential colleges. Further, Foote Fellows receive focused advising on post-baccalaureate distinguished fellowships and awards.

The Foote Fellows Honors Program reflects the educational vision of former University of Miami President Edward T. Foote, who retired in 2000 after serving the University for twenty years.

Foote Fellows at U_SoA

Foote Fellows at U_SoA benefit from priority advising, enrollment and design studio selection (including the *Partnership Studio* which places students in local firms as part of their academic experience). The English and Cognates general education requirements (24 credits) are replaced with

course topics of their choice so they may explore the educational resources of the University and create their own program of study. Academic and professional career advising is personalized for each Foote Fellow to ensure a trajectory is established as early as the Sophomore year

Henry Adams Medal

Awarded in conjunction with the American Institute of Architects to the highest-ranking graduating student for scholarship and excellence in a professional architecture program.

Henry Adams Certificate

Awarded in conjunction with the American Institute of Architects to the second highest-ranking graduating student for scholarship and excellence in a professional architecture program.

Other honors, distinctions, and awards are presented annually for excellent student performance.

Bachelor of Architecture Curriculum Requirements

Code	Title	Credit Hours
ARC 101	Architecture Design I	6
ARC 102	Architecture Design II	6
ARC 110	Visual Studies	3
ARC 111	Visual Representation I	3
ARC 112	Visual Representation II	3
ARC 121	Architecture and Culture	1
ARC 122	Architecture and Behavior	1
ARC 203	Architecture Design III	6
ARC 204	Architecture Design IV	6
ARC 213	Visual Representation III	3
ARC 223	Architecture and the Environment	1
ARC 230	Building Technology I: Materials and Methods	3
ARC 231	Building Technology: Structural Systems	3
ARC 267	History of Architecture I: Ancient, Medieval and Renaissance	3
ARC 268	History of Architecture II: Baroque through Contemporary	3
ARC 301	Architecture Design	3
ARC 305	Architecture Design V	6
ARC 306	Architecture Design VI	6
ARC 362	Environmental Building Systems I	3
ARC 363	Environmental Building Systems II	3
ARC 407	Architecture Design VII	6
ARC 408	Architecture Design VIII	6
ARC 452	Management of Professional Practice	3
ARC 509	Architecture Design IX	6
ARC 510	Architecture Design X	6
Architecture Electives ²		21
ARC Professional Practice Elective		3
Select one of the following ARC History Electives:		3
ARC 371	Ancient Architecture	
ARC 373	Early Christian, Byzantine, and Medieval Architecture	
ARC 475	Colonial Architecture	
ARC 476	19th and 20th Century Architecture	
ARC 554	Architecture of South Florida	
ARC 570	Modern Architecture	
ARC 572	Selected Topics in World Architecture	
ARC 574	Renaissance Architecture	

ARC 590	History of Cities	
Cognate A		9
Cognate B		9
ENG 105	English Composition I	3
ENG 106	English Composition II	3
MTH 130	Introductory Calculus	3
PHY 103	General Physics	3
Non-Architecture Electives		15
Total Credit Hours		171

- 1 **Curriculum Notes**
- The School reserves the right to retain all student projects done in for academic credit hour.
 - MTH 130 AND ENG 105 are entry-level courses.

- 2 **Electives**
- The program requires four types of electives:
- Architecture electives (7 courses): Investigations in areas of architectural interest beyond the core requirements
 - Professional practice elective (1 course) : Focused examination of a topic related to practice
 - Non-Architecture electives (5 courses): Explorations of general University offerings
 - Minor (4-5 courses) or 2 cognates (6 courses): Concentrated study in an area outside of architecture

A minor or its equivalent is required for all students who began the program prior to the Fall of 2013. All others shall complete the cognate requirements. Areas are selected in consultation with advisors.

- 3 **Policies and Procedures**
- Specific procedures and policies are detailed in the student handbook available from the Office of Academic Services.

Sample Plan of Study

Course	Title	Credit Hours
First Year		
First Semester		
ARC 101	Architecture Design I	6
ARC 111	Visual Representation I	3
ARC 121	Architecture and Culture	1
MTH 130	Introductory Calculus	3
ENG 105	English Composition I	3
	Credit Hours	16
Second Semester		
ARC 102	Architecture Design II	6
ARC 112	Visual Representation II	3
ARC 122	Architecture and Behavior	1
PHY 103	General Physics	3
ENG 106	English Composition II	3
	Credit Hours	16
Second Year		
First Semester		
ARC 203	Architecture Design III	6
ARC 223	Architecture and the Environment	1
ARC 230	Building Technology I: Materials and Methods	3
ARC 267	History of Architecture I: Ancient, Medieval and Renaissance	3
ARC 213	Visual Representation III	3
	Credit Hours	16
Second Semester		
ARC 204	Architecture Design IV	6
ARC 231	Building Technology: Structural Systems	3
ARC 268	History of Architecture II: Baroque through Contemporary	3

Cognate A		3
Cognate A		3
	Credit Hours	18
Third Year		
First Semester		
ARC 305	Architecture Design V	6
ARC 362	Environmental Building Systems I	3
CAE 213	Behavior of Structural Systems I	3
Cognate A		3
Cognate B		3
	Credit Hours	18
Second Semester		
ARC 306	Architecture Design VI	6
ARC 363	Environmental Building Systems II	3
CAE 313	Behavior of Structural Systems II	3
Cognate B		3
Architecture History Elective		3
	Credit Hours	18
Fourth and Fifth Years		
ARC 407	Architecture Design VII	6
ARC 408	Architecture Design VIII	6
ARC 509	Architecture Design IX	6
ARC 510	Architecture Design X	6
ARC 452	Management of Professional Practice	3
Architecture Professional Practice Elective		3
Cognate B		3
Non- Architecture Electives		15
Architecture Electives		21
	Credit Hours	69
	Total Credit Hours	171

Bachelor of Science in Architectural Engineering and Master of Architecture

A six-year dual-degree program leading to a Bachelor of Science in Architectural Engineering and a Master of Science in Architecture is available. The program is open to exceptional students who are admitted to the graduate program at the end of their junior year. Upon completion of this program, graduates are eligible for professional registration as both an engineer and an architect.

Curriculum Requirements

Code	Title	Credit Hours
Architecture Courses		
ARC 121	Architecture and Culture	1
ARC 267	History of Architecture I: Ancient, Medieval and Renaissance	3
ARC 268	History of Architecture II: Baroque through Contemporary	3
ARC 230	Building Technology I: Materials and Methods	3
ARC 500	Architecture Theory	3
ARC 501	Architecture Design and Theory I	6
ARC 502	Architecture Design and Theory II	6
ARC 503	Architectural Design and Theory III	6
ARC 504	Architecture Design and Theory I	6
ARC 511	Visual Representation I	3
ARC 513	Advanced Visual Representation	3
ARC 608	Architecture Design	6
ARC 609	Architecture Design	6

ARC 610	Architecture Design Degree Project	6
ARC 652	Management of Professional Practice	3
ARC 699	Directed Research	3
Engineering Courses		
CAE 111	Introduction to Engineering I	3
CAE 115	Introduction to Engineering II (Surveying)	1
CAE 210	Mechanics of Solids I	3
CAE 211	Mechanics of Solids II	3
CAE 212	Structural Laboratory	1
CAE 310	Structural Analysis	3
CAE 320	Concrete Structures	3
CAE 321	Steel Structures	3
CAE 330	Fluid Mechanics	3
CAE 370	Geotechnical Engineering I	3
CAE 371	Geotechnical Laboratory	1
CAE 380	Electrical and Illumination Systems for Buildings	3
CAE 381	Building Mechanical Systems I: Hvac Fundamentals	3
CAE 402	Professional Engineering Practice	3
CAE 403	Senior Design Project I - Engineering Design	3
CAE 404	Senior Design Project II - Construction Documents	3
CAE 460	Construction Management	3
CAE 470	Foundations and Earth Retaining Systems	3
CAE 480	Plumbing and Life Safety for Buildings	3
CAE 481	Building Mechanical Systems II: HVAC Systems	3
CAE 581	Energy-Efficient Building Design	3
Additional Courses and Electives		
CHM 151	Chemistry for Engineers	3
CHM 153	Chemistry Laboratory for Engineers	1
ENG 105	English Composition I	3
ENG 107	English Composition II: Science and Technology	3
GEG 198	Geographic Information System for Engineers	1
IEN 311	Applied Probability and Statistics	3
MAE 303	Thermodynamics I	3
MTH 151	Calculus I for Engineers	5
MTH 162	Calculus II	4
MTH 211	Calculus III	3
MTH 311	Introduction to Ordinary Differential Equations	3
PHY 205	University Physics I	3
PHY 206	University Physics II	3
PHY 207	University Physics III	3
PHY 208	University Physics II Lab	1
PHY 209	University Physics III Lab	1
Architecture History Elective		3
Architecture Elective		12
Technical Elective ²		3
Cognate Elective ¹		15
Total Credit Hours		200

Sample Plan of Study

Course	Title	Credit Hours
Year One		
First Semester		
CAE 111	Introduction to Engineering I	3
ENG 105	English Composition I	3
MTH 151	Calculus I for Engineers	5
PHY 205	University Physics I	3
ARC 121	Architecture and Culture	1
	Credit Hours	15
Second Semester		
CAE 115	Introduction to Engineering II (Surveying)	1
GEG 198	Geographic Information System for Engineers	1
CAE 210	Mechanics of Solids I	3
ENG 107	English Composition II: Science and Technology	3
MTH 162	Calculus II	4
PHY 206	University Physics II	3
PHY 208	University Physics II Lab	1
	Credit Hours	16
Year Two		
First Semester		
CAE 211	Mechanics of Solids II	3
CAE 212	Structural Laboratory	1
ARC 267	History of Architecture I: Ancient, Medieval and Renaissance	3
ARC 230	Building Technology I: Materials and Methods	3
PHY 207	University Physics III	3
PHY 209	University Physics III Lab	1
IEN 311	Applied Probability and Statistics	3
	Credit Hours	17
Second Semester		
CAE 310	Structural Analysis	3
CHM 151	Chemistry for Engineers	3
CHM 153	Chemistry Laboratory for Engineers	1
MAE 303	Thermodynamics I	3
MTH 211	Calculus III	3
MTH 311	Introduction to Ordinary Differential Equations	3
	Credit Hours	16
Year Three		
First Semester		
CAE 320	Concrete Structures	3
CAE 330	Fluid Mechanics	3
ARC 501	Architecture Design and Theory I	6
ARC 511	Visual Representation I	3
Cognate Elective ¹		3
	Credit Hours	18
Second Semester		
CAE 321	Steel Structures (ARC 532)	3
CAE 380	Electrical and Illumination Systems for Buildings (ARC 563)	3
CAE 381	Building Mechanical Systems I: Hvac Fundamentals (ARC 562)	3
ARC 502	Architecture Design and Theory II	6

ARC 513	Advanced Visual Representation	3
	Credit Hours	18
Summer (Required 10-week semester)		
ARC 503	Architectural Design and Theory III	6
	Credit Hours	6
Year Four		
First Semester		
CAE 480	Plumbing and Life Safety for Buildings	3
ARC 500	Architecture Theory	3
ARC 504	Architecture Design and Theory I	6
Technical Elective ²		3
Cognate Elective ¹		3
	Credit Hours	18
Second Semester		
CAE 370	Geotechnical Engineering I	3
CAE 371	Geotechnical Laboratory	1
CAE 402	Professional Engineering Practice	3
CAE 460	Construction Management (Arch Elective)	3
Architecture Elective		3
ARC 268	History of Architecture II: Baroque through Contemporary	3
	Credit Hours	16
Year Five		
First Semester		
CAE 403	Senior Design Project I - Engineering Design	3
CAE 470	Foundations and Earth Retaining Systems	3
CAE 481	Building Mechanical Systems II: HVAC Systems	3
ARC 608	Architecture Design	6
	Credit Hours	15
Second Semester		
CAE 404	Senior Design Project II - Construction Documents	3
ARC 609	Architecture Design	6
Architecture Elective		3
Cognate Elective ¹		3
	Credit Hours	15
Year Six		
First Semester		
ARC 652	Management of Professional Practice	3
ARC 699	Directed Research	3
Architecture History Elective		3
Architecture Elective		3
Cognate Elective ¹		3
	Credit Hours	15
Second Semester		
CAE 581	Energy-Efficient Building Design	3
ARC 610	Architecture Design Degree Project	6
Architecture Elective		3
Cognate Elective ¹		3
	Credit Hours	15
	Total Credit Hours	200

- ¹ To be selected from approved lists of People and Society (PS)/Arts and Humanities (HA). Students take a minimum of 3 courses (9 credit hours) in HA cognate and 3 courses in PS Cognate (9 credit hours). Students are advised to select the HA Cognate that includes the following courses: ARC 230 or ARC 630, ARC 268 or ARC 476 and ARC 594.
- ² To be selected from approved list of Technical Electives

Minor in Architecture

A minor in architecture is available to non-architecture majors as an option in the undergraduate architecture program. The purpose of the minor is to provide a general understanding and appreciation of the discipline of architecture. The minor does not satisfy professional requirements in architecture but does offer an introductory basis for further study at the undergraduate or graduate level. The program requires 12 credit hours in architecture courses.

Twelve architecture credits from the following list of courses may be taken to complete the requirements for the minor.

Code	Title	Credit Hours
Select 12 credits from the following:		
ARC 121	Architecture and Culture	1
ARC 122	Architecture and Behavior	1
ARC 141	On-Site Survey of European Architecture and Urbanism	3-6
ARC 223	Architecture and the Environment	1
ARC 267	History of Architecture I: Ancient, Medieval and Renaissance	3
ARC 268	History of Architecture II: Baroque through Contemporary	3
ARC 292	Introduction to Architecture Design I	3
ARC 293	Introduction to Architecture Design II	3
ARC 294	Introduction to the Development of Architecture	3
ARC 323	On Site Study of Selected Architecture and Urbanism	3-6
ARC 324	On Site Graphic Analysis of Selected Architecture and Urbanism	3
ARC 371	Ancient Architecture	3
ARC 373	Early Christian, Byzantine, and Medieval Architecture	3
ARC 475	Colonial Architecture	3
ARC 476	19th and 20th Century Architecture	3
ARC 481	Special Problems	3
ARC 551	Contemporary Theories of Architecture	3
ARC 554	Architecture of South Florida	3
ARC 572	Selected Topics in World Architecture	3
ARC 574	Renaissance Architecture	3
ARC 581	Special Problems	3
ARC 582	Special Problems	3
ARC 583	Special Problems	3
ARC 584	Special Problems	3
ARC 585	Special Problems	3
ARC 586	Special Problems	3
ARC 590	History of Cities	3

Arts and Sciences

<http://www.as.miami.edu>

Introduction

The College of Arts and Sciences at the University of Miami is a community of scholars and students that encourages the quest for a deeper understanding of the human experience and fosters a personal commitment to lifelong learning, intellectual growth, and the enduring values of the liberal arts.

The College is dedicated to helping students develop analytical and communication skills, creative abilities, and a sense of civic responsibility needed in an increasingly complex society. It strives to provide them with a rigorous grounding in their chosen field, an awareness of the interconnectedness of disciplines, and an exposure to the discovery of new knowledge.

The College seeks to create an intellectual environment that enhances individual growth and supports scholarly activities and creative endeavors that augment human knowledge and understanding.

Degree Programs

The College of Arts and Sciences offers courses leading to the degrees of:

- Bachelor of Arts
- Bachelor of Science
- Bachelor of Fine Arts
- Bachelor of Liberal Arts
- Bachelor of General Studies (offered in partnership with DCIE, for students who are at least 22 years old pursuing their first undergraduate degree)

Graduates with one of these degrees will have had a sound liberal arts introduction to the major fields of human knowledge. In addition to this background, each bachelor's candidate has the opportunity to select an area of academic or of occupational interest. Professional or pre-professional curricula leading to certification in teaching, or to dentistry, medicine, law, etc., can be built into the degree program.

Academic Policies

The College of Arts and Sciences follows the general university academic policies outlined in the General Academic Information section of this Bulletin.

Requirements for Graduation

Candidates for degrees in the College of Arts and Sciences must complete the credit hours of work and achieve the quality point average specified for students in the University at large. These requirements are indicated in the *Academic Procedures and Information* section of this Bulletin. Candidates must also complete the General Education requirements of the University, i.e., the *Proficiencies*: English Composition, Advanced Writing and Communication, and Quantitative Skills; completion of a cognate in each of the three areas: Arts & Humanities, People & Society, and Science, Technology, Engineering & Mathematics.

I. Additional Proficiencies and Areas of Knowledge Requirements

In addition to the university's general education requirements, the college has the following requirements and provisos:

Bachelor of Science

- Second Language Proficiency: Degree candidates must earn at least 3 credit hours of a language other than English at the 200 level or higher.
- Advanced Writing and Communication Proficiency: Degree candidates must complete at least four writing courses, and at least one writing course must be in the student's major discipline.
- Mathematics Proficiency: Degree candidates must complete a calculus sequence: MTH 161-MTH 162, MTH 140-MTH 141-MTH 162, or MTH 171-MTH 172.
- Computing or Statistics Proficiency: Degree candidates must earn at least 3 credit hours in either
 1. a computing course approved by the major department; or
 2. a statistics course approved by the major department.
- Natural Science Area of Knowledge: Degree candidates must earn at least 3 credit hours in Natural Science, in one of the following departments: Biology, Chemistry, Geological Sciences or Physics. These credit hours must be earned in courses that count toward a major in that department.

Bachelor of Arts

- Second Language Proficiency: Degree candidates must earn at least 3 credit hours of a language other than English at the 200 level or higher.

- **Advanced Writing and Communication Proficiency:** Degree candidates must complete at least four writing courses, and at least one writing course must be in the student's major discipline.
- **Mathematics Proficiency:** Degree candidates must earn at least 3 credit hours in a Mathematics course numbered MTH 108 or higher.
- **Natural Science Area of Knowledge:** Degree candidates must earn at least 3 credit hours in Natural Science: Anthropology (only APY 203), Biology, Chemistry, Ecosystem Science and Policy (only ECS 111, ECS 112, ECS 202), Geography (only GEG 120), Geological Sciences, Marine Sciences (except MSC 313, MSC 314), Physical Sciences, and Physics.

Bachelor of Fine Arts

- **Advanced Writing and Communication Proficiency:** Degree candidates must complete at least four writing courses, and at least one writing course must be in the student's major discipline.
- **Mathematics Proficiency:** Degree candidates must earn at least 3 credit hours in a Mathematics course numbered MTH 108 or higher.

Bachelor of Liberal Arts

- **Advanced Writing and Communication Proficiency:** Degree candidates must complete at least four writing courses, and at least one writing course must be in the student's major discipline.

BACHELOR OF GENERAL STUDIES

Requirements for the BGS degree can be found here (p. 555):

Details of the Second Language Proficiency

Second language requirements can be fulfilled through courses offered in the departments of Modern Languages and Literatures (Arabic, Chinese, French, German, Haitian Creole, Hebrew, Italian, Japanese, Portuguese, and Spanish, except for courses numbered 310-319), Classics (Latin and Greek), and Teaching and Learning in the School of Education (American Sign Language). The department of Modern Languages and Literatures has special courses required of heritage learners who wish to use that language to fulfill the language requirement by taking courses in their heritage language. These courses are designated as "open to heritage learners." Courses taken in order to meet second language requirements, including necessary prerequisite courses, cannot be used in cognates taken to fulfill the Areas of Knowledge requirement.

Students who have at least two years of full-time secondary schooling beyond the age of 14 taught in a foreign language are eligible for exemption from the A&S second language requirement. Exemption will be granted by A&S Office of Student Advising. To be granted the exemption, the student must have on file their high school transcript providing proof of two years of schooling in a foreign language from a secondary institution.

Details of the Advanced Writing and Communication Proficiency

Degree candidates must complete at least four writing courses, and at least one writing course must be in one of the student's major disciplines (not applicable to BLA students who do not select a major). Students should consult the bulletin section of their major to find out which writing-intensive courses are acceptable to the discipline.

Individual writing course offerings may make the writing component independent of the rest of the course. As such the the writing component might be optional, the writing component might not contribute to the overall grade, and writing credit might be awarded even if the overall grade is a fail.

Transfer students may use a maximum of two transfer courses towards the writing requirement.

II. Major and Minor Fields (B.A. and B.S degrees)

B.A. and B.S. degree candidates must choose a major offered in the college by one of the disciplines with an undergraduate academic program in the college, and at least one other minor or major from any of the disciplines in the university. B.S. degree candidates must choose a major from one the STEM fields: Biochemistry and Molecular Biology, Biology, Chemistry, Computer Science, Ecosystem Science and Policy, Geological Sciences, Mathematics, Microbiology and Immunology, Neuroscience, Physics, Psychology. B.A. degree candidates must choose at least one major or minor from a field other than the STEM fields: Biochemistry and Molecular Biology, Biology, Chemistry, Computer Science, Geological Sciences, Mathematics, Microbiology and Immunology, Neuroscience, Physics, Business Technology, and Engineering. The majors and minors taken by a student must come from different fields of study. Multiple majors and minors may be taken from departments and programs that offer multiple fields of study. To find the requirements for majors and minors, consult this bulletin under the discipline concerned, and confer with the designated departmental representatives. Any student who does not make satisfactory progress towards a major may be required to change or relinquish candidacy for the degree.

Individual courses may be used to satisfy the requirements of multiple majors and minors. However, each major taken by a student must include at least 24 credits that are not counted towards any other major or minor, and each minor must include at least 9 credits that are not counted towards any other major or minor. If a major or minor is used to fulfil a cognate requirement, the 24/9 credits may also not be counted towards any other cognate.

III. Additional Bachelor of Fine Arts Requirements

B.F.A. degree candidates must satisfy the requirements of a major as determined by the Department of Art and Art History or the Department of Theatre Arts. B.F.A. studio majors must minor in Art History. Students must maintain at least a GPA of 3.0 in their major, and an overall GPA of 2.0 or above as specified in departmental and program sections of this bulletin.

IV. Additional Bachelor of Liberal Arts Requirements

B.L.A. degree candidates must complete 120 credit hours with an overall GPA of 2.0 or above. At least 60 of the 120 credit hours must be in 300, 400, or 500-level courses. Of these 60 credit hours, 30 credit hours must be completed in the College of Arts and Sciences. No more than 40 credit hours in 300-level or higher courses may be earned in any one department, and no more than 52 total credit hours may be earned in any one department. Up to 30 of the 120 credit hours may be courses from other schools and colleges of the university except for those courses expressly excluded from recognition by the college. Students may, but are not required to, elect a major in a department. If a student fulfills the departmental requirements for the major, it will be recorded on the official transcript. No minor may be elected.

V. Other Requirements

General Electives

Beyond the general education and major/minor courses, all students must complete sufficient general electives to reach a total of 120 credit hours. General electives may be chosen from any courses offered by the University. The student should consult an advisor before selecting elective courses.

Credit Only

Only general electives may be taken under this option. Courses that are used to satisfy the major, the minor, the distribution requirements of the College and the general education requirements of the University may not be taken for credit only.

Exemption

Exemption from a course or courses refers specifically to the following:

1. credit by examination through the Advanced Placement (AP) or International Baccalaureate (IB) programs;
2. advanced placement by proficiency examinations or test scores, with no credit earned;
3. advanced standing and/or placement, with credit earned.

Transfer Credit Hours

Credit hours transferred from other institutions may not count towards the completion of a major or minor without the written approval of the department or program.

Independent Major

The Independent Major allows students to pursue a BA or a BS degree in the College of Arts and Sciences, depending on the field of study and in consultation with the Guidance Committee. Students will fulfill all requirements for such degrees.

Students may begin to develop a proposal for the IM when they have reached sophomore standing. The proposal should explain why existing majors are inappropriate or inadequate to satisfy the student's interests. Students will be ineligible for declaring the IM upon reaching senior standing, that is, they must declare as a junior and spend at least two (2) full semesters in residence at UM in the IM. Students must have a cumulative UM GPA of 3.5 or higher to be eligible for the IM.

A student's Guidance Committee typically will comprise two tenured or tenure-track faculty, typically from different departments, who represent the disciplinary breadth of the courses selected for the IM. A third Guidance Committee member might be appropriate when the proposed course of study encompasses expertise from three Departments or disciplines. The Guidance Committee Chair, who has primary oversight responsibility regarding satisfactory completion of the major, will serve as the primary advisor for the student's senior research/creative project under most circumstances, and must be a tenure-track faculty. Exceptions to the Chair serving as the primary advisor might include situations where there are co-advisors.

The IM proposal must include at least thirty (30) credit hours of coursework beyond those needed to fulfill General Education requirements. Of those thirty (30), at least six (6) must be at the 300 level; additionally, six (6) credit hours will be satisfied by a Capstone project/thesis in the last two (2) semesters of the Bachelor's degree. Because many courses have variable availability and conflicts are inevitable, strong proposals will identify more than 30 credit hours of coursework before being submitted to the Advisory Committee for approval. If a student wishes to pursue the IM as a double-major, the Advisory Committee should give particular attention to the appropriateness of the student's plan of study; no double-counting of credit hours will be allowed between the two majors.

Independent Minor

The Independent Minor allows students at the University of Miami to complete a minor in a field that currently do not have a major in the College or elsewhere at the University of Miami. It consists of at least 15 graded credits and it requires one faculty member who will act as point of contact and advisor. Students may declare this minor starting with their second semester at UM and no later than the end of their junior year. A minimum GPA for 2.5 is required to declare this minor. An average of 2.5 is required to continue in the minor. Given that this minor requires students to work closely with a faculty member to select the appropriate courses at a level consistent with each field of study, students will not be able to apply more than two courses (6 credits) already taken to their minor.

Academic Appeal Policy and Procedures

The College's Faculty Committee on Academic Appeals (FCAA) is responsible for reviewing and conducting hearings on appeals related to exceptions to academic policy under the authority of the College of Arts and Sciences. Appeals **must** be submitted directly by the student from their student UM email account. Appeals will not be accepted from parents/guardians, doctors, attorneys, or anyone else other than the student. Please read below

for a list of acceptable and unacceptable appeal requests. **All appeals related to course drops/enrollment adjustments MUST be submitted within one (1) calendar year from the semester end date noted on the academic calendar for the semester in question.** Transcripts will not be altered once a student has graduated and has a conferred degree. Appeal decisions will be delivered to students' UM email account within 2 to 3 business weeks upon receipt of the appeal. All appeal decisions are final and non-negotiable. The student maintains full responsibility for the impact of an appeal decision, especially as it relates to their account, financial aid, visa status, academic progress, and graduation timeline.

Steps to Submit an Acceptable Appeal:

1. Draft an email to the Assistant Dean of Academic Services – see website for contact information. as.miami.edu/advising.
2. The appeal email must briefly describe the situation, the reason/justification for the request, the specific request/action, the specific year/term/course ID as applicable to the type of appeal, and the student's name/ID.
3. Appeals must be accompanied by supporting documentation, if applicable to the type of appeal. Documentation must be submitted as an attachment to the appeal email. It is the responsibility of the student to determine what documentation best supports their appeal case. We will not pre-approve documentation before submission of the appeal. We will only accept documentation from the student submitting the appeal.

Appealable Actions for Committee Review:

1. Request for retroactive drop of one, or more, courses after the last date to drop without a W, and/or after the last day to drop a class for the semester in question. **This type of appeal is only considered for cases of extreme, unforeseen circumstances or medical emergencies that can be documented.** Retroactive drop action can **NOT result in a complete withdrawal (all enrolled classes dropped)**.
2. Request for waiver of the 45 credit hour residency requirement
 - a. Appeal must include the institution where credits will be/were taken, the year/term to be/were taken, and the exact number of credits to be considered for waiver.
 - b. This process **does not** preapprove transfer equivalencies or guarantee transferability of courses. Students are responsible for adhering to all necessary policies and procedures related to transferring courses to UM.
3. Substitution for, or waiver from College of Arts and Sciences' General Education Requirements (not University general education requirements – see below).

The following requested actions are not appealable through the College of Arts and Sciences FCAA:

1. Adjustment of academic record/transcript after graduation and a conferral of the degree: See University Bulletin
2. Retroactive withdrawals for Fall/Spring semesters
 - a. The University has a formal withdrawal policy found here (<https://success.miami.edu/student-withdrawal>).
3. Retroactive withdrawals for summer sessions that alters the effective date of the withdrawal
 - a. See withdrawal policy linked above
4. Grade Appeals, including incomplete grades that are now IF grades
 - a. See Faculty Senate Appeals process in Bulletin here (p. 80).
5. Waiver of University General Education Requirements as defined by the Bulletin: No appeals process available
6. Substitution for/waiver from any requirements related to a major or minor: Under respective department authority
7. Excused absences from a course(s): Absences are under the authority of individual instructors
8. Credit Only Option after deadline: No appeals process available

PreLaw Preparation

Although no specific curriculum is required in preparation for Law School, the Pre-Law Committee of the American Bar Association strongly recommends that students considering a career in Law should have a well-balanced education. This education should include courses requiring intensive writing, logical reasoning and critical thinking and reading skills.

PreLaw Advising provides a variety of services to all students interested in attending Law School. For more information, please contact the Office of Student Academic Services in Ashe 200. These services include:

1. Pre-Law Advising: confidential advising in preparation for law school (i.e. application process, general information, discussion of your concerns).
2. The Pre-Law Manual: information about requirements, preparation etc., for law school.
3. Pre-Law Newsletter: information about programs and events.
4. LSAT and LSDAS registration booklets (for juniors and seniors).
5. Campus-wide programs for pre-law students such as Law Day.
6. Programs and seminars in coordination with other University of Miami departments such as: School of Law Career Planning Center, School of Law Center for Ethics and Public Service, Toppel Career Planning and Placement, the Counseling Center, and the Reading and Study Skills Center.

In order to take advantage of the services listed above a student should complete a Pre-Law registration card at the beginning of the academic year.

Max and Peggy Kriloff Fund

The Max and Peggy Kriloff Fund is a fund that provides travel support for students earning degrees from the College of Arts and Sciences. The fund provides support for students to present papers, or posters at professional conferences worldwide. Students will need to fill out an application form available at this link (<http://www.as.miami.edu/academics/undergraduate-studies/scholarships>); and submit it, along with the necessary supporting documentation to the Office of Graduate and Administrative Services in the College of Arts and Sciences.

Footnote Fellows pursuing degrees in the College of Arts and Sciences are exempt from all University-wide and College-specific general education requirements. They are eligible for priority admission into the daVinci program, first-year seminars, and internships in the Dean's office. Opportunities to learn by doing, through research or tutorials, as well as seed money for students interested in developing a business plan or a prototype are also available to A&S Footnote Fellows. Questions? Read more (<http://www.as.miami.edu/academics/undergraduate-studies/foote-fellows>) or go to Ashe 200 for answers!

The da Vinci Program encourages high-achieving, intellectually curious students to rethink the map of human knowledge. It emphasizes connections between humanistic and scientific inquiry and their modes of understanding: objectivity, critical analysis, self-reflexivity, the nature of proof, authority, and the logic and rhetoric of written expression. It also helps define the distinctive elements that humanities classes can offer to STEM-minded students: a chance to reflect on questions of human values, ethics, and aesthetics. At the same time, it introduces humanities students to conceptually new means of investigating the traditional fields.

Students are invited in the program before their first year and they take a seminar per semester in each of the first four semesters of study. Students in the da Vinci program are exempt from College - specific requirements. A capstone experience marks the conclusion of their undergraduate career. Read more (<http://www.as.miami.edu/davinci>) about the Davinci Program.

The Advanced Program in Integrated Science and Math (PRISM) brings together top first-year students interested in the natural sciences. The program is designed for those who plan on pursuing postgraduate education and a career in science or medicine (Ph.D./M.D. track). Our outstanding faculty, lab directors, graduate assistants, and caring advisors are here to encourage integrated learning in STEM disciplines. PRISM students are exposed to new developments in science and are encouraged to become actively engaged in research during their undergraduate experience. PRISM classes are advanced versions of the typical track done by a first-year natural science student, so there are no additional classes to complete. Read more (<http://www.as.miami.edu/prismrsvp>) about the PRISM program.

Dual Degree Honors Programs Fellows in Latin American Studies (FILAS)

This innovative, dual B.A./M.A. honors degree in Latin American Studies allows outstanding incoming freshmen the opportunity to complete a master's degree in five years, following a rigorous, efficient, accelerated curriculum of 150 credits. This highly selective group of students will enjoy close faculty mentoring and the opportunity to engage in specialized research projects with faculty. Students will gain advanced competence in at least one major language of Latin America, intern for one semester in public or private organizations dealing with Latin America and/or the Caribbean, and take advanced seminars with UM's major Latin American scholars and visiting scholars. In addition, students will receive first-hand experience in their regions of focus by studying abroad. Most study abroad opportunities are for one semester (six months). FILAS students may arrange their own study abroad in consultation with the academic director or they may participate in the university's study abroad options. Applicants must be high school seniors in the top 10% of their class and must have a minimum SAT I score of 1360 or (ACT 31). In addition to the regular Application for Admission to the University, the applicant must complete a separate application form for the Fellows in Latin American Studies (FILAS). The FILAS application form and supporting materials must be submitted no later than November 1st of the applicant's senior year. A review of completed applications will begin by the end of November. Admitted first-semester freshmen interested in admittance to the FILAS program should contact the Academic Director of the Latin American Studies Programs for application information before October 1st. For further information and application forms please visit this website (<http://www.miami.edu/dualdegree>).

Dual-Degree Program in Law for Undergraduates

To be considered as a **High School Student**, applicants must:

- have a minimum SAT I score of 1350 (combined Math and Critical Reading scores) or a 30 on the ACT;
- have three (3) letters of Recommendations from high school teachers;
- complete a Dual-Degree Program Supplemental Application (<https://admissions.miami.edu/undergraduate/academics/programs-of-distinction/dual-degree-program/dual-degree-law>) for Law by November 1st

To be considered as an **Undergraduate Student**, applicants must:

- have a minimum SAT I score of 1350 (combined Math and Critical Reading scores) or a 30 on the ACT;
- have an overall cumulative grade point average of 3.5 in all college-level courses;
- have Two (2) letters of recommendations from college-level professors;
- complete a Dual-Degree Program Supplemental Application (<https://admissions.miami.edu/undergraduate/academics/programs-of-distinction/dual-degree-program/dual-degree-law>) for Law.

Students admitted into the program must successfully complete 90 credits earned toward their undergraduate degree, including requirements for their majors and any minors they may be undertaking. Students must complete 90 credits in college course work at the University of Miami, including advanced standing credits, before matriculating into the University of Miami School of Law. The University of Miami requires that the last 45 credits be taken in residence. Students will graduate from the College of Arts and Sciences (<http://www.as.miami.edu>) upon completion of 120 credits including AP/IB credit. Please visit <http://www.law.miami.edu/admissions/dual-degree-program-in-law-for-undergraduates>.

Aerospace Studies

<http://www.miami.edu/aerospace-studies>

Dept. Code: AIS

Air Force Reserve Officer Training Corps (AFROTC)

AFROTC is a nationwide program that allows students to pursue commissions (become officers) in the United States Air Force (USAF) while simultaneously attending college. AFROTC classes are held on college campuses throughout the United States and Puerto Rico; students can register through normal course registration processes. AFROTC consists of four years of Aerospace Studies classes (Foundations of the USAF, Evolution of USAF and Space Power, Air Force Leadership Studies, and National Security Affairs/Preparation for Active Duty), and a corresponding Leadership Laboratory for each year (where students apply leadership skills, demonstrate command and effective communication, develop physical fitness, and practice military customs and courtesies). College students enrolled in the AFROTC program (known as "cadets") who successfully complete both AFROTC training and college degree requirements will graduate and simultaneously commission as Second Lieutenants in the Active Duty Air Force.

For more information on AFROTC course descriptions, please review this webpage (p.). For more information on the AFROTC program, please review this webpage (<http://www.as.miami.edu/afrotc>).

Enrollment

There is no military obligation to enroll in AFROTC. To enroll students must meet the following criteria:

- Prior to enrolling in Aerospace classes, students must speak with a professor/cadre member at (305) 284-2870.
- Be a U.S. citizen or resident alien, or be able to become a U.S. citizen prior to attending Field Training the summer following sophomore year
- Be full-time college students, enrolled in 12 credit hours per semester
- Be able to participate in a demanding physical fitness program
- Be able to pass a Department of Defense Medical Examination
- Have solid moral character
- Maintain AFROTC minimum required grade point average

Scholarships

More than 60% of Air Force ROTC scholarships are awarded to undergraduate students in engineering or other scientific and technical disciplines. However, students in every degree program enjoy scholarship opportunities, as the Air Force seeks to engage students who excel both academically and militarily. Scholarships are awarded in increments of two, three, and four years. Air Force ROTC offers several types of scholarships. Type 1 covers full tuition and most required fees. Type 2 covers tuition and fees, but is capped at \$18,000 annually. Type 7 scholarships are designated for in-state tuition-level institutions. All types of awards provide an allowance for books and a monthly non-taxable stipend. All scholarship cadets are required to meet academic, military, and physical fitness standards to earn and maintain scholarship benefits.

Additionally, University of Miami undergraduates enrolled in the Air Force ROTC program are assured a combined University grant and/or scholarship award during the fall and spring semesters equal to 25% of the University's tuition charge for a maximum of four years. The subsidy is not available during the summer term. Students must maintain continuous enrollment in the AFROTC program, must maintain satisfactory academic progress to continue receiving the subsidy, and full time enrollment in one of the University's undergraduate degree programs is required. No application is required. Awards are made automatically based on information provided by the University's AFROTC detachment.

Benefits

All AFROTC cadets receive uniforms, books and equipment for ROTC classes at no cost. Upon being commissioned a Second Lieutenant in the Air Force, you will receive a starting salary and allowances worth more than \$58,000 annually¹. Free medical and dental care, 30 days paid annual vacation and educational benefits are also part of the compensation package.

¹ Based on 2013 Pay Chart and Miami FL Housing Allowance for an O-1

Minor in Aerospace Studies

- Aerospace Studies (p. 120)

Minor in Aerospace Studies

Code	Title	Credit Hours
AIS 101	The Foundations of the United States Air Force I	1
AIS 102	The Foundations of the United States Air Force II	1
AIS 150	Leadership Laboratory	0
AIS 201	The Evolution of USAF Air and Space Power I	1
AIS 202	The Evolution of USAF Air and Space Power II	1
AIS 301	Air Force Leadership Studies I	3
AIS 302	Air Force Leadership Studies II	3
AIS 401	National Security Affairs/Preparation for Active Duty I	3
AIS 402	National Security Affairs/Preparation for Active Duty II	3
Total Credit Hours		16

* A grade of C- or higher, with an overall GPA of 2.0, is required in each course taken for the minor.

Africana Studies

<http://www.as.miami.edu/africanastudies>

Dept. Code: AAS

Introduction

Africana Studies offers students the opportunity to confront and critically analyze distinctive Black intellectual and social-cultural traditions, and political-economic and historical structures. Situated in Miami, Florida, we are uniquely positioned in and between the US South and the Global South. Therefore, our translocal perspective finds blackness and Black people everywhere in the world. As the university's center for Africana Studies, the Program reaches beyond undergraduate study—inviting a wide variety of local and international graduate students, artists, scholars, and community advocates into our intellectual community.

Africana Studies' interdisciplinary structure offers students an opportunity to satisfy the increasingly rigorous expectations of graduate and professional school admissions committees and prospective employers, offering a broad liberal arts perspective that complements specialized knowledge of a field. Our curriculum and programmatic efforts uniquely help to prepare students to understand and effectively work toward social justice. We encourage all students, regardless of major, to enroll in Africana classes. Africana Studies can be taken either as a primary major, as one of two majors, or a minor.

Educational Objectives

1. To help students research, acquire, and disseminate information about the historical and social experiences of Africans and people of African descent on all sides of the Atlantic basin, but with special emphasis on the United States.
2. To facilitate students' understanding of the multi-cultural, multi-ethnic, globalized society of our time.
3. To help students think critically about the global black experience.
4. To prepare students for graduate work and professional careers.

Departmental Honors

Carter G. Woodson Award - Best all-round student who combines intellectual excellence and community service.

Advanced Writing Requirement

To satisfy the College of Arts & Sciences writing requirement in the discipline, students majoring in Africana Studies should take at least one English course or one History course related to Africana Studies and is listed as an advanced writing course, and any Africana Studies course with the Writing Credit designation.

Major in Africana Studies

- B.A. in Africana Studies (p. 121)

Minor in Africana Studies

- Africana Studies (p. 122)

B.A. in Africana Studies

Curriculum Requirements

Code	Title	Credit Hours
Major Requirements		
Africana majors must complete the following core courses:		
AAS 150	Introduction to Africana Studies	3
AAS 490	Senior Seminar in Africana Studies	3
HIS 201	History of Africa I (to 1800)	3
HIS 209 or HIS 210	African-American History to 1877 African-American History, 1877-PRESENT	3
Select one Caribbean Studies course from the following:		3
APY 385	Caribbean Cultures	
ENG 361	Caribbean Literature	
HIS 318	Modern Caribbean History	
The remaining courses must be selected from the list of acceptable courses approved by the program, in any school or college within the university. ¹		15
Additional Requirements		
ENG 105	English Composition I	3
ENG 106	English Composition II	3
UMX 100	The University of Miami Experience	0
MTH 108	Precalculus Mathematics II	3
People and Society Cognate		9
STEM Cognate		9
Language Requirement		3-9
Minor Requirement		15
Elective		45
Total Credit Hours		120-126

¹ Twelve of the 30 credit hours must be completed at the 300 level or above.

* A grade of C- or better with an overall GPA of 2.0 is required in each course taken for the major.

Sample Plan of Study

Course	Title	Credit Hours
Freshman Year		
Fall		
ENG 105	English Composition I	3
MTH 108	Precalculus Mathematics II	3
Language (first course)		3
People & Society or Arts and Humanities cognate (first course)		3
Elective		3
Credit Hours		15
Spring		
ENG 106	English Composition II	3
Language (second course)		3
STEM cognate (first course)		3
Elective		3
Elective		3
Credit Hours		15
Sophomore Year		
Fall		
AAS 150	Introduction to Africana Studies	3

People & Society or Arts and Humanities cognate (second course)	3
Minor (first course)	3
AAS 260 History of Slavery in the Atlantic	3
Elective	3
Credit Hours	15
Spring	
AAS 350 Black Leadership in the U.S.	3
History of Africa I (to 1800)	3
Minor (second course)	3
STEM cognate (second course)	3
Elective	3
Credit Hours	15
Junior Year	
Fall	
African American History (HIS)	3
Minor (third course)	3
STEM cognate (third course)	3
Elective	3
Elective	3
Credit Hours	15
Spring	
AAS Specialization Course	3
Minor (fourth course)	3
Natural Science course (if needed)	3
Elective	3
Elective	3
Credit Hours	15
Senior Year	
Fall	
AAS 390 Special Topics	3
Minor (fifth course)	3
People & Society or Arts and Humanities cognate (third course)	3
Elective	3
Elective	3
Credit Hours	15
Spring	
AAS 490 Senior Seminar in Africana Studies	3
Elective	3
Elective	3
Elective	3
Elective	3
Credit Hours	15
Total Credit Hours	120

Minor in Africana Studies

Code	Title	Credit Hours
Africana minors must complete the following courses:		
AAS 150	Introduction to Africana Studies	3
HIS 201 or HIS 209	History of Africa I (to 1800) African-American History to 1877	3

The remaining courses must be selected from the list of acceptable courses approved by the program, in any school or college within the university.	9
Total Credit Hours	15

* A minor in Africana Studies consists of 15 credit hours.

** A grade of C- or higher with an overall GPA of 2.0, is required in each course taken for the minor.

*** A minimum of six credit hours must be numbered 300 or higher.

American Studies

<http://www.as.miami.edu/americanstudies/>

Dept. Codes: AMS

Introduction

The **Program in American Studies at the University of Miami** fosters the interdisciplinary study of American culture and society, and explores the place of the United States in an increasingly interconnected world. Our faculty come from a wide range of fields, including history, literature, political science, religion, art, philosophy, law, music, ethnic studies, anthropology, architecture, sociology, communications, and education. What unites them is the commitment to examining the U.S. from multiple perspectives, highlighting the diversity of people, cultures, and experiences that have shaped the past and present United States. The Program places analysis of globalization at its center, and encourages a hemispheric perspective that allows students and faculty to explore interests in the United States, the Caribbean, Latin America, the Pacific Rim, and other border crossings.

Educational Objectives

The undergraduate curriculum in American Studies encourages students to bridge the divide between disciplines by examining specific themes and topics in an engaging, dynamic, interdisciplinary manner. By exposing students to courses that place questions of cultural diversity, regional difference, ethnic and racial identity, gender and sexuality, class dynamics, and popular culture at the forefront of intellectual investigation, the Program in American Studies enables them to situate their own experiences in a wider context. It also exposes them to a multiplicity of perspectives that inform our understanding of the United States and its place in a global society. The Program encourages its majors to study abroad, and faculty members help students plan their curriculum to make that option feasible.

Departmental Honors

American Studies majors with a cumulative GPA of at least 3.5 in AMS courses and an overall GPA of at least 3.0 may earn departmental honors by completing AMS 505. Candidates for departmental honors are responsible for finding a faculty member to serve as thesis advisor. Students then must complete a thesis proposal of approximately 500 words that must be approved by the thesis advisor and the program director. The format and length of the thesis will vary according to the nature of the project. Students would take AMS 501 in the fall semester of the senior year and AMS 505 in the spring to complete the honors thesis.

Advanced Writing and Communication Requirement

To satisfy the College of Arts & Sciences writing requirement in the discipline, students majoring in American Studies should take at least one English course or one History course related to the American Studies discipline listed as an advanced writing course.

Major in American Studies

- B.A. in American Studies (p. 123)

Minor in American Studies

- American Studies (p. 125)

B.A. in American Studies

Curriculum Requirements

Code	Title	Credit Hours
Students must take courses from at least three different departments in order to fulfill the requirements for the major		
Students must take at least 18 hours at the 300 level or above		
AMS 101	Introduction to American Studies	3
AMS 310	The United States in the World	3
AMS 501	Senior Project ¹	3
Two Additional AMS Courses		6

American History Course (HIS course)	3	
American Literature Course (ENG course)	3	
AMS 200 or Higher Specialized Area Courses ²	9	
Additional Requirements		
ENG 105	English Composition I	3
ENG 106	English Composition II	3
MTH 108	Precalculus Mathematics II	3
UMX 100	The University of Miami Experience	0
People and Society or Arts and Humanities Cognate		9
STEM Cognate		9
Language Requirement		3-9
Minor Requirement		15
Electives		45
Total Credit Hours		120-126

¹ AMS 501 can take the form of an individual research project or an internship at a local cultural or civic institution. For the research option, students will identify an appropriate faculty member to supervise and grade the project, and then obtain approval from the program director before proceeding with the project. The student must produce a substantial written report or research paper, the format of which will be determined by the faculty member and student in consultation with the program director. For the internship option, students will partner with any number of local institutions and produce a creative and/or scholarly project for evaluation. The internship will be arranged through the program director, in consultation with the Butler Center. The final product will be evaluated by the program director. American Studies majors with a cumulative GPA of at least 3.5 in AMS courses and an overall GPA of at least 3.0 may earn departmental honors by completing AMS 505. Candidates for departmental honors are responsible for finding a faculty member to serve as thesis advisor. Students then must complete a thesis proposal of approximately 500 words that must be approved by the thesis advisor and the program director. The format and length of the thesis will vary according to the nature of the project. Students would take AMS 501 in the fall semester of the senior year and AMS 505 in the spring to complete the honors thesis.

² Students must take three courses, chosen in consultation with an American Studies advisor, in a specialized area of American Studies (200 level or higher). Students may work in areas including, but not limited to, Ethnic Studies, Caribbean Studies, Latino/a Studies, Environmental Studies, Communication Studies, Women's Literature, Urban Studies, Africana Studies, Religious Studies, or Material Culture Studies. At least one of these courses must be either comparative or non-U.S.-based.

Suggested Plan of Study

Course	Title	Credit Hours
Freshman Year		
Fall		
ENG 105	English Composition I	3
MTH 108	Precalculus Mathematics II	3
Language (first course)		3
People & Society or Arts and Humanities cognate (first course)		3
Elective		3
	Credit Hours	15
Spring		
ENG 106	English Composition II	3
Language (second course)		3
STEM cognate (first course)		3
Elective		3
Elective		3
	Credit Hours	15
Sophomore Year		
Fall		
AMS 101	Introduction to American Studies	3
Language (third course)		3
People & Society or Arts and Humanities cognate (second course)		3
Minor (first course)		3

Elective		3
	Credit Hours	15
Spring		
AMS Specialization Course		3
American Literature Course (ENG)		3
Minor (second course)		3
STEM cognate (second course)		3
Elective		3
	Credit Hours	15
Junior Year		
Fall		
American History (HIS Course)		3
Minor (third course)		3
STEM cognate (third course)		3
Elective		3
Elective		3
	Credit Hours	15
Spring		
AMS Specialization Course		3
Minor (fourth course)		3
Natural Science course (if needed)		3
Elective		3
Elective		3
	Credit Hours	15
Senior Year		
Fall		
AMS 501	Senior Project	3
Minor (fifth course)		3
People & Society or Arts and Humanities cognate (third course)		3
Elective		3
Elective		3
	Credit Hours	15
Spring		
AMS 505	Honors Thesis	3
Elective		3
Elective		3
Elective		3
Elective		3
	Credit Hours	15
	Total Credit Hours	120

Minor in American Studies

Code	Title	Credit Hours
AMS 101	Introduction to American Studies	3
AMS 310	The United States in the World	3
AMS 300 level course		3
American History (HIS Course) ¹		3
American Literature (ENG Course) ¹		3
Total Credit Hours		15

¹ A total of 9 credits at the 300 level are required. Either the American History or American Literature course must be at the 300 level to meet this requirement.

* A grade of C- or better in each course is required, with a cumulative GPA of at least 2.0 in AMS courses

Anthropology

<http://www.as.miami.edu/anthropology>

Dept. Code: APY

Introduction

Anthropology is the scientific study of humankind, from its beginnings to the present. Of the many sciences that study aspects of humans and their behavior, only anthropology attempts to understand and integrate the entire panorama of human culture and biology in all times and places.

The **Anthropology Department** offers a wide range of courses for students in pursuit of the Bachelor of Arts degree, from the basic four fields of cultural anthropology, linguistics, biological anthropology, and archaeology, to advanced study of topics such as Maya archaeology, non-Western medical practices, primatology, gender and sexuality, and the evolution of language, among many others.

Anthropological training concentrates on broadly transferable skill areas such as understanding human diversity, building research skills for collecting and making sense of information, and communicating effectively. The skills developed through completing a degree in anthropology are useful for living and working in today's globalized world, which increasingly means interacting with people from many different cultural backgrounds and nations.

The field is especially suited to a multi-ethnic, multi-lingual, and multi-cultural urban center such as Miami, and the research programs of the department faculty reflect the compositions and concerns of our larger community.

Anthropological knowledge has taken an increasing role in the solution of practical problems in public health, cultural resource and heritage management, international business, legal and human rights issues, and many other areas. The anthropological view challenges ethnocentric perspectives and encourages the rigorous exploration of the world's cultural diversity.

Educational Objectives

Students who graduate from our program in anthropology will have achieved:

1. Basic familiarity with each of the four subfields of our discipline: archaeology, cultural anthropology, linguistic anthropology, and physical or biological anthropology.
2. Extended familiarity with one or more of these subfields in terms of knowledge of content related to, for example, gender, food, primate behavior, art, ritual, museums and collections, the interaction of language and thought, material culture, the sounds of languages; and methodological skills involving field research in one or more of the subfields.
3. The ability to articulate the anthropological view of the human condition in terms of an operational definition of culture and a holistic perspective on how humans behave.
4. Sufficient skill in research to be able to produce a research paper based on original anthropological investigation.

Advanced Writing and Communication

To satisfy the College of Arts and Sciences writing requirement in the discipline, students majoring in anthropology should take at least two courses designated as W (writing intensive) offered in the department. Writing courses are regularly offered by the department; however, it is the student's responsibility to plan accordingly and to incorporate writing-designated courses into their graduation plans.

Degree Programs

The **Department of Anthropology** offers a **major** and a **minor** in the University's array of Bachelor of Arts Degrees.

Departmental Honors

A student with junior or senior standing and a cumulative grade point average of 3.5 or higher may earn honors in anthropology by completion of a qualifying senior thesis encompassing an original research agenda under the direction of a member of the faculty in the Department of Anthropology.

The scope of work will be set in a thesis proposal approved by at least two faculty (one may be from outside the Department) which will result in a submitted (although not necessarily accepted) manuscript/conference paper. Students who wish to complete a senior thesis shall enroll in senior thesis/independent study classes for at least two semesters (with three being ideal, or two plus summer), such that one semester could be devoted to a directed reading, one to data collections/analysis, and the final semester to writing.

Extraordinary Anthropology majors are also recognized via an invitation to join Lambda Alpha, the international honors society for anthropology.

Lambda Alpha was founded with the purpose of encouraging and recognizing outstanding scholarship and research in anthropology. Each year the Department recognizes a graduating senior with the highest academic achievement both in and outside of the classroom with the Zora Neale Hurston Award in Anthropology.

Major in Anthropology

- B.A. in Anthropology (p. 127)

Minor in Anthropology

- Anthropology (p. 130)

B.A. in Anthropology

Curriculum Requirements

Code	Title	Credit Hours
University General Education Requirements		
ENG 105	English Composition I	3
ENG 106	English Composition II	3
UMX 100	The University of Miami Experience	0
MTH 108	Precalculus Mathematics II	3
Arts and Humanities Cognate Courses		9
STEM Cognate Courses		9
Language Requirement		3-9
Minor Requirement		15
Electives		39
Core Requirements		
APY 201	Principles of Archaeology (or approved alternatives)	3
APY 202	Principles of Cultural Anthropology (or approved alternatives)	3
APY 203	Principles of Physical Anthropology (or approved alternatives)	3
APY 204	Principles of Linguistic Anthropology (or approved alternatives)	3
APY 484	Anthropological Theory	3
A minimum of five additional anthropology courses in addition to the five core requirements listed above.		15
Total Credit Hours		120

* A grade of C- or higher is required with an overall GPA of 2.0 in all APY courses.

** Majors are strongly encouraged to enroll in one of our many fieldwork opportunities or to obtain training in field methods specific to their interests. The remainder of the program will be developed with the student's departmental adviser. To satisfy the College of Arts and Sciences writing requirement in the discipline, students majoring in anthropology should take at least two courses designated as W (writing intensive) offered by the department.

Medical Anthropology Track

Code	Title	Credit Hours
Medical Anthropology Courses		
Select 6 of the following Courses:		18
APY 205	Medicine and Health Care in Society	
APY 307	Human Adaptation	
APY 310	Primate Behavior and Adaptation	
APY 315	Folk and Alternative Medicine	
APY 360	Anthropology of Food	
APY 391	Gender in Ancient Cultures	
APY 392	Sex and Culture	
APY 393	Drugs and Culture	
APY 397	Violence and Ritual	
APY 413	Medical Anthropology	
APY 414	Human Osteology	
APY 415	Forensic Anthropology II: Fieldwork	
APY 416	Bioarchaeology-Peopling the past	
APY 421	Interpreting Bodies	

APY 501	Methods of Anthropological Research
APY 502	Field Studies in Anthropology
APY 512	Advanced Medical Anthropology
CLA 233	Ancient Medicine
PSY 292	Introduction to Biobehavioral Statistics for Non-Majors
SOC 211	Quantitative Methods for Sociologists

Suggested Plan of Study

Course	Title	Credit Hours
Year One		
Fall		
ENG 105	English Composition I	3
UMX 100	The University of Miami Experience	0
APY 202	Principles of Cultural Anthropology	3
STEM Cognate Course		3
Language Course		3
MTH 108	Precalculus Mathematics II	3
	Credit Hours	15
Spring		
ENG 106	English Composition II	3
APY 201	Principles of Archaeology	3
Arts and Humanities Cognate Course		3
Language Course		3
Minor Course		3
	Credit Hours	15
Year Two		
Fall		
APY 203	Principles of Physical Anthropology	3
APY 300 Level or above		3
STEM Cognate Course		3
Language Course		3
Minor Course		3
	Credit Hours	15
Spring		
APY 204	Principles of Linguistic Anthropology	3
APY 300 Level or above course		3
Arts and Humanities Cognate Course		3
Minor Course		3
Elective		3
	Credit Hours	15
Year Three		
Fall		
APY 505 or 511	Museum Internship or Artlab At Lowe	3
APY 300 level or above course		3
STEM Cognate Course		3
Minor Course		3
Elective		3
	Credit Hours	15
Spring		
APY 502	Field Studies in Anthropology	3
APY 300 level or above course		3

Arts and Humanities Cognate Course		4
Minor Course		3
Elective		3
	Credit Hours	16
Year Four		
Fall		
APY 484	Anthropological Theory	3
APY 506	Workshop in Anthropology	3
Elective		3
Elective		3
Elective		3
	Credit Hours	15
Spring		
APY 506	Workshop in Anthropology	3
APY 300 level or above course		3
Elective		3
Elective		3
Elective		3
	Credit Hours	15
	Total Credit Hours	121

Suggested Plan of Study - Medical Anthropology Track

Course	Title	Credit Hours
Year One		
Fall		
ENG 105	English Composition I	3
UMX 100	The University of Miami Experience	0
APY 202	Principles of Cultural Anthropology	3
MTH 108	Precalculus Mathematics II	3
STEM Cognate Course		3
Language Course		3
	Credit Hours	15
Spring		
ENG 106	English Composition II	3
APY 201	Principles of Archaeology	3
APY 205	Medicine and Health Care in Society	3
Arts and Humanities Cognate Course		3
Language Course		3
	Credit Hours	15
Year Two		
Fall		
APY 203	Principles of Physical Anthropology	3
Select one of the following:		3
APY 315	Folk and Alternative Medicine	
APY 391	Gender in Ancient Cultures	
APY 393	Drugs and Culture	
STEM Cognate Course		3
Language Course		3
Minor Course		3
	Credit Hours	15
Spring		
APY 204	Principles of Linguistic Anthropology	3

Select one of the following:		3
APY 315	Folk and Alternative Medicine	
APY 392	Sex and Culture	
APY 393	Drugs and Culture	
Arts and Humanities Cognate Course		3
Minor Course		3
Elective		3
	Credit Hours	15
Year Three		
Fall		
APY 413	Medical Anthropology	3
APY 501	Methods of Anthropological Research	3
STEM Cognate Course		3
Minor Course		3
Elective		3
	Credit Hours	15
Spring		
APY 502	Field Studies in Anthropology	3
APY 512	Advanced Medical Anthropology	3
Arts and Humanities Cognate Course		3
Minor Course		3
Elective		3
	Credit Hours	15
Year Four		
Fall		
APY 484	Anthropological Theory	3
APY 506	Workshop in Anthropology	3
Minor Course		3
Elective		3
Elective		3
	Credit Hours	15
Spring		
APY 506	Workshop in Anthropology	3
Select one of the following:		3
APY 360	Anthropology of Food	
APY 397	Violence and Ritual	
APY 416	Bioarchaeology-Peopling the past	
APY 421	Interpreting Bodies	
Elective		3
Elective		3
Elective		3
	Credit Hours	15
	Total Credit Hours	120

Minor in Anthropology

Code	Title	Credit Hours
Select two of the following:		6
APY 201	Principles of Archaeology	
APY 202	Principles of Cultural Anthropology	
APY 203	Principles of Physical Anthropology	
APY 204	Principles of Linguistic Anthropology	

Three additional anthropology courses at the 200 level or higher.	9
Total Credit Hours	15

* A minor in Anthropology consists of 15 or more credit hours

** A grade of C- or higher is required with an overall GPA of 2.0 including any two 200-level anthropology courses.

*** Appropriate courses offered in other departments may also be counted toward the minor with approval of the Director of Undergraduate Studies.

Art and Art History

<http://www.as.miami.edu/art>

Dept. Codes: ART, ARH

Educational Objectives

The Department of Art and Art History provides facilities and instruction to serve the needs of the general student. The program fosters participation and appreciation in the visual arts for students with specialized interests and abilities preparing for careers in the production and interpretation of Art and Art History.

Degree Programs

The Department of Art and Art History offers two degrees:

- the Bachelor of Arts, with tracks in:
 - Art (General Study)
 - Art History
 - Studio Art
- the Bachelor of Fine Arts in Studio Art, which allows for primary and secondary concentrations in:
 - Painting
 - Sculpture
 - Printmaking
 - Photography/Digital Imaging
 - Graphic Design/Multimedia
 - Ceramics

The B.A. requires a minimum of 36 credit hours in the department with a grade of C or higher. The B. A. major is also required to have a minor outside the department. Minor requirements are specified by each department and are listed in the Bulletin. The B.F.A. requires a minimum of 72 credit hours in the department, a grade of C or higher in each course, a group exhibition and at least a 3.0 average in departmental courses. The B.F.A. major is not required to have a minor outside the department.

Writing within the Discipline

To satisfy the College of Arts and Sciences writing requirement in the discipline, students whose first major is Art or Art History must take at least one of the following courses for a writing credit: Modern Art ARH 343, and/or Contemporary Art ARH 344.

Departmental Honors

In order to be eligible for Departmental Honors, candidates must have completed at least nine credit hours at the 300 level or above, and must have a GPA of 3.5 in all their major courses and a 3.5 overall average GPA. Both GPAs must be maintained in order to graduate with Departmental Honors.

During their junior year, candidates for Honors must request admission to Departmental Honors from the Department Chair, and identify an exhibition/thesis faculty supervisor.

In addition to fulfilling the regular major requirements, students must register in their senior for six credits of Independent Study at the 500 level. Art majors will be expected to work on an exhibition project. Art history majors will be expected to research and write an Honors thesis.

The Department Chair and the faculty supervisor will determine whether the completed exhibition project or thesis merits Departmental Honors.

Audit

Due to the nature of studio courses, it is not possible for a student to audit courses offered in the studio areas.

Majors in Art and Art History

- B.A. in Art (General Study (p. 134))
- B.A. in Art History (p. 132)
- B.A. in Studio Art (p. 138)
- B.F.A. in Art (p. 138)

Minor in Art and Art History

- Art and Art History (p. 140)

B.A. in Art History

Curriculum Requirements

Code	Title	Credit Hours
Major Courses		
ARH 131	Survey of Western Art I	3
ARH 132	Survey of Western Art II	3
ARH 343 or ARH 344	Modern Art Contemporary Art	3
ARH Electives - 200 Level or Higher		18
ARH Elective - 400 Level		3
Studio ART Electives		6
Additional Required Courses		
ENG 105	English Composition I	3
ENG 106	English Composition II	3
MTH 113	Finite Mathematics ¹	3
UMX 100	The University of Miami Experience	0
People and Society Cognate		9
STEM Cognate		9
Language Courses		3-9
Minor - Non Art		15
Electives and/or Writing Courses		33
Total Credit Hours		120

¹ MTH 113 or appropriate level Math course.

Suggested Plan of Study

Course	Title	Credit Hours
Year One		
Fall		
ARH 131	Survey of Western Art I	3
ENG 105	English Composition I	3
MTH 113	Finite Mathematics ¹	3
UMX 100	The University of Miami Experience	0
ART: Studio Elective		3
Elective		3
	Credit Hours	15
Spring		
ARH 132	Survey of Western Art II	3
ENG 106	English Composition II	3
ART: Studio Elective		3
Elective		3

Elective or Writing Course		3
	Credit Hours	15
Year Two		
Fall		
ARH 343 or 344	Modern Art or Contemporary Art	3
ARH Elective		3
People and Society Cognate Course		3
Minor Course - Non Art		3
Elective or Writing Course		3
	Credit Hours	15
Spring		
ARH Elective		3
Elective		3
STEM Cognate Course		3
Minor Course - Non Art		3
Elective or Writing Course		3
	Credit Hours	15
Year Three		
Fall		
ARH Elective		3
People and Society Cognate Course		3
Minor Course - Non Art		3
Foreign Language Course		3
Elective or Writing Course		3
	Credit Hours	15
Spring		
ARH Elective		3
STEM Cognate		3
Minor Course - Non Art		3
Foreign Language Course		3
Elective or Writing Course		3
	Credit Hours	15
Year Four		
Fall		
ARH Elective		3
People and Society Cognate Course		3
Minor Course - Non Art		3
Foreign Language Course		3
Elective or Writing Course		3
	Credit Hours	15
Spring		
400 Level ARH Elective		3
ARH Elective		3
STEM Cognate Course		3
Elective		3
Elective		3
	Credit Hours	15
	Total Credit Hours	120

1

MTH 113 or appropriate level Math course.

B.A. in Art (General Study)

Curriculum Requirements

Code	Title	Credit Hours
Foundation Courses		
ART 101	Introduction to Drawing I	3
ART 104	Intro to 3D Design	3
ART 109	Introduction to Electronic Media	3
Art History Courses		
ARH 131	Survey of Western Art I	3
ARH 132	Survey of Western Art II	3
ARH 343 or ARH 344	Modern Art Contemporary Art	3
General Study Courses		
Select any six courses from the following areas:		18
Art History		
Drawing		
Painting		
Sculpture		
Printmaking		
Graphic Design/Multimedia		
Photography/Digital Imaging		
Ceramics/Glass		
Additional Required Courses		
ENG 105	English Composition I	3
ENG 106	English Composition II	3
MTH 113	Finite Mathematics ¹	3
UMX 100	The University of Miami Experience	0
People and Society Cognate		9
STEM Cognate		9
Foreign Language Requirement		9
Minor - Non Art		15
Electives and/or Writing Courses		33
Total Credit Hours		120

¹ MTH 113 or appropriate level Math course.

Suggested Plan of Study

Course	Title	Credit Hours
Year One		
Fall		
ART 101	Introduction to Drawing I	3
ARH 131	Survey of Western Art I	3
ENG 105	English Composition I	3
MTH 113	Finite Mathematics ¹	3
UMX 100	The University of Miami Experience	0
Elective		3
Credit Hours		15
Spring		
ART 109	Introduction to Electronic Media	3
ARH 132	Survey of Western Art II	3
ENG 106	English Composition II	3

Elective		3
Elective or Writing Course		3
	Credit Hours	15
Year Two		
Fall		
ART 104	Intro to 3D Design	3
ART or ARH Elective		3
People and Society Cognate Course		3
Minor Course - Non Art		3
Elective or Writing Course		3
	Credit Hours	15
Spring		
ARH 343 or 344	Modern Art or Contemporary Art	3
ART or ARH Elective		3
STEM Cognate Course		3
Minor Course - Non Art		3
Elective or Writing Course		3
	Credit Hours	15
Year Three		
Fall		
ART or ARH Elective		3
People and Society Cognate Course		3
Minor Course - Non Art		3
Foreign Language Course		3
Elective or Writing Course		3
	Credit Hours	15
Spring		
ART or ARH Elective		3
STEM Cognate Course		3
Minor Course - Non Art		3
Foreign Language Course		3
Elective or Writing Course		3
	Credit Hours	15
Year Four		
Fall		
ART or ARH Elective		3
People and Society Cognate Course		3
Minor Course - Non Art		3
Foreign Language Course		3
Elective or Writing Course		3
	Credit Hours	15
Spring		
ART or ARH Elective		3
STEM Cognate Course		3
Elective		3
Elective		3
Elective		3
	Credit Hours	15
	Total Credit Hours	120

B.A. in Studio Art

Curriculum Requirements

Code	Title	Credit Hours
Foundation Courses		
ART 101	Introduction to Drawing I	3
ART 104	Intro to 3D Design	3
ART 109	Introduction to Electronic Media	3
Art History Courses		
ARH 131	Survey of Western Art I	3
ARH 132	Survey of Western Art II	3
ARH 343 or ARH 344	Modern Art Contemporary Art	3
Studio Art Courses		
Select six Studio courses from the following areas:		18
Drawing		
Painting		
Sculpture		
Printmaking		
Graphic Design/Multimedia		
Photography/Digital Imaging		
Ceramics/Glass		
Additional Required Courses		
ENG 105	English Composition I	3
ENG 106	English Composition II	3
MTH 113	Finite Mathematics ¹	3
UMX 100	The University of Miami Experience	0
People and Society Cognate		9
STEM Cognate		9
Foreign Language Requirement		9
Minor - Non Art		15
Electives and/or Writing Courses		33
Total Credit Hours		120

¹ MTH 113 or appropriate level Math course.

Suggested Plan of Study

Course	Title	Credit Hours
Year One		
Fall		
ART 101	Introduction to Drawing I	3
ARH 131	Survey of Western Art I	3
ENG 105	English Composition I	3
MTH 113	Finite Mathematics	3
UMX 100	The University of Miami Experience	0
Elective		3
Credit Hours		15
Spring		
ART 109	Introduction to Electronic Media	3
ARH 132	Survey of Western Art II	3
ENG 106	English Composition II	3
Elective		3

Elective or Writing Course		3
	Credit Hours	15
Year Two		
Fall		
ART 104	Intro to 3D Design	3
ART - Studio Elective		3
People and Society Cognate Course		3
Minor Course - Non Art		3
Elective or Writing Course		3
	Credit Hours	15
Spring		
ART - Studio Elective		3
ARH 343 or 344	Modern Art or Contemporary Art	3
STEM Cognate Course		3
Minor Course - Non Art		3
Elective or Writing Course		3
	Credit Hours	15
Year Three		
Fall		
ART - Studio Elective		3
People and Society Cognate Course		3
Minor Course - Non Art		3
Foreign Language Course		3
Elective or Writing Course		3
	Credit Hours	15
Spring		
ART - Studio Elective		3
STEM Cognate Course		3
Minor Course - Non Art		3
Foreign Language Course		3
Elective or Writing Course		3
	Credit Hours	15
Year Four		
Fall		
ART - Studio Elective		3
People and Society Cognate Course		3
Minor Course - Non Art		3
Foreign Language Course		3
Elective or Writing Course		3
	Credit Hours	15
Spring		
ART - Studio Elective		3
STEM Cognate Course		3
Elective		3
Elective		3
Elective		3
	Credit Hours	15
	Total Credit Hours	120

B.F.A. in Art

Curriculum Requirements

Code	Title	Credit Hours
General Foundation Courses		
ART 101	Introduction to Drawing I	3
ART 104	Intro to 3D Design	3
ART 109	Introduction to Electronic Media	3
Art History Courses		
ARH 131	Survey of Western Art I	3
ARH 132	Survey of Western Art II	3
ARH 343	Modern Art	3
or ARH 344	Contemporary Art	
ARH 346	History of Graphic Design (required for Graphic Design/ Multimedia majors.)	
ARH 207	History of Photography (required for Photography majors.)	
ARH Electives		6
Art Studio Electives		
Select 12 credit hours to be taken in the Department outside of area of specialization.		12
Areas of Concentration		
Primary concentrations		
Select six courses from the sequence:		18
Painting		
Printmaking		
Graphic Design/Multimedia		
Photography/Digital Imaging		
Ceramics		
Sculpture		
Secondary concentrations		
Select six courses from the sequence:		18
Painting		
Printmaking		
Graphic Design/Multimedia		
Photography/Digital Imaging		
Ceramics		
Sculpture		
Portfolio Review *		
BFA Exhibition **		
Additional Required Courses		
ENG 105	English Composition I	3
ENG 106	English Composition II	3
MTH 113	Finite Mathematics ¹	3
UMX 100	The University of Miami Experience	0
People and Society Cognate		9
STEM Cognate		9
Electives and/or Writing Courses		21
ARH 207	History of Photography	3
Total Credit Hours		123

¹ MTH 113 or appropriate level Math course.

* **BFA Exhibition**

Unless otherwise instructed, each BFA candidate will take part in an exhibition of work screened and approved by a faculty member from their area of specialization, accomplished as an art major at the University of Miami, in the Fall or Spring semester of the senior year. The BFA exhibitions are held in the College Gallery.

At the time the candidates BFA exhibition is hung, a formal critique will be arranged between the student and the art faculty.

** **BFA Minor in Art History**

All BFA studio majors automatically minor in art history. A minor outside the department is not required.

Maximum Credits in Studio Areas

A BFA student is limited to a maximum of 21 credit hours in any one studio area – Painting, Printmaking, Graphic Design/Multimedia, Photo/Digital, Ceramics, and Sculpture.

Minimum Major GPA

Students must maintain at least a 3.0 average in their major.

Suggested Plan of Study

Course	Title	Credit Hours
Year One		
Fall		
ART 101	Introduction to Drawing I	3
ART 109	Introduction to Electronic Media	3
ENG 105	English Composition I	3
MTH 113	Finite Mathematics ¹	3
UMX 100	The University of Miami Experience	0
Elective		3
	Credit Hours	15
Spring		
ART 104	Intro to 3D Design	3
ARH 131	Survey of Western Art I	3
ENG 106	English Composition II	3
ART - Studio Elective		3
Elective		3
	Credit Hours	15
Year Two		
Fall		
ARH 132	Survey of Western Art II	3
ART - Studio Primary		3
ART - Studio Secondary		3
ART - Studio Elective		3
People and Society Cognate Course		3
	Credit Hours	15
Spring		
ARH 343 or 344	Modern Art or Contemporary Art	3
ART - Studio Primary		3
ART - Studio Secondary		3
STEM Cognate Course		3
Elective or Writing		3
	Credit Hours	15
Year Three		
Fall		
ART - Studio Primary		3
ART - Studio Secondary		3
ART - Studio Elective		3
ARH Elective		3

People and Society Cognate Course	3
Credit Hours	15
Spring	
ART - Studio Primary	3
ART - Studio Secondary	3
ART - Studio Elective	3
STEM Cognate Course	3
Elective or Writing	3
Credit Hours	15
Year Four	
Fall	
ART - Studio Primary	3
ART - Studio Secondary	3
ARH Elective	3
People and Society Cognate Course	3
Elective or Writing Course	3
Credit Hours	15
Spring	
ART - Studio Primary	3
ART - Studio Elective	3
Elective or Writing	3
Elective or Writing	3
STEM Cognate Course	3
Credit Hours	15
Total Credit Hours	120

¹ MTH 113 or appropriate level Math course.

Minor in Art and Art History

Minor Requirements

Code	Title	Credit Hours
	Choose 15 Credits in ARH and ART Courses	15

- ¹ All BFA studio majors automatically minor in Art History. A minor outside the department is not required.
- ² A BFA student is limited to a maximum of 21 credits in any one studio area - Painting, Printmaking, Graphic Design, Multimedia, Photography/ Digital Imaging, Ceramics, or Sculpture.
- ³ Students must maintain at least a 3.0 average in their major.
- ⁴ A minor in Art and Art History consists of 15 credit hours (9 of which must be from the University of Miami).
- ⁵ All courses must be passed with a C or higher.

Astronomy

For courses in Astronomy see PHYSICS (p. 295), in particular PHY 110 and PHY 545.

Biochemistry and Molecular Biology

<http://bm.med.miami.edu/>

Dept. Code: **BMB**

(Code for the major is either Track 1: BCHM or Track 2: BCHN)

Introduction

Biochemistry is the chemistry of life. It includes or has large areas of overlap with molecular biology, biophysics, structural biology, cell biology, metabolism, neuroscience, nutrition, genetics, etc. It tries to explain what happens in living organisms and how biological processes are regulated. It is a relatively young science. Our understanding is still developing and students can learn something new every day. An Undergraduate Major in one of our two tracks, Track 1: Biochemistry and Molecular Biology (BCHM) or Track 2: Biochemistry and Nutrition (BCHN), provides an excellent preparation for:

1. Medical School
2. Graduate Studies in all basic medical sciences: Biochemistry, Molecular Biology, Cell Biology, Genetics, Neurobiology, Microbiology, Immunology, Pharmacology, Biophysics, Physiology, Bio-informatics, Biology, Nutrition, Environmental Science, and others.
3. Industry: Biotechnology, Pharmaceutical, Food Production, Food processing, and others.
4. Allied Health Professions: Nutrition, Dentistry, Forensics, Veterinary Medicine, Toxicology, Clinical Chemistry, Environmental Science, and others.
5. Non-Health Professions: Chemistry, Physics, Scientific Publishing, Patent Law, and others.

Educational Objectives

The undergraduate program in Biochemistry & Molecular Biology strives to provide

1. superior training in nutrition, biochemistry and molecular biology and
2. encouragement for self-study and research to students seeking a BS degree.

As part of a research-oriented university, the department, through its students, creates new knowledge. As a result of our teaching efforts, the new BS's created will be able to matriculate into professional and graduate schools or to find positions in teaching professions and/or industry. In addition, the department serves the community by providing expertise in matters related to nutritional and medical biochemistry. For example, it teaches biochemistry to pre-medical and other pre-health students across a wide variety of life science related majors including biology, microbiology, neuroscience, and biomedical engineering.

Degree Programs

As a member of the College of Arts & Sciences, the Department of Biochemistry and Molecular Biology offers an undergraduate BS degree. As a member of the Miller School of Medicine, it offers the following graduate degrees: PhD, Executive PhD, dual BS-PhD, and dual MD-PhD. Also, it offers a Molecular Medicine Pathway for MD students.

Departmental Honors

Departmental honors can be earned by biochemistry majors who have:

1. Successfully completed at least 6 credit hours of BMB 545. This research must be described in a brief thesis that needs to be approved by three BMB faculty members.
2. A 3.5 or higher grade point average in all BMB courses.
3. A 3.3 or higher grade point average in all courses taken at the University of Miami.

Dual Degree Honors Program

The Dual Degree BS-PhD Program in Biochemistry & Molecular Biology is offered to mature high school seniors with strong academic ability and achievement who seek careers in biological or biomedical science. Students can earn both a Bachelor of Science (BS) and a Doctor of Philosophy Degree (PhD) in approximately 6 years. For information see our website (http://www.miami.edu/admission/index.php/undergraduate_admission/academics/dual_degree_honors).

Major in Biochemistry and Molecular Biology

- B.S. in Biochemistry and Molecular Biology or Nutrition (p. 141)

Minor in Biochemistry and Molecular Biology

- Biochemistry and Molecular Biology (p. 146)

B.S. in Biochemistry and Molecular Biology or Nutrition

Major

The Bachelor of Science (B.S.) degree in either BCHM or BCHN requires 23 total credits of BMB courses: 17 credits of required BMB courses plus six credits of elective BMB courses. At least two elective BMB credits must come from a BMB lab course, either BMB 145, BMB 245, BMB 402, or BMB 545. To satisfy the College of Arts and Sciences writing requirement in the discipline, BMB majors must complete for writing credit (W) either BMB 507, BMB 511, or BMB 545. For all students, a grade of C or better must be earned in each BMB course. For current UM students to declare either

major or minor in BMB, a UM cumulative grade point average of 2.9 is required. For transfer students to declare either major or minor in BMB, a grade point average of 3.5 is required. The Department will make its own independent determination on a case-by-case basis concerning the equivalency of courses taken at other universities. The two possible academic tracks, BCHM and BCHN, differ by two required upper level BMB lecture courses.

Curriculum Requirements

Code	Title	Credit Hours
Required BMB Courses		
Students must complete all six BMB lecture courses listed in either Track 1 or Track 2:		17
Track 1 (BCHM)		
BMB 401	Biochemistry for the Biomedical Sciences	
BMB 506	Biomedical Case Studies	
BMB 507	Protein Structure, Function and Biology ¹	
BMB 509	Molecular Biology of the Gene	
BMB 514	Genetics and Genomics: Principles, Mechanisms, and Use	
BMB 555	Cellular Structure, Function, and Biology	
Track 2 (BCHN)		
BMB 401	Biochemistry for the Biomedical Sciences	
BMB 506	Biomedical Case Studies	
BMB 417	Nutrients, Enzymes, and Metabolic Flux	
BMB 514	Genetics and Genomics: Principles, Mechanisms, and Use	
BMB 519	Epigenetics and Nutrition	
BMB 555	Cellular Structure, Function, and Biology	
Elective BMB Courses		
Students in either Track 1 or 2 must complete at least six credits of elective BMB courses. At least two elective BMB credits must come from a BMB lab course, either BMB 145, BMB 245, BMB 402, or BMB 545.		6
BMB 145	Introduction to BMB Research	
BMB 245	Foundations in BMB Research	
BMB 251	Contemporary Topics in BMB	
BMB 402	Principles of Experimental BMB	
BMB 411	Readings in BMB	
BMB 417	Nutrients, Enzymes, and Metabolic Flux	
BMB 501	Senior Seminars	
BMB 507	Protein Structure, Function and Biology	
BMB 509	Molecular Biology of the Gene	
BMB 511	Topics in BMB ¹	
BMB 519	Epigenetics and Nutrition	
BMB 545	Research Problems in BMB ¹	
Biology ²		
BIL 150 & BIL 151	General Biology and General Biology Laboratory	5
BIL 160 & BIL 161	Evolution and Biodiversity and Evolution and Biodiversity Laboratory	5
Chemistry ³		
CHM 121 & CHM 113	Chemistry for the Biosciences I and Chemistry Laboratory I	5
CHM 221 & CHM 114	CHM211 Chemistry for the Biosciences II and Chemistry Laboratory II	5
CHM 222 & CHM 205	CHM212 Chemistry for the Biosciences III and Organic Chemistry Laboratory I	5
CHM 206	Organic Chemistry Laboratory II	1
Physics ⁴		
PHY 101 & PHY 106	College Physics I and College Physics Laboratory I	5

PHY 102 & PHY 108	College Physics II and College Physics Laboratory II	5
Mathematics ⁵		
MTH 161	Calculus I	4
MTH 162	Calculus II	4
Statistics or Computer ⁶		
PSY 292 or MTH 224 or CSC 120	Introduction to Biobehavioral Statistics for Non-Majors Introduction to Probability and Statistics Computer Programming I	3
Other Required Courses		
ENG 105	English Composition I	3
ENG 106	English Composition II	3
Language Requirement		6
Arts and Humanities Cognate		9
People and Society Cognate		9
Electives		20
Total Credit Hours		120

¹ Writing credit (W) may be obtained in this course.

² These courses may be taken more than once for additional credits.

³ PRISM students take designated sections of the traditional chemistry series: CHM 111/CHM 113, CHM 112/CHM 114, CHM 201/CHM 205, and CHM 202/CHM 206, which satisfy the requirement for obtaining the Minor in Chemistry. The indicated three semester "Chemistry for the Biosciences" series is preferred, since students will be prepared for independent BMB research at a more early stage.

⁴ PRISM students take PHY 201/PHY 106 and PHY 202/PHY 108. A more advanced physics course series can be substituted (e.g., PHY 205, PHY 206/PHY 208, PHY 207/PHY 209).

⁵ PRISM students take MTH 171 and MTH 172.

⁶ PRISM students take CSC 210.

Biochemistry and Molecular Biology - Preferred CHM

Sample plan of study with CHM 121/CHM 221/CHM 222 series.

Course	Title	Credit Hours
Freshman Year		
Fall		
BIL 150	General Biology	4
BIL 151	General Biology Laboratory	1
CHM 121	Chemistry for the Biosciences I	4
CHM 113	Chemistry Laboratory I	1
MTH 161	Calculus I	4
ENG 105	English Composition I	3
	Credit Hours	17
Spring		
BIL 160	Evolution and Biodiversity	4
BIL 161	Evolution and Biodiversity Laboratory	1
CHM 221	CHM211 Chemistry for the Biosciences II	4
CHM 114	Chemistry Laboratory II	1
MTH 162	Calculus II	4
ENG 106	English Composition II	3
	Credit Hours	17
Sophomore Year		
Fall		
CHM 222	CHM212 Chemistry for the Biosciences III	4
CHM 205	Organic Chemistry Laboratory I	1

PHY 101	College Physics I	4
PHY 106	College Physics Laboratory I	1
SOC 101	Introduction to Sociology	3
PSY 110	Introduction to Psychology ((P&S Cognate Elective 1)) ¹	3
	Credit Hours	16
Spring		
BMB 401	Biochemistry for the Biomedical Sciences	4
BMB 506	Biomedical Case Studies	1
CHM 206	Organic Chemistry Laboratory II	1
PHY 102	College Physics II	4
PHY 108	College Physics Laboratory II	1
PSY 292	Introduction to Biobehavioral Statistics for Non-Majors ((P&S Cognate Elective 2)) ¹	3
	Credit Hours	14
Junior Year		
Fall		
BMB 514	Genetics and Genomics: Principles, Mechanisms, and Use	3
BMB 507	Protein Structure, Function and Biology ²	3
BMB 411	Readings in BMB	1
SPA 102	Elementary Spanish II ((or other language))	3
APY 413	Medical Anthropology ((P&S Cognate elective 3)) ¹	3
A&H Cognate Elective 1 ¹		3
	Credit Hours	16
Spring		
BMB 402	Principles of Experimental BMB	2
BMB 509	Molecular Biology of the Gene	3
BMB 555	Cellular Structure, Function, and Biology	3
SPA 201	Intermediate Spanish I ((or other Language))	3
A&H Cognate Elective 2 ¹		3
	Credit Hours	14
Senior Year		
Fall		
BMB 545	Research Problems in BMB ²	3
BMB 511	Topics in BMB	3
BMB 501	Senior Seminars	1
A&H Cognate Elective 3 ¹		3
Elective		3
	Credit Hours	13
Spring		
BMB 545	Research Problems in BMB ²	3
BMB 501	Senior Seminars	1
Elective		3
Elective		3
Elective		3
	Credit Hours	13
	Total Credit Hours	120

¹ P&S (People & Society) and A&H (Arts and Humanities) Cognate Electives.

² BMB 507, BMB 511, and BMB 545 may be taken either with or without writing credit (W). BMB 545 may be taken for 3-12 credit hours. Variations of the above program are feasible for students entering with advanced standing on the basis of placement tests or transfer credit hours with permission of the biochemistry advisor.

Biochemistry and Nutrition - Preferred CHM

Sample plan of study with preferred CHM 121/CHM 221/CHM 222 series. The curriculum is the same as BCHM, except BMB 417 is substituted for BMB 507 and BMB 519 is substituted for BMB 509.

Biochemistry and Molecular Biology - Traditional CHM

Sample plan of study with traditional CHM 111/CHM 112/CHM 201/CHM 202 series.

Course	Title	Credit Hours
Freshman Year		
Fall		
BIL 150	General Biology	4
BIL 151	General Biology Laboratory	1
CHM 111	Principles of Chemistry I	3
CHM 113	Chemistry Laboratory I	1
MTH 161	Calculus I	4
ENG 105	English Composition I	3
	Credit Hours	16
Spring		
BIL 160	Evolution and Biodiversity	4
BIL 161	Evolution and Biodiversity Laboratory	1
CHM 112	Principles of Chemistry II	3
CHM 114	Chemistry Laboratory II	1
MTH 162	Calculus II	4
ENG 106	English Composition II	3
	Credit Hours	16
Sophomore Year		
Fall		
CHM 201	Organic Chemistry I (Lecture)	3
CHM 205	Organic Chemistry Laboratory I	1
PHY 101	College Physics I	4
PHY 106	College Physics Laboratory I	1
SOC 101	Introduction to Sociology	3
PSY 110	Introduction to Psychology ((P&S Cognate Elective 1)) ¹	3
	Credit Hours	15
Spring		
BMB 411	Readings in BMB	1
CHM 202	Organic Chemistry II (Lecture)	3
CHM 206	Organic Chemistry Laboratory II	1
PHY 102	College Physics II	4
PHY 108	College Physics Laboratory II	1
PSY 292	Introduction to Biobehavioral Statistics for Non-Majors ((P&S Cognate Elective 2)) ¹	3
	Credit Hours	13
Junior Year		
Fall		
BMB 401	Biochemistry for the Biomedical Sciences	4
BMB 506	Biomedical Case Studies	1
SPA 102	Elementary Spanish II ((or other Language))	3
APY 413	Medical Anthropology ((P&S Cognate Elective 3))	3
A&H Cognate Elective 1 ¹		3
	Credit Hours	14

Spring		
BMB 555	Cellular Structure, Function, and Biology	3
BMB 507	Protein Structure, Function and Biology	3
BMB 402	Principles of Experimental BMB	2
BMB 411	Readings in BMB	1
SPA 201	Intermediate Spanish I ((or other Language))	3
A&H Cognate Elective 2 ¹		3
	Credit Hours	15
Senior Year		
Fall		
BMB 514	Genetics and Genomics: Principles, Mechanisms, and Use	3
BMB 545	Research Problems in BMB	3
BMB 511	Topics in BMB	3
BMB 501	Senior Seminars	1
A&H Cognate Elective 3 ¹		3
Elective		3
	Credit Hours	16
Spring		
BMB 509	Molecular Biology of the Gene	3
BMB 545	Research Problems in BMB	3
Elective		3
Elective		3
Elective		3
	Credit Hours	15
	Total Credit Hours	120

¹ P&S (People & Society) and A&H (Arts and Humanities) Cognate Electives.

² BMB 507, BMB 511, and BMB 545 may be taken either with or without writing credit (W). BMB 545 may be taken for 3-12 credit hours. Variations of the above program are feasible for students entering with advanced standing on the basis of placement tests or transfer credit hours with permission of the biochemistry advisor.

Biochemistry and Nutrition - Traditional CHM

Sample plan of study with traditional CHM 111/CHM 112/CHM 201/CHM 202 series. The curriculum is the same as BCHM, except BMB 417 is substituted for BMB 507 and BMB 519 is substituted for BMB 509.

Minor in Biochemistry and Molecular Biology

Code	Title	Credit Hours
Required Courses ¹		
BMB 401	Biochemistry for the Biomedical Sciences	4
BMB 506	Biomedical Case Studies	1
BMB 514	Genetics and Genomics: Principles, Mechanisms, and Use	3
BMB 555	Cellular Structure, Function, and Biology	3
Choose one of the following tracks: ¹		
Track 1 (BCHM)		
BMB 507	Protein Structure, Function and Biology	
BMB 509	Molecular Biology of the Gene	
Track 2 (BCHN)		
BMB 417	Nutrients, Enzymes, and Metabolic Flux	
BMB 519	Epigenetics and Nutrition	
Total Credit Hours		17

¹ A grade of C or better must be earned in each BMB course.

Biology

<http://www.as.miami.edu/biology/>

Dept. Code: BIL

Introduction

The Department of Biology offers undergraduate programs for students interested in a natural science education that will prepare them for careers in biological research, medicine and other health-related fields, teaching, environmental management and other fields that require a broad base of biological knowledge.

Educational Objectives

The Department of Biology trains students to understand and use the scientific method, and to engage in critical thinking and experimental design.

We strongly encourage original laboratory and/or field research under the mentorship of biology faculty. The Bachelor of Science in Biology prepares the student for further training in natural science, such as biology graduate school, as well as medical, veterinary, dental or other health-care professions. The Bachelor of Arts degree prepares the student for a career in humanities-related fields such as teaching or environmental law.

Degree Programs

Two undergraduate degrees are available in Biology: the **Bachelor of Science** and the **Bachelor of Arts**.

Both require a **major** in Biology consisting of 34 credit hours in BIL with a minimum grade of C- in each course and an overall GPA of 2.0.

Additional course requirements for each degree are listed under **Bachelor of Science** and the **Bachelor of Arts** elsewhere in this Bulletin.

Advanced Writing and Communication Requirement

Degree candidates in the College of Arts and Sciences must complete at least four writing courses, and at least one such course must be in the student's major discipline. Candidates for the B.S. or B.A. degree in Biology should consult the listings at <http://www.as.miami.edu/academics/undergraduate-studies/writing-courses/> to find writing-intensive courses in BIL. Transfer students may use a maximum of two transfer courses towards the writing requirement.

Departmental Honors

Honors Program

The Honors in Biology Program gives students the opportunity to do original research, working closely with faculty members. Students also have the opportunity to discuss their research with other students by participating in Honors Seminars.

Curriculum requirements for Honors in Biology:

Code	Title	Credit Hours
Select a minimum of two of the following: ¹		4
BIL 495	Projects in Biology	
BIL 496	Projects in Biology	
BIL 497	Projects in Biology	
Complete a senior thesis, of superior quality, on the results of the research.		
BIL 498	Senior Thesis	
Select research colloquium:		
BIL 499	Research Colloquium	
Select a minimum of two BIL credit hours from the following:		2
BIL 299	Seminar in Research Problems	
BIL 374	Seminar in Biology	
BIL 375	Seminar in Biology	
BIL 402	Seminar in Biology	
Select a minimum of one course in the Department of Biology at the 500 level		3
An overall GPA of 3.3 and a biology GPA of 3.5.		

¹ Projects in Biology involve a research project carried out under the supervision of a member of the Department of Biology faculty or alternative faculty approved by the Office of Undergraduate Research.

Advanced placement, and in certain situations, course credit hours can be earned through the College Entrance Examination Board program, placement examinations, and departmental proficiency examinations.

For Graduate programs, consult the Graduate School section of this Bulletin.

Variations within the above program may be permitted by the Department Chair in special cases.

Majors in Biology

- B.S. in Biology (p. 150)
- B.A. in Biology (p. 148)

Minor in Biology

- Biology (p. 154)

B.A. in Biology

The B.A. degree is recommended for students involved in interdisciplinary programs and for entrance to those professional schools and specific biological careers not requiring a B.S. degree with a major in Biology.

Curriculum Requirements

Code	Title	Credit Hours
Biology		10
BIL 150	General Biology	
BIL 151 or BIL 152 or BIL 153	General Biology Laboratory HHMI General Biology Laboratory. Introductory Biology/Chemistry Laboratory I	
BIL 160	Evolution and Biodiversity	
BIL 161 or BIL 162 or BIL 163	Evolution and Biodiversity Laboratory HHMI Evolution and Biodiversity Laboratory. Introductory Biology/Chemistry Laboratory II	
BIL Electives		24
At least three BIL elective credits must be at the 400-level or higher		
At least one elective course must be a CAPSTONE. (Locate capstone courses in Canelink Class Search under "Additional Search Criteria", subheading "Course Attributes".)		
Up to eight credit hours for the major may be selected from courses with a biological topic and numbered 300 or higher in MBE, MES, or MSC.		
Chemistry		8-15
Select one of the following options:		
Option 1:		
CHM 103 or CHM 111	Chemistry for Life Sciences I (Lecture) Principles of Chemistry I	
CHM 105 or CHM 113	Chemistry for Life Sciences I (Laboratory) Chemistry Laboratory I	
CHM 104 or CHM 201	Chemistry for Life Sciences II (Lecture) Organic Chemistry I (Lecture)	
CHM 106 or CHM 205	Chemistry for Life Sciences II (Laboratory) Organic Chemistry Laboratory I	
Option 2: Choose Chemistry for the BioSciences Three-semester Sequence.		
CHM 121 & CHM 113	Chemistry for the Biosciences I and Chemistry Laboratory I	
CHM 221 & CHM 114	CHM211 Chemistry for the Biosciences II and Chemistry Laboratory II	
CHM 222 & CHM 205	CHM212 Chemistry for the Biosciences III and Organic Chemistry Laboratory I	
Minor		15

A minor in a department other than natural science.		
Additional Required Courses		
ENG 105	English Composition I	3
ENG 106 or ENG 107	English Composition II English Composition II: Science and Technology	3
MTH 113 or MTH 108	Finite Mathematics Precalculus Mathematics II	3
Language Courses		3-9
Arts and Humanities Cognate		9
People and Society Cognate		9
Electives		33-20
Total Credit Hours		120

Suggested Plan of Study

Course	Title	Credit Hours
Year One		
Fall		
BIL 150	General Biology	4
BIL 151, 152, or 153	General Biology Laboratory or HHMI General Biology Laboratory. or Introductory Biology/Chemistry Laboratory I	1
ENG 105	English Composition I	3
Elective (Usually MTH)		3
Language 101		3
	Credit Hours	14
Spring		
BIL 160	Evolution and Biodiversity	4
BIL 161, 162, or 163	Evolution and Biodiversity Laboratory or HHMI Evolution and Biodiversity Laboratory. or Introductory Biology/Chemistry Laboratory II	1
ENG 106 or 107	English Composition II or English Composition II: Science and Technology	3
Choose one of the following:		3
MTH 108	Precalculus Mathematics II	
MTH 113	Finite Mathematics	
MTH 130	Introductory Calculus	
Language 102		3
	Credit Hours	14
Year Two		
Fall		
BIL Elective (BIL 250 or BIL 255 recommended)		3
CHM 103 or 111	Chemistry for Life Sciences I (Lecture) or Principles of Chemistry I	3
CHM 105 or 113	Chemistry for Life Sciences I (Laboratory) or Chemistry Laboratory I	1
Language 2XX		3
Arts and Humanities Cognate Course		3
People and Society Cognate Course		3
	Credit Hours	16
Spring		
BIL Elective		3
Course in Minor		3

CHM 104 or 201	Chemistry for Life Sciences II (Lecture) or Organic Chemistry I (Lecture)	3
CHM 106 or 205	Chemistry for Life Sciences II (Laboratory) or Organic Chemistry Laboratory I	1
Arts and Humanities Cognate Course		3
People and Society Cognate Course		3
Credit Hours		16
Year Three		
Fall		
BIL Elective		3
Arts and Humanities Cognate Course (WRI)		3
General Elective (WRI)		3
Course in Minor		3
Elective		3
Credit Hours		15
Spring		
BIL Elective		3
People and Society Cognate Course		3
General Elective (WRI)		3
Course in Minor		3
Elective		3
Credit Hours		15
Year Four		
Fall		
BIL Elective 400 level or higher		3
BIL Elective		3
Course in Minor (WRI)		3
General Elective		3
General Elective		3
Credit Hours		15
Spring		
BIL Elective		3
BIL Elective		3
Course in Minor		3
Course in Minor or Elective		3
General Elective (WRI)		3
		1
Credit Hours		16
Total Credit Hours		121

B.S. in Biology

The B.S. degree is recommended in preparation for graduate schools, professional schools, marine biology, and high school or college teaching.

Curriculum Requirements

Code	Title	Credit Hours
Biology Core Courses		22
BIL 150	General Biology	
BIL 151 or BIL 152 or BIL 153	General Biology Laboratory HHMI General Biology Laboratory. Introductory Biology/Chemistry Laboratory I	
BIL 160	Evolution and Biodiversity	
BIL 161	Evolution and Biodiversity Laboratory	

or BIL 162	HHMI Evolution and Biodiversity Laboratory.
or BIL 163	Introductory Biology/Chemistry Laboratory II
BIL 250	Genetics
BIL 255	Cellular and Molecular Biology
BIL 330	Ecology
or BIL 432	Ecology in the Galapagos
BIL 360	Comparative Physiology
Additional BIL electives	12
At least three credit hours of additional BIL electives must be at the 400-level or higher	
At least one BIL elective must be a CAPSTONE course. (Locate capstone courses in Class Search under "Additional Search Criteria", subheading "Class Attributes".)	
Two biology laboratory or field courses beyond <BIL 151 or BIL 152 or BIL 153> and <BIL 161 or BIL 162 or BIL 163> are required as part of the additional BIL electives. Approved laboratory/field courses at the 300 level or higher in departments other than Biology (e.g., BMB, MIC, MSC, NEU) may be counted towards this lab requirement. Check with the Department of Biology to confirm that a specific course is allowed to fulfill this requirement.	
Up to eight credit hours toward the major may be selected from courses with a biological topic and numbered 300 or higher in MBE, MES, or MSC.	
A maximum of two credit hours of the following may be applied towards the major	
BIL 371	Readings in Biology
BIL 372	Readings in Biology
A maximum of six credit hours of the following may be applied towards the major. (One of these may be counted towards the lab/field requirement.) ¹	
BIL 495	Projects in Biology
BIL 496	Projects in Biology
BIL 497	Projects in Biology
A maximum of three total credit hours from the following courses may be applied towards the major. Any course in this list may be taken only once to count towards the major. However, these courses may be taken additional times for general elective credit only.	
BIL 281	Undergraduate Learning Internship in Biology
BIL 381	Workshop Leaders in Biology I ²
BIL 382	Workshop Leaders in Biology II
BIL 481	Undergraduate Teaching Assistant Training in Biology
BIL 482	PRISM Teaching Fellow
Chemistry	12-15
Select one of the following Options:	
Option 1: Three-semester, 15 credit Chemistry Sequence recommended for life sciences majors. One additional CHM credit at the 200-level or higher (e.g., CHM 206) will fulfill the requirements for the minor in Chemistry.	
CHM 121 & CHM 113	Chemistry for the Biosciences I and Chemistry Laboratory I
CHM 221 & CHM 114	CHM211 Chemistry for the Biosciences II and Chemistry Laboratory II
CHM 222 & CHM 205	CHM212 Chemistry for the Biosciences III and Organic Chemistry Laboratory I
Option 2: Four-semester, 12 credit Chemistry Sequence. Four additional CHM credits at the 200-level or higher (e.g., CHM 202/CHM 206) will fulfill the requirements for the minor in Chemistry)	
CHM 111 & CHM 113	Principles of Chemistry I and Chemistry Laboratory I (recommended to be taken in the first year)
CHM 112 & CHM 114	Principles of Chemistry II and Chemistry Laboratory II (recommended to be taken in the first year)
CHM 201 & CHM 205	Organic Chemistry I (Lecture) and Organic Chemistry Laboratory I (recommended to be taken in the second year)
Statistics or Computer Language/Programming	

Select one statistics or one computer language/programming course from the following: ³	3	
BIL 511	Advanced Biostatistics	
ECS 204	Environmental Statistics	
IEN 311	Applied Probability and Statistics	
MSC 204	Environmental Statistics	
MTH 224	Introduction to Probability and Statistics	
PSY 291	Introduction to Biobehavioral Statistics	
PSY 292	Introduction to Biobehavioral Statistics for Non-Majors	
CSC 120	Computer Programming I	
Physics		
Select one of the following Options:	10-11	
Option One:		
PHY 101 & PHY 106	College Physics I and College Physics Laboratory I	
PHY 102 & PHY 108	College Physics II and College Physics Laboratory II	
Option Two:		
PHY 201 & PHY 106	University Physics I for the Sciences and College Physics Laboratory I	
PHY 202 & PHY 108	University Physics II for the Sciences and College Physics Laboratory II	
Option Three:		
PHY 205	University Physics I	
PHY 206 & PHY 208	University Physics II and University Physics II Lab	
PHY 207 & PHY 209	University Physics III and University Physics III Lab	
Minor in a Natural Science		
1-16		
A minor in chemistry, ecosystem science and policy, physics, geological sciences, marine sciences, biochemistry and molecular biology, computer science, mathematics, or microbiology and immunology		
Total credit hours for the minor will vary by department.		
The CHM requirement for the BS in biology fulfills either 12 or 15 (depending on which option is selected) of the 16 credits necessary for the minor in Chemistry. To complete the minor in Chemistry, only 1-4 additional credits in CHM are required beyond those necessary for the BS in Biology.		
Additional Required Courses		
ENG 105	English Composition I	3
ENG 106 or ENG 107	English Composition II English Composition II: Science and Technology	3
MTH 161	Calculus I	4
MTH 162	Calculus II	4
Language Courses		3-9
Arts and Humanities Cognate		9
People and Society Cognate		9
Electives		25-0
Total Credit Hours		120

¹ Only one course may be counted towards the laboratory course requirement for the B.S. degree

² A maximum of one credit hour may be applied towards the major or minor. These courses may be taken more than once each for *general elective credit only*, but only two credits from these options may count towards the major or minor.

³ This will fulfill the mathematics/statistics/computer programming requirement under the College of Arts and Sciences General degree requirements for the Bachelor of Science.

Suggested Plan of Study

Course	Title	Credit Hours
Year One		
Fall		
BIL 150	General Biology	4
BIL 151, 152, or 153	General Biology Laboratory or HHMI General Biology Laboratory. or Introductory Biology/Chemistry Laboratory I	1
CHM 121 or 111	Chemistry for the Biosciences I or Principles of Chemistry I	3-4
CHM 113	Chemistry Laboratory I	1
ENG 105	English Composition I	3
MTH 161	Calculus I	4
	Credit Hours	16-17
Spring		
BIL 160	Evolution and Biodiversity	4
BIL 161, 162, or 163	Evolution and Biodiversity Laboratory or HHMI Evolution and Biodiversity Laboratory. or Introductory Biology/Chemistry Laboratory II	1
CHM 221 or 112	CHM211 Chemistry for the Biosciences II or Principles of Chemistry II	3-4
CHM 114	Chemistry Laboratory II	1
ENG 106 or 107	English Composition II or English Composition II: Science and Technology	3
MTH 162	Calculus II	4
	Credit Hours	16-17
Year Two		
Fall		
CHM 222 or 201	CHM212 Chemistry for the Biosciences III or Organic Chemistry I (Lecture)	4
CHM 205	Organic Chemistry Laboratory I	1
BIL 250 or 255	Genetics or Cellular and Molecular Biology	3
Language 101		3
Statistics or Computer Science Course		3
Arts and Humanities Cognate Course		3
	Credit Hours	17
Spring		
CHM 206	Organic Chemistry Laboratory II	1
BIL 250 or 255	Genetics or Cellular and Molecular Biology	3
BIL 374, 375, or 402	Seminar in Biology or Seminar in Biology or Seminar in Biology	1
BIL Lab (note: Some BIL labs are available for WRI credit. Check course listings for more information.)		1-2
Language 102		3
People and Society Cognate course		3
Elective		3
	Credit Hours	15-16
Year Three		
Fall		
BIL 330 or 360	Ecology or Comparative Physiology	3

PHY 101	College Physics I	4
PHY 106	College Physics Laboratory I	1
People and Society Cognate course (WRI)		3
Language 2XX		3
	Credit Hours	14
Spring		
BIL 330 or 360	Ecology or Comparative Physiology	3
PHY 102	College Physics II	4
PHY 108	College Physics Laboratory II	1
Arts and Humanities Cognate (WRI)		3
Elective		3
	Credit Hours	14
Year Four		
Fall		
BIL Elective 400 level or higher (note: BMB 401 fulfills this requirement.)		3
BIL Lab (note: Some BIL labs are available for WRI credit. Check course listings for more information.)		1-2
BIL Elective		3
Arts and Humanities Cognate		3
Elective (WRI)		3
BIL 375, 374, or 402	Seminar in Biology or Seminar in Biology or Seminar in Biology	1
	Credit Hours	14-15
Spring		
BIL Elective		3
BIL Elective		1
Elective (WRI)		3
People and Society Cognate		3
Elective		1-3
Elective		3
	Credit Hours	14-16
	Total Credit Hours	120-126

Minor in Biology

<http://www.as.miami.edu/biology/undergraduate/minor-in-biology/>

Minor Requirements

Code	Title	Credit Hours
BIL 200 or higher		9
*The following courses CANNOT be used to satisfy the Biology Minor requirement: BIL 281, BIL 381, BIL 382, BIL 481, BIL 482		
All credit hours for the Biology Minor must be taken in residence at University of Miami		

- ¹ Courses from other natural sciences approved as electives in the Biology Major may not be counted towards the Biology Minor. (All courses must be in BIL.)
- ² Overall GPA in the BIL minor courses must be a minimum of 2.0.
- ³ The nine credits required for the Biology Minor do not include the introductory biology series (BIL 150, BIL 160, BIL 151 or 153, BIL 161 or BIL 163) that may be pre-requisites for upper level courses

Chemistry

<http://www.as.miami.edu/chemistry>

Dept. Code: CHM

Introduction

Each undergraduate chemistry degree program requires:

Code	Title	Credit Hours
Core Courses		
CHM 111	Principles of Chemistry I	3
CHM 112	Principles of Chemistry II	3
CHM 113	Chemistry Laboratory I	1
CHM 114	Chemistry Laboratory II	1
CHM 202	Organic Chemistry II (Lecture)	3
CHM 205	Organic Chemistry Laboratory I	1
CHM 206	Organic Chemistry Laboratory II	1
CHM 214	Quantitative Analytical Chemistry	3
One year of Calculus		
At least two semesters of Physics Plus Lab		
Total Credit Hours		16

The requirements for a major are flexible and should conform to the objectives of the student. A grade of C- or higher must be earned in all courses taken for major or minor credit hour, and the Chemistry GPA must be 2.00 or higher. Credit hours earned in CHM 381 and CHM 382 **do not count** toward the major or minor.

Educational Objectives

The mission of the Bachelor's degree program in the Chemistry Department is to promote an understanding and appreciation of the role of chemistry in modern society, especially as it relates to and integrates with other biological and physical sciences and societal issues facing humanity today such as the environment, health issues and technological advances.

Degree Programs

Three programs lead to degrees with a chemistry major:

1. The B.A. degree
2. The B.S. degree
3. The B.S. degree with certification by the American Chemical Society Committee for Professional Training of Chemists.

Departmental Honors

Honors in Chemistry may be earned by students who complete the B.S. degree in chemistry, plus at least five credit hours of CHM 488 and one credit hour of CHM 490, all with an average grade of at least 3.30. A written Honors Thesis and oral defense on the subject of the Honors Research must be presented by the student and approved by a Department Honors Committee.

Writing Requirement

To satisfy the College of Arts and Sciences writing requirement in the discipline, students majoring in Chemistry should take CHM 320 or ENG 233.

Credit for Courses at the 100- and 200-Level

Credit hour may be earned in only one of the courses CHM 103, CHM 111 or CHM 151. Credit hour may not be earned in both CHM 104 and CHM 201.

Majors in Chemistry

- B.A. in Chemistry (p. 156)
- B.S. in Chemistry (p. 158)
- Certified B.S. in Chemistry (p. 163)
- B.S. Dual major in Chemistry and Physics (p. 304)

Minor in Chemistry

- Chemistry (p. 166)

B.A. in Chemistry

<http://www.as.miami.edu/chemistry/>

The **B.A.** degree requires 27 credit hours of chemistry. This major is designed for premedical students, high school science teachers, and others who choose a non-science minor. It may be combined with business courses in an interdisciplinary program. Variations within the program below may be recommended by the Department. Transfer students must complete a minimum of half of the required major credit hours in residence in the Department. Students should make certain that math and physics prerequisites are fulfilled in a timely manner.

Curriculum Requirements

Code	Title	Credit Hours
Core Courses		
CHM 111	Principles of Chemistry I	3
CHM 112	Principles of Chemistry II	3
CHM 113	Chemistry Laboratory I	1
CHM 114	Chemistry Laboratory II	1
CHM 201	Organic Chemistry I (Lecture)	3
CHM 202	Organic Chemistry II (Lecture)	3
CHM 205	Organic Chemistry Laboratory I	1
CHM 206	Organic Chemistry Laboratory II	1
CHM 214	Quantitative Analytical Chemistry	3
CHM 331 or CHM 360	Physical Chemistry for Premedical Students Physical Chemistry I (Lecture)	3
Choose one of the following:		8
MTH 161 & MTH 162	Calculus I and Calculus II	
MTH 171 & MTH 172	Calculus I and Calculus II	
Choose one of the following:		10-11
PHY 101 & PHY 102 & PHY 106 & PHY 108	College Physics I and College Physics II and College Physics Laboratory I and College Physics Laboratory II	
PHY 205 & PHY 210 & PHY 208 & PHY 209	University Physics I and Honors University Physics II-III and University Physics II Lab and University Physics III Lab	
PHY 205 & PHY 206 & PHY 207 & PHY 208 & PHY 209	University Physics I and University Physics II and University Physics III and University Physics II Lab and University Physics III Lab	
Chemistry Related Electives		5-6
BMB 401	Biochemistry for the Biomedical Sciences	
CHM 316	Instrumental Analytical Chemistry	
CHM 320	Instrumental Methods in Chemistry and Biochemistry	
CHM 365	Physical Chemistry II (Lecture)	
CHM 401	Environmental Chemistry	
CHM 441	Inorganic Chemistry (Lecture)	
CHM 520	Physical Organic Chemistry	
Additional Required Courses		
ENG 105	English Composition I	3
ENG 106	English Composition II	3
Arts and Humanities Cognate		9
People and Society Cognate		9

Language Courses	3-9
Minor	15
Electives	33-25
Total Credit Hours	120

Suggested Plan of Study

This is a guide and is not meant to take the place of the advice of your major advisor; you should consult with them before making any changes.

Course	Title	Credit Hours
Year One		
Fall		
CHM 111	Principles of Chemistry I	3
CHM 113	Chemistry Laboratory I	1
MTH 161	Calculus I	4
ENG 105	English Composition I	3
Arts and Humanities Cognate		3
	Credit Hours	14
Spring		
CHM 112	Principles of Chemistry II	3
CHM 114	Chemistry Laboratory II	1
MTH 162	Calculus II	4
ENG 106	English Composition II	3
Arts and Humanities Cognate		3
	Credit Hours	14
Year Two		
Fall		
CHM 201	Organic Chemistry I (Lecture)	3
CHM 205	Organic Chemistry Laboratory I	1
PHY 101	College Physics I	4
PHY 106	College Physics Laboratory I	1
Language Course		3
Arts and Humanities Cognate		3
	Credit Hours	15
Spring		
CHM 202	Organic Chemistry II (Lecture)	3
CHM 206	Organic Chemistry Laboratory II	1
PHY 102	College Physics II	4
PHY 108	College Physics Laboratory II	1
Language Course		3
People and Society Cognate		3
	Credit Hours	15
Year Three		
Fall		
CHM 214	Quantitative Analytical Chemistry	3
Language Course		3
People and Society Cognate		3
Minor Course		3
Elective		3
	Credit Hours	15
Spring		
CHM 331	Physical Chemistry for Premedical Students	3
CHM Elective ¹		3

People and Society Cognate	3
Minor Course	3
Minor Course	3
Credit Hours	15
Year Four	
Fall	
CHM Elective ¹	3
Minor Course	3
Minor Course	3
Elective	3
Elective	3
Elective	3
Credit Hours	18
Spring	
Elective	3
Elective	3
Elective	3
Elective	3
Elective	3
Credit Hours	15
Total Credit Hours	121

B.S. in Chemistry

<http://www.as.miami.edu/chemistry/>

The B.S. degree requires 40 credit hours of chemistry. This major meets the minimum entrance requirements of many graduate programs in chemistry. Variations within the above program may be recommended by the Department. Transfer students must complete a minimum of half of the required major credit hours in residence in the Department. Students should make certain that math and physics prerequisites are fulfilled in a timely manner. For students who plan to do graduate work in physical chemistry, a double minor is recommended: Mathematics and Computer Science through 310 and 311, Physics through 350 and 360.

Curriculum Requirements

Code	Title	Credit Hours
Core Courses		
CHM 111	Principles of Chemistry I	3
CHM 112	Principles of Chemistry II	3
CHM 113	Chemistry Laboratory I	1
CHM 114	Chemistry Laboratory II	1
CHM 201	Organic Chemistry I (Lecture)	3
CHM 202	Organic Chemistry II (Lecture)	3
CHM 205	Organic Chemistry Laboratory I	1
CHM 206	Organic Chemistry Laboratory II	1
CHM 214	Quantitative Analytical Chemistry	3
Choose One of the Following:		8
MTH 161 & MTH 162	Calculus I and Calculus II	
MTH 171 & MTH 172	Calculus I and Calculus II	
Choose One of the Following:		10-11
PHY 101 & PHY 102 & PHY 106 & PHY 108	College Physics I and College Physics II and College Physics Laboratory I and College Physics Laboratory II	

PHY 205 & PHY 210 & PHY 208 & PHY 209	University Physics I and Honors University Physics II-III and University Physics II Lab and University Physics III Lab	
PHY 205 & PHY 206 & PHY 207 & PHY 208 & PHY 209	University Physics I and University Physics II and University Physics III and University Physics II Lab and University Physics III Lab	
Advanced Courses		
CHM 316	Instrumental Analytical Chemistry	3
CHM 320	Instrumental Methods in Chemistry and Biochemistry	2
CHM 360	Physical Chemistry I (Lecture)	3
CHM 364	Physical Chemistry (Laboratory I)	1
CHM 365	Physical Chemistry II (Lecture)	3
CHM 441	Inorganic Chemistry (Lecture)	3
BMB 401	Biochemistry for the Biomedical Sciences	4
Electives		
CHM 317	The Chemistry of Food and Taste.	
CHM 401	Environmental Chemistry	
Any 500-level CHM course		
Additional Required Courses		
ENG 105	English Composition I	3
ENG 106	English Composition II	3
Arts and Humanities Cognate		9
People and Society Cognate		9
Language Courses		3-9
Electives/Minor		36
Total Credit Hours		122-129

Suggested Plan of Study

This is a guide and is not meant to take the place of the advice of your major advisor; you should consult with them before making any changes.

Course	Title	Credit Hours
Year One		
Fall		
CHM 111	Principles of Chemistry I	3
CHM 113	Chemistry Laboratory I	1
MTH 161	Calculus I	4
ENG 105	English Composition I	3
Arts and Humanities Cognate		3
Credit Hours		14
Spring		
CHM 112	Principles of Chemistry II	3
CHM 114	Chemistry Laboratory II	1
MTH 162	Calculus II	4
ENG 106	English Composition II	3
Arts and Humanities Cognate		3
Credit Hours		14
Year Two		
Fall		
CHM 201	Organic Chemistry I (Lecture)	3
CHM 205	Organic Chemistry Laboratory I	1

PHY 101	College Physics I	4
PHY 106	College Physics Laboratory I	1
Language 101 Course		3
Arts and Humanities Cognate		3
	Credit Hours	15
Spring		
CHM 202	Organic Chemistry II (Lecture)	3
CHM 206	Organic Chemistry Laboratory II	1
PHY 102	College Physics II	4
PHY 108	College Physics Laboratory II	1
Language 211		3
People and Society Cognate		3
	Credit Hours	15
Year Three		
Fall		
CHM 214	Quantitative Analytical Chemistry	3
CHM 360	Physical Chemistry I (Lecture)	3
CHM 364	Physical Chemistry (Laboratory I)	1
Language 212		3
People and Society Cognate		3
Elective		3
	Credit Hours	16
Spring		
CHM 316	Instrumental Analytical Chemistry	3
CHM 320	Instrumental Methods in Chemistry and Biochemistry	2
CHM 365	Physical Chemistry II (Lecture)	3
People and Society Cognate		3
Elective		3
Elective		3
	Credit Hours	17
Year Four		
Fall		
BMB 401	Biochemistry for the Biomedical Sciences	4
Chemistry Elective		3
Elective		3
Elective		3
Elective		3
	Credit Hours	16
Spring		
CHM 441	Inorganic Chemistry (Lecture)	3
Elective		3
Elective		3
Elective		3
Elective		3
	Credit Hours	15
	Total Credit Hours	122

B.S. / M.S. in Chemistry Five-Year

The BS/MS program is a five-year program emphasizing research in the Senior year and in the Master's year. Before they enter the program, students will be prepared for their research experience through existing laboratory courses and by mentored research with a Chemistry graduate faculty member. Whereas students may begin mentored research as early as their freshmen year, it is expected that they should have at least one semester of

research prior to the start of their senior year. Students will have access to capstone and interdisciplinary 500 level courses as seniors and to 600 level courses as Masters students.

Curriculum

Code	Title	Credit Hours
CHM 111	Principles of Chemistry I	3
CHM 112	Principles of Chemistry II	3
CHM 113	Chemistry Laboratory I	1
CHM 114	Chemistry Laboratory II	1
CHM 201	Organic Chemistry I (Lecture)	3
CHM 202	Organic Chemistry II (Lecture)	3
CHM 205	Organic Chemistry Laboratory I	1
CHM 206	Organic Chemistry Laboratory II	1
CHM 214	Quantitative Analytical Chemistry	3
Choose One of the Following:		8
MTH 161 & MTH 162	Calculus I and Calculus II	
MTH 171 & MTH 172	Calculus I and Calculus II	
Choose One of the Following:		10-11
PHY 101 & PHY 102 & PHY 106 & PHY 108	College Physics I and College Physics II and College Physics Laboratory I and College Physics Laboratory II	
PHY 205 & PHY 210 & PHY 208 & PHY 209	University Physics I and Honors University Physics II-III and University Physics II Lab and University Physics III Lab	
PHY 205 & PHY 206 & PHY 207 & PHY 208 & PHY 209	University Physics I and University Physics II and University Physics III and University Physics II Lab and University Physics III Lab	
Advanced Courses		
CHM 316	Instrumental Analytical Chemistry	3
CHM 320	Instrumental Methods in Chemistry and Biochemistry	2
CHM 360	Physical Chemistry I (Lecture)	3
CHM 364	Physical Chemistry (Laboratory I)	1
CHM 365	Physical Chemistry II (Lecture)	3
CHM 441	Inorganic Chemistry (Lecture)	3
BMB 401	Biochemistry for the Biomedical Sciences	4
Electives		3
CHM 317	The Chemistry of Food and Taste.	
CHM 401	Environmental Chemistry	
Any 500-level course		
CHM 488	Undergraduate Research	5
Additional Required Courses		
ENG 105	English Composition I	3
ENG 106	English Composition II	3
Arts and Humanities Cognate		9
People and Society Cognate		9
Language Courses		3-9
Electives/Minor		31
Two 600-level courses		6

CHM 779	Chemistry Seminar	1
CHM 780	Chemistry Seminar	2
CHM 810	Master's Thesis	21
Total Credit Hours		152-159

Course	Title	Credit Hours
Year One		
Fall		
CHM 111	Principles of Chemistry I	3
CHM 113	Chemistry Laboratory I	1
MTH 161	Calculus I	4
ENG 105	English Composition I	3
Arts and Humanities Cognate		3
	Credit Hours	14
Spring		
CHM 112	Principles of Chemistry II	3
CHM 114	Chemistry Laboratory II	1
MTH 162	Calculus II	4
ENG 106	English Composition II	3
Arts and Humanities Cognate		3
	Credit Hours	14
Year Two		
Fall		
CHM 201	Organic Chemistry I (Lecture)	3
CHM 205	Organic Chemistry Laboratory I	1
PHY 201	University Physics I for the Sciences	4
PHY 106	College Physics Laboratory I	1
Language 101 Course		3
Arts and Humanities Cognate		3
	Credit Hours	15
Spring		
CHM 202	Organic Chemistry II (Lecture)	3
CHM 206	Organic Chemistry Laboratory II	1
PHY 202	University Physics II for the Sciences	4
PHY 108	College Physics Laboratory II	1
Language 211		3
People and Society Cognate		3
	Credit Hours	15
Year Three		
Fall		
CHM 214	Quantitative Analytical Chemistry	3
CHM 360	Physical Chemistry I (Lecture)	3
CHM 364	Physical Chemistry (Laboratory I)	1
Language 212		3
People and Society Cognate		3
Elective		3
	Credit Hours	16
Spring		
CHM 316	Instrumental Analytical Chemistry	3
CHM 320	Instrumental Methods in Chemistry and Biochemistry	2
CHM 365	Physical Chemistry II (Lecture)	3
People and Society Cognate		3

Elective		3
Elective		3
	Credit Hours	17
Year Four		
Fall		
BMB 401	Biochemistry for the Biomedical Sciences	4
Chemistry Elective		3
CHM 488	Undergraduate Research	3
Elective		3
Elective		3
	Credit Hours	16
Spring		
CHM 441	Inorganic Chemistry (Lecture)	3
Chemistry Elective		3
CHM 488	Undergraduate Research	2
Elective		3
Elective		3
	Credit Hours	14
Summer		
CHM 810	Master's Thesis	5
CHM 810	Master's Thesis	4
	Credit Hours	9
Year Five		
Fall		
600-level CHM course		3
CHM 810	Master's Thesis	6
CHM 779	Chemistry Seminar	1
	Credit Hours	10
Spring		
600-level CHM course		3
CHM 810	Master's Thesis	6
CHM 779	Chemistry Seminar	1
CHM 780	Chemistry Seminar	1
	Credit Hours	11
	Total Credit Hours	151

Certified B.S. in Chemistry

<http://www.as.miami.edu/chemistry/>

Curriculum Requirements

Code	Title	Credit Hours
Core Courses		
CHM 111	Principles of Chemistry I	3
CHM 112	Principles of Chemistry II	3
CHM 113	Chemistry Laboratory I	1
CHM 114	Chemistry Laboratory II	1
CHM 201	Organic Chemistry I (Lecture)	3
CHM 202	Organic Chemistry II (Lecture)	3
CHM 205	Organic Chemistry Laboratory I	1

CHM 206	Organic Chemistry Laboratory II	1
CHM 214	Quantitative Analytical Chemistry	3
Advanced Courses		
BMB 401	Biochemistry for the Biomedical Sciences	4
CHM 316	Instrumental Analytical Chemistry	3
CHM 320	Instrumental Methods in Chemistry and Biochemistry	2
CHM 360	Physical Chemistry I (Lecture)	3
CHM 364	Physical Chemistry (Laboratory I)	1
CHM 365	Physical Chemistry II (Lecture)	3
CHM 441	Inorganic Chemistry (Lecture)	3
CHM 442	Inorganic Chemistry (Laboratory)	1
CHM 464	Physical Chemistry (Laboratory II)	1
CHM 488	Undergraduate Research	2
CHM 490	Honors Research	1
Chemistry Electives		3
CHM 317	The Chemistry of Food and Taste.	
CHM 401	Environmental Chemistry	
Any 500-level CHM course		
Math and Chemistry Courses		
MTH 161	Calculus I	4
MTH 162	Calculus II	4
PHY 205	University Physics I	3
PHY 206	University Physics II ¹	3
PHY 207	University Physics III ¹	3
PHY 208	University Physics II Lab	1
PHY 209	University Physics III Lab	1
Additional Required Courses		
ENG 105	English Composition I	3
ENG 106	English Composition II	3
Arts and Humanities Cognate		9
People and Society Cognate		9
Minor		15
Electives		15
Language		3-9
Total Credit Hours		122-128

¹ PHY 210 can substitute for PHY 206 and PHY 207.

² Variations within the above programs may be recommended by the Department. Transfer students must complete a minimum of half of the required major credit hours in residence in the Department.

³ Students should make certain that math and physics prerequisites are fulfilled in a timely manner. For students who plan to do graduate work in physical chemistry, a double minor is recommended: Mathematics and Computer Science through 310 and CS 311, Physics through PHY 350 and PHY 360.

Suggested Plan of Study

This is a guide and is not meant to take the place of the advice of your major advisor; you should consult with them before making any changes.

Course	Title	Credit Hours
Year One		
Fall		
CHM 111	Principles of Chemistry I	3
CHM 113	Chemistry Laboratory I	1
MTH 161	Calculus I	4
ENG 105	English Composition I	3

Arts and Humanities Cognate		3
	Credit Hours	14
Spring		
CHM 112	Principles of Chemistry II	3
CHM 114	Chemistry Laboratory II	1
MTH 162	Calculus II	4
ENG 106	English Composition II	3
Arts and Humanities Cognate		3
	Credit Hours	14
Year Two		
Fall		
CHM 201	Organic Chemistry I (Lecture)	3
CHM 205	Organic Chemistry Laboratory I	1
PHY 205	University Physics I	3
Arts and Humanities Cognate		3
Language Course		3
	Credit Hours	13
Spring		
CHM 202	Organic Chemistry II (Lecture)	3
CHM 206	Organic Chemistry Laboratory II	1
PHY 206	University Physics II	3
PHY 208	University Physics II Lab	1
People and Society Course		3
Language Course		3
	Credit Hours	14
Year Three		
Fall		
CHM 214	Quantitative Analytical Chemistry	3
CHM 360	Physical Chemistry I (Lecture)	3
CHM 364	Physical Chemistry (Laboratory I)	1
PHY 207	University Physics III	3
PHY 209	University Physics III Lab	1
Language Course		3
People and Society Course		3
	Credit Hours	17
Spring		
CHM 316	Instrumental Analytical Chemistry	3
CHM 320	Instrumental Methods in Chemistry and Biochemistry	2
CHM 365	Physical Chemistry II (Lecture)	3
CHM 464	Physical Chemistry (Laboratory II)	1
CHM 488	Undergraduate Research	1
People and Society Course		3
Minor Course		3
	Credit Hours	16
Year Four		
Fall		
BMB 401	Biochemistry for the Biomedical Sciences	4
CHM 488	Undergraduate Research	1
CHM Elective		3
Minor Course		3
Minor Course		3
Minor Course		3

Minor Course		3
	Credit Hours	20
Spring		
CHM 441	Inorganic Chemistry (Lecture)	3
CHM 442	Inorganic Chemistry (Laboratory)	1
CHM 490	Honors Research	1
Elective		3
Elective		3
Elective		3
	Credit Hours	14
	Total Credit Hours	122

Minor in Chemistry

<http://www.as.miami.edu/chemistry/>

Minor Requirements

Code	Title	Credit Hours
CHM Courses 200 or higher and taken at the University of Miami ¹		8
Additional CHM Courses		8
Total Credit Hours		16

¹ These courses do not count toward the CHM 200 level or higher requirement: CHM 381, CHM 382, CHM 488 and CHM 490.

Classics

<http://www.as.miami.edu/classics>

Introduction

All culture and civilizations have their classics: those works of art that are seen as the best of their kind, have withstood the test of time, and embody the symbolic values of their society. In the Western tradition, the study of 'Classics' has focused upon the languages, thoughts, literatures, and cultures of ancient Greece and Rome, and their impact on the whole subsequent history of the Western world.

The study of Classics has been conceived in unusually broad terms; it is intended to encompass everything that can be known about the ancient Mediterranean world. There is room in Classics for the study of fields as disparate as literature, science, sculpture, history, architecture, religion, philosophy, theater, economics, music – in short, the entire panorama of human endeavor. It is no wonder that the study of Classics has always tended to attract some of the liveliest and most brilliant intellects; and it is equally unsurprising that students majoring in Classics find themselves extremely well-prepared for undertaking practically any type of career, whether that be in politics, law, medicine, teaching, publishing, research of all kinds, journalism, banking, or the corporate world. A degree in Classics marks the UM graduate as a person of superior analytical and critical skills, one who has proved able to cope with a rigorous academic curriculum, and who is exceptionally educated in the most fundamental aspects of what it means to be human. Thus, Classics is at the core of the humanities.

Educational Objectives

The educational objectives of the Department of Classics may be stated in a variety of ways, and on a number of levels. In terms of linguistic competency, students majoring (or minoring) in Classics are required to reach an appropriate level of fluency in reading ancient Greek or Latin, or both. In terms of cultural literacy, students of the Classics are educated within a rigorous curriculum exposing them to the great literary works and material cultures of ancient Greece and Rome. In terms of critical thinking, students of the Classics are trained to hone the skills of memory, analysis, and synthesis, skills that they will be able to apply for the rest of their lives in any realm of thought or action whatsoever.

The goal of an education in Classics is to foster and inculcate an ever-burgeoning awareness of what Cicero referred to as *humanitas* – in short, everything it is to be human. It is the mission of Classics to expose its students to the greatest thoughts and endeavors of the human race, and to encourage them to think about what that greatness consists in, and how to enlarge upon it. The profoundest educational objective of the Department of Classics is to preserve and study all that is important about the past, in order best to prepare for the future.

Degree Programs

The Department of Classics offers the Major and the Minor in Classics.

Major in Classics

The undergraduate Major in Classics at UM has four possible tracks. Greek, Latin, Greek and Latin, and Classical Civilization. To satisfy the College of Arts and Sciences writing requirement in the discipline, students majoring in Classics should take three courses marked W from the list of GRE, LAT, and CLA courses offered in the catalog.

Departmental Honors

A student may earn Honors in Classics by completing a 'capstone' project with a grade of B or higher. This project can be the senior thesis (CLA 495 and CLA 496) or an Independent Study course (LAT 491, GRE 491, or CLA 491) that includes a substantial research paper. Either project must be supervised by a faculty member in the Classics Department. In order to qualify for a 'capstone' project, the student must have by the end of the junior year a minimum GPA of 3.5 in the Classics major and 3.3 overall.

In addition, Classics Majors, Classics Minors, and other students who meet certain academic criteria are eligible for membership in Eta Sigma Phi, the National Honors Society for Classics.

Majors in Classics

B.A. in Classics with Tracks in:

- Greek (p. 169)
- Latin (p. 171)
- Latin and Greek (p. 172)
- Classical Civilization (p. 167)

Minor in Classics

- Classics (p. 174)

B.A. in Classics - Classical Civilization Track

Curriculum Requirements

Code	Title	Credit Hours
Major Requirements		
Select one of the following Options:		9
Option 1:		
LAT 101	Elementary Latin I	
LAT 102	Elementary Latin II	
LAT 201	Intermediate Latin I	
Option 2:		
GRE 101	Elementary Ancient Greek I	
GRE 102	Elementary Ancient Greek II	
GRE 201	Intermediate Ancient Greek I	
Select one additional course (202 and above) in either Latin (LAT) or Greek (GRE) ¹		3
Select six Classics-in-translation (CLA) courses ²		18
Additional Requirements		
ENG 105	English Composition I	3
ENG 106	English Composition II	3
MTH 108	Precalculus Mathematics II	3
UMX 100	The University of Miami Experience	0
Arts and Humanities Cognate		9
STEM Cognate		9
Minor Requirement		15
Electives		48
Total Credit Hours		120

¹

- For a full list of LAT courses see this page (p. 1890)
- For a full list of GRE courses see this page (p. 1727)

² For a full list of CLA courses see this page (p. 1568)

Suggested Plan of Study

Course	Title	Credit Hours
Year One		
Fall		
LAT 101	Elementary Latin I	3
ENG 105	English Composition I	3
MTH 130	Introductory Calculus	3
UMX 100	The University of Miami Experience	0
BIL 150 & BIL 151	General Biology and General Biology Laboratory	5
	Credit Hours	14
Spring		
LAT 102	Elementary Latin II	3
ENG 106	English Composition II	3
INS 101	Global Perspectives	3
MTH 161	Calculus I	4
BIL 160 & BIL 161	Evolution and Biodiversity and Evolution and Biodiversity Laboratory	5
	Credit Hours	18
Year Two		
Fall		
LAT 201	Intermediate Latin I	3
INS 102	Global Economics	3
INS 201	Globalization and Change in World Politics	3
APY 202	Principles of Cultural Anthropology	3
MTH 162	Calculus II	4
	Credit Hours	16
Spring		
CLA 232	Topics in Ancient Law, Trials from the Ancient Legal World	3
INS 202	INS Methodology	3
PHI 210	Symbolic Logic	3
COS 211	Public Speaking	3
BUS 200	Introduction to Business	3
	Credit Hours	15
Year Three		
Fall		
LAT 321	Virgil	3
ART 105	Figure Drawing	3
INS 341	Nationalism, Ethnicity and Conflict	3
CLA 241	Greek Civilization	3
CLA 243	The Art of Government in Greece and Rome	3
	Credit Hours	15
Spring		
CLA 220	Greek and Roman Mythology	3
INS 320	Global Economics II	3
INS 591	The European Union	3
INS 595	European Social Movements	3
	Credit Hours	12

Year Four		
Fall		
CLA 271	Ancient Philosophy	3
REL 105	One Goal: Transforming the Self in Asian Religions	3
INS 330	Introduction of Comparative Studies	3
APY 399	The Anthropology of Kinship and Family in America	3
MTH 230	Introduction to Abstract Mathematics	3
	Credit Hours	15
Spring		
APY 362	The Languages of the World	3
INS 420	Global Trade	3
PHI 340	Theory of Knowledge	3
POL 306	Positive Political Theory	3
CLA 300 (EXP) Course		3
	Credit Hours	15
	Total Credit Hours	120

B.A. in Classics - Greek Track

Curriculum Requirements

Code	Title	Credit Hours
Major Courses		
GRE 101	Elementary Ancient Greek I	3
GRE 102	Elementary Ancient Greek II	3
GRE 201	Intermediate Ancient Greek I	3
	Select five additional courses in Greek (GRE 202 and above) ¹	15
	Select two Classics-in-translation (CLA) courses ²	6
Additional Requirements		
ENG 105	English Composition I	3
ENG 106	English Composition II	3
MTH 108	Precalculus Mathematics II	3
UMX 100	The University of Miami Experience	0
	Arts and Humanities Cognate	9
	STEM Cognate	9
	Minor Requirement	15
	Electives	48
	Total Credit Hours	120

¹ For a full list of GRE courses please see this page (p. 1727).

² For a full list of CLA courses please see this page (p. 1568).

Suggested Plan of Study

Course	Title	Credit Hours
Year One		
Fall		
GRE 101	Elementary Ancient Greek I	3
ENG 105	English Composition I	3
MTH 130	Introductory Calculus	3
UMX 100	The University of Miami Experience	0
BUS 200	Introduction to Business	3
Elective		3
	Credit Hours	15

Spring		
GRE 102	Elementary Ancient Greek II	3
ENG 106	English Composition II	3
INS 101	Global Perspectives	3
MTH 161	Calculus I	4
ECO 211	Principles of Microeconomics	3
	Credit Hours	16
Year Two		
Fall		
GRE 201	Intermediate Ancient Greek I	3
INS 102	Global Economics	3
INS 201	Globalization and Change in World Politics	3
APY 202	Principles of Cultural Anthropology	3
MTH 162	Calculus II	4
	Credit Hours	16
Spring		
GRE 202	Intermediate Ancient Greek II	3
INS 202	INS Methodology	3
PHI 210	Symbolic Logic	3
COS 211	Public Speaking	3
ECO 212	Principles of Macroeconomics	3
	Credit Hours	15
Year Three		
Fall		
GRE 311	Plato	3
INS 341	Nationalism, Ethnicity and Conflict	3
WGS 301	Feminist Inquiries	3
REL 109	Anthropology of Religion	3
GRE 300 (EXP) Course		3
	Credit Hours	15
Spring		
CLA 220	Greek and Roman Mythology	3
INS 591	The European Union	3
INS 595	European Social Movements	3
INS 320	Global Economics II	3
WGS 220	European Sexualities	3
	Credit Hours	15
Year Four		
Fall		
GRE 321	Euripides	3
CLA 243	The Art of Government in Greece and Rome	3
INS 330	Introduction of Comparative Studies	3
APY 399	The Anthropology of Kinship and Family in America	3
MTH 230	Introduction to Abstract Mathematics	3
	Credit Hours	15
Spring		
GRE 401	Special Topics in Greek Literature	3
INS 420	Global Trade	3
APY 362	The Languages of the World	3
PHI 340	Theory of Knowledge	3

POL 306	Positive Political Theory	3
	Credit Hours	15
	Total Credit Hours	122

B.A. in Classics - Latin Track

Curriculum Requirements

Code	Title	Credit Hours
Major Requirements		
LAT 101	Elementary Latin I	3
LAT 102	Elementary Latin II	3
LAT 201	Intermediate Latin I	3
Select five additional courses in Latin (LAT 202 and above) ¹		15
Select two Classics-in-translation (CLA) courses ²		6
Additional Requirements		
ENG 105	English Composition I	3
ENG 106	English Composition II	3
MTH 108	Precalculus Mathematics II	3
UMX 100	The University of Miami Experience	0
Arts and Humanities Cognate		9
STEM Cognate		9
Minor Requirement		15
Electives		48
Total Credit Hours		120

¹ For a full list of LAT courses see this page (p. 1890)

² For a full list of CLA courses see this page (p. 1568)

Suggested Plan of Study

Course	Title	Credit Hours
Year One		
Fall		
LAT 101	Elementary Latin I	3
ENG 105	English Composition I	3
MTH 130	Introductory Calculus	3
UMX 100	The University of Miami Experience	0
BUS 200	Introduction to Business	3
Elective		3
Credit Hours		15
Spring		
LAT 102	Elementary Latin II	3
ENG 106	English Composition II	3
INS 101	Global Perspectives	3
MTH 161	Calculus I	4
ECO 211	Principles of Microeconomics	3
Credit Hours		16
Year Two		
Fall		
LAT 201	Intermediate Latin I	3
INS 102	Global Economics	3
INS 201	Globalization and Change in World Politics	3
APY 202	Principles of Cultural Anthropology	3

MTH 162	Calculus II	4
	Credit Hours	16
Spring		
LAT 202	Intermediate Latin II	3
INS 202	INS Methodology	3
PHI 210	Symbolic Logic	3
COS 211	Public Speaking	3
ECO 212	Principles of Macroeconomics	3
	Credit Hours	15
Year Three		
Fall		
LAT 203	Ovid's Metamorphoses	3
LAT 311	Cicero: Orations	3
INS 341	Nationalism, Ethnicity and Conflict	3
WGS 301	Feminist Inquiries	3
REL 109	Anthropology of Religion	3
	Credit Hours	15
Spring		
CLA 220	Greek and Roman Mythology	3
INS 591	The European Union	3
INS 595	European Social Movements	3
INS 320	Global Economics II	3
WGS 220	European Sexualities	3
	Credit Hours	15
Year Four		
Fall		
LAT 323	Seneca	3
CLA 243	The Art of Government in Greece and Rome	3
INS 330	Introduction of Comparative Studies	3
APY 399	The Anthropology of Kinship and Family in America	3
MTH 230	Introduction to Abstract Mathematics	3
	Credit Hours	15
Spring		
LAT 402	Special Topics in Latin Literature	3
INS 420	Global Trade	3
APY 362	The Languages of the World	3
PHI 340	Theory of Knowledge	3
POL 306	Positive Political Theory	3
	Credit Hours	15
	Total Credit Hours	122

B.A. in Classics - Latin and Greek Track

Curriculum Requirements

Code	Title	Credit Hours
Major Requirements		
LAT 101	Elementary Latin I	3
LAT 102	Elementary Latin II	3
LAT 201	Intermediate Latin I	3
GRE 101	Elementary Ancient Greek I	3
GRE 102	Elementary Ancient Greek II	3
GRE 201	Intermediate Ancient Greek I	3

Select two additional courses in Latin (LAT 202 and above) ¹	6
Select two additional courses in Greek (GRE 202 and above) ²	6
Select two Classics-in-translation (CLA) courses ³	6
Additional Requirements	
ENG 105 English Composition I	3
ENG 106 English Composition II	3
MTH 108 Precalculus Mathematics II	3
Arts and Humanities Cognate	9
STEM Cognate	9
Minor Requirement	15
Electives	42
Total Credit Hours	120

¹ For a full list of LAT courses see this page (p. 1890)

² For a full list of GRE courses see this page (p. 1727)

³ For a full list of CLA courses see this page (p. 1568)

Suggested Plan of Study

Course	Title	Credit Hours
Year One		
Fall		
GRE 101	Elementary Ancient Greek I	3
ENG 105	English Composition I	3
MTH 130	Introductory Calculus	3
UMX 100	The University of Miami Experience	0
BIL 150	General Biology	4
BIL 151	General Biology Laboratory	1
	Credit Hours	14
Spring		
GRE 102	Elementary Ancient Greek II	3
ENG 106	English Composition II	3
INS 101	Global Perspectives	3
MTH 161	Calculus I	4
BIL 160	Evolution and Biodiversity	4
BIL 162	HHMI Evolution and Biodiversity Laboratory.	1
	Credit Hours	18
Year Two		
Fall		
GRE 201	Intermediate Ancient Greek I	3
INS 102	Global Economics	3
INS 201	Globalization and Change in World Politics	3
APY 202	Principles of Cultural Anthropology	3
MTH 162	Calculus II	4
	Credit Hours	16
Spring		
GRE 202	Intermediate Ancient Greek II	3
INS 202	INS Methodology	3
PHI 210	Symbolic Logic	3
COS 211	Public Speaking	3
LAT 101	Elementary Latin I	3
	Credit Hours	15

Year Three		
Fall		
GRE 311	Plato	3
ART 105	Figure Drawing	3
INS 341	Nationalism, Ethnicity and Conflict	3
CLA 243	The Art of Government in Greece and Rome	3
LAT 102	Elementary Latin II	3
	Credit Hours	15
Spring		
CLA 220	Greek and Roman Mythology	3
INS 591	The European Union	3
INS 595	European Social Movements	3
INS 320	Global Economics II	3
LAT 201	Intermediate Latin I	3
	Credit Hours	15
Year Four		
Fall		
LAT 321	Virgil	3
REL 105	One Goal: Transforming the Self in Asian Religions	3
INS 330	Introduction of Comparative Studies	3
APY 399	The Anthropology of Kinship and Family in America	3
MTH 230	Introduction to Abstract Mathematics	3
	Credit Hours	15
Spring		
LAT 401	Special Topics in Latin Literature	3
INS 420	Global Trade	3
APY 362	The Languages of the World	3
PHI 340	Theory of Knowledge	3
POL 306	Positive Political Theory	3
	Credit Hours	15
	Total Credit Hours	123

Minor in Classics

Curriculum Requirements

Code	Title	Credit Hours
Select one of the following:		3
3 credit hours in a Greek (GRE) course		
3 credit hours in a Latin (LAT) course		
Select 12 credit hours in Greek (GRE), Latin (LAT), or Classics-in-translation (CLA) courses in any combination desired		12
Total Credit Hours		15

* Courses that qualify for the minor in Classics are taught each semester.

** A grade of C-minus or better is required in each course taken for the minor, as well as an overall GPA of 2.0 or higher.

Computer Science

<http://www.cs.miami.edu>

Dept Code: CSC

Introduction

The Department of Computer Science offers undergraduate and graduate education in Computer Science, and performs research in various areas of Computer Science. The Department has faculty with strong accomplishments in the fields of algorithm engineering, automated reasoning,

bioinformatics, computational complexity, computational geometry & computer graphics, cryptography & network security, data mining, data science, molecular computation, multimedia systems, music information retrieval, robotics, scientific computing, scientific visualization, semantic web, and wireless & mobile computing.

Educational Objectives

The Department of Computer Science educates students in the science of software development: the analysis of domain problems, the development of algorithms and programs, the use of specialist computing techniques, the system-software and hardware platforms, and the production and deployment of efficient and robust computer software. Instruction ranges from introductory programming classes and laboratories, through to research in various areas of computer science.

Degree Programs

The Department of Computer Science offers

- a Bachelor of Science (BS) major (p. 178)
- a Bachelor of Arts (BA) major (p. 175)
- a 5-year Bachelor of Science + Master of Science (BS+MS) (p. 943)
- a minor (p. 186)

Computer Science as a Second Major

A second major in Computer Science is available to all students. A second major in Computer Science requires completion of the requirements of a Computer Science major, either the Second Major in Computer Science, Fundamentals (p. 175) or the Second Major in Computer Science, with Tracks (p. 178).

Writing within the Discipline

To satisfy the College of Arts and Sciences writing requirement in the discipline, students whose first major is Computer Science must take at least one of the following courses for a writing credit: CSC 405, CSC 431, ENG 233.

Departmental Honors

In addition to the University's requirements for Departmental Honors, Departmental Honors in Computer Science requires completing a major and 6 additional approved credit hours (all CSC 4XX and CSC 5XX courses are approved). The major or additional credit hours must include at least 3 credit hours from CSC 410 and CSC 411.

Notes

- A grade of C- or better in all CSC courses is required in a major or minor.
- An overall GPA of 2.5 or better in all CSC courses is required in a major or minor. This GPA is computed using only courses from this department. If a course is repeated only the highest grade for the course is used.
- For a Computer Science major, at least 15 credit hours of CSC courses must be completed at the University of Miami.
- For a Computer Science minor, at least 9 credit hours of CSC courses must be completed at the University of Miami.

Majors in Computer Science

- B.S. in Computer Science (p. 178)
- B.A. in Computer Science (p. 175)

Minor in Computer Science

- Minor in Computer Science (p. 186)

Joint Degrees in Computer Science

- BS + MS in Computer Science - Five Year (p. 181)

B.A. in Computer Science

Curriculum Requirements

Code	Title	Credit Hours
Core Computer Science Courses		
CSC 120	Computer Programming I	4

CSC 220	Computer Programming II	4
CSC 314	Computer Organization and Architecture	3
CSC 322	System Programming	3
CSC 431	Introduction to Software Engineering	3
Core Mathematics Courses		
MTH 161	Calculus I (or equivalent - MTH 140 and MTH 141, MTH 151, or MTH 171)	4
MTH 309	Discrete Mathematics I	3
Electives Requirement		
Select 9 approved credit hours of the following:		9
Any CSC 2XX, CSC 3XX, CSC 4XX, CSC 5XX		
CSC 116	Cybersecurity: An Introduction to Security in Cyberspace	
or CSC 119	Computers and Society	
or BTE 320	Introduction to Programming	
or ECE 118	Introduction to Programming	
or GEG 310	Geographic Information Systems I	
or JMM 341	Web Design	
or MSC 321	Scientific Programming in the Atmospheric Sciences	
or RSM 521	Object-Oriented Programming and Agent-Based Modelling	
BIL 552	Bioinformatics Tools	
BTE 360	Systems Analysis and Design	
BTE 465	Web Application Development	
BTE 524	Mobile Apps Development	
BTE 535	Information Security	
BTE 565	Mobile to Cloud: Developing Distributed Applications	
CIM 590	Prototyping Techniques	
CIM 593	Dynamic Data	
ECE 368	Internet Computing I	
ECE 414	Computer Organization and Design	
ECE 514	Computer Architecture	
ECE 548	Machine Learning	
ECE 553	Neural Networks	
ECE 570	Network Client-Server Programming	
ECE 572	Object-Oriented and Distributed Database Management Systems	
ECE 574	Agent Technology	
ECE 576	Internet and Intranet Security	
ECE 577	Data Mining	
ECE 579	Mobile Computing	
GEG 410	Geographic Information Systems II	
MTH 320	Introduction to Numerical Analysis	
MTH 505	Theory of Numbers	
MTH 520	Numerical Linear Algebra	
MTH 521	Numerical Methods in Differential Equations	
MTH 524	Introduction to Probability	
MTH 525	Introduction to Mathematical Statistics	
MTH 542	Statistical Analysis	
Additional Requirements		
ENG 105	English Composition I	3
ENG 106	English Composition II	3
Language Requirement		3-9
Natural Sciences Course		3
Arts and Humanities Cognate		9

People and Society Cognate	9
Minor Requirement (must be non-STEM)	15
Electives	42
Total Credit Hours	120-126

Suggested Plan of Study

Course	Title	Credit Hours
Year One		
Fall		
CSC 120	Computer Programming I	4
MTH 161	Calculus I	4
ENG 105	English Composition I	3
Language Course		3
Elective		3
	Credit Hours	17
Spring		
CSC 220	Computer Programming II	4
MTH 309	Discrete Mathematics I	3
ENG 106	English Composition II	3
Language Course		3
Minor Course		3
	Credit Hours	16
Year Two		
Fall		
CSC 314	Computer Organization and Architecture	3
Natural Science Course		3
Language Course		3
Minor Course		3
People and Society Cognate Course		3
	Credit Hours	15
Spring		
CSC 322	System Programming	3
Minor Course		3
Arts and Humanities Cognate Course		3
People and Society Cognate Course		3
Writing Intensive Course		3
	Credit Hours	15
Year Three		
Fall		
Computer Science Elective		3
Minor Course		3
Arts and Humanities Cognate Course		3
People and Society Cognate Course		3
Elective		3
	Credit Hours	15
Spring		
CSC 431	Introduction to Software Engineering	3
Writing Intensive Course		3
Minor Course		3
Arts and Humanities Cognate Course		3
Elective		3
	Credit Hours	15

Year Four	
Fall	
Computer Science Elective	3
Elective	3
Elective	3
Elective	3
Elective	3
Credit Hours	
	15
Spring	
Computer Science Elective	3
Writing Intensive Course	3
Elective	3
Elective	3
Credit Hours	
	12
Total Credit Hours	
	120

B.S. in Computer Science

Curriculum Requirements

Code	Title	Credit Hours
Core Computer Science Courses		
CSC 120	Computer Programming I	4
CSC 220	Computer Programming II	4
CSC 314	Computer Organization and Architecture	3
CSC 317	Data Structures and Algorithm Analysis	3
CSC 322	System Programming	3
CSC 427	Theory of Computing	3
CSC 431	Introduction to Software Engineering	3
Core Mathematics Courses ¹		
MTH 161	Calculus I (or equivalent - MTH 140 and MTH 141, MTH 151, or MTH 171)	4
MTH 162	Calculus II (or equivalent - MTH 172)	4
MTH 210	Introduction to Linear Algebra	3
MTH 224	Introduction to Probability and Statistics	3
MTH 309	Discrete Mathematics I	3
Tracks		
Select one of the following Tracks:		17
Comprehensive Track: ^{2,3}		
CSC 419	Programming Languages	
CSC 421	Principles of Computer Operating Systems	
CSC 423	Database Systems	
CSC 424	Computer Networks	
Select a minimum of 5 credit hours of approved electives		
Flexible Track: ²		
Select a minimum of 17 credit hours of approved electives		
Computational Science Track: ⁴		
CSC 210	Computing for Scientists	
CSC 528	Introduction to Parallel Computing	
CSC 547	Computational Geometry	
CSC 548	Bioinformatics Algorithms	
CSC 410	Computer Science Project Planning	
or CSC 411	Computer Science Project Implementation	

MTH 320 or MTH 520	Introduction to Numerical Analysis Numerical Linear Algebra	
BIL 150	General Biology ⁵	
BIL 151	General Biology Laboratory ⁵	
Cryptography and Security Track: ⁴		
CSC 421	Principles of Computer Operating Systems	
CSC 424	Computer Networks	
CSC 507	Data Security and Cryptography	
CSC 410 or CSC 411	Computer Science Project Planning Computer Science Project Implementation	
Select one of the following:		
MTH 461	Survey of Modern Algebra	
MTH 505	Theory of Numbers	
MTH 561	Abstract Algebra I	
Select a minimum of 2 credit hours of approved electives		
Graphics and Games Track: ⁴		
CSC 329	Introduction to Game Programming	
CSC 529	Introduction to Computer Graphics	
CSC 545	Introduction to Artificial Intelligence	
CSC 410 or CSC 411	Computer Science Project Planning Computer Science Project Implementation	
Select a minimum of 5 credit hours of approved electives ⁶		
PHY 201 or PHY 205 or PHY 101	University Physics I for the Sciences ⁵ University Physics I College Physics I	
Science & Ethics Requirement		
An approved two semester sequence of courses with laboratory in Biology, Chemistry, or Physics		8-11
PHI 115	Social and Ethical Issues in Computing	3
Approved Electives		
Any CSC 2XX, CSC 3XX, CSC 4XX, CSC 5XX ⁷		
BTE 535	Information Security	
BTE 565	Mobile to Cloud: Developing Distributed Applications	
ECE 414	Computer Organization and Design	
ECE 514	Computer Architecture	
ECE 548	Machine Learning	
ECE 553	Neural Networks	
ECE 570	Network Client-Server Programming	
ECE 572	Object-Oriented and Distributed Database Management Systems	
ECE 574	Agent Technology	
ECE 576	Internet and Intranet Security	
ECE 577	Data Mining	
MTH 320	Introduction to Numerical Analysis	
MTH 505	Theory of Numbers	
MTH 520	Numerical Linear Algebra	
MTH 521	Numerical Methods in Differential Equations	
MTH 524	Introduction to Probability	
MTH 525	Introduction to Mathematical Statistics	
MTH 542	Statistical Analysis	
Additional Requirements		
ENG 105	English Composition I	3
ENG 106	English Composition II	3
Language Requirement		3-9

Arts and Humanities Cognate	9
People and Society Cognate	9
Electives	25
Total Credit Hours	120-129

- 1 These mathematics courses can also fulfill the requirements for a Minor in Mathematics (see here (<http://bulletin.miami.edu/undergraduate-academic-programs/arts-sciences/mathematics/mathematics-minor>) for details).
- 2 Available to all students.
- 3 The Comprehensive Track provides coverage of the topics in Computer Science prescribed by the Association of Computing Machinery curriculum and the ABET Computing Accreditation Commission.
- 4 Requires permission of the Director of Undergraduate Studies.
- 5 This course may also be applied towards the Science requirement.
- 6 In addition to the generally approved electives, MMI 504 and MMI 505 are approved for the Graphics and Games track.
- 7 Maximally 6 credit hours from CSC 40X Computer Science Practicum, and maximally 6 credit hours from CSC 481.

Suggested Plan of Study

Course	Title	Credit Hours
Year One		
Fall		
CSC 120	Computer Programming I	4
MTH 161	Calculus I	4
ENG 105	English Composition I	3
Language Course		3
Elective		3
	Credit Hours	17
Spring		
CSC 220	Computer Programming II	4
MTH 162	Calculus II	4
ENG 106	English Composition II	3
Language Course		3
Elective		3
	Credit Hours	17
Year Two		
Fall		
CSC 314	Computer Organization and Architecture	3
MTH 309	Discrete Mathematics I	3
BIL or CHM or PHY Course I		4
BIL or CHM or PHY Associated Lab I		1
Language Course		3
	Credit Hours	14
Spring		
CSC 317	Data Structures and Algorithm Analysis	3
CSC 401	Computer Science Practicum I	1
MTH 210	Introduction to Linear Algebra	3
BIL or CHM or PHY Course II		4
BIL or CHM or PHY Associated Lab Course II		1
PHI 115	Social and Ethical Issues in Computing	3
	Credit Hours	15
Year Three		
Fall		
CSC 322	System Programming	3
CSC 423	Database Systems	3

MTH 224	Introduction to Probability and Statistics	3
People and Society Cognate Course		3
Writing Intensive Course		3
Credit Hours		15
Spring		
CSC 424	Computer Networks	3
CSC 427	Theory of Computing	3
ENG 233	Advanced Writing for STEM	3
Arts and Humanities Cognate Course		3
People and Society Cognate Course		3
Credit Hours		15
Year Four		
Fall		
CSC 421	Principles of Computer Operating Systems	3
Computer Science Elective		3
CSC 405	Computer Science Seminars	1
Arts and Humanities Cognate Course		3
People and Society Cognate Course		3
Credit Hours		13
Spring		
CSC 419	Programming Languages	3
CSC 431	Introduction to Software Engineering	3
Arts and Humanities Cognate Course		3
Elective		3
Elective		3
Credit Hours		15
Total Credit Hours		121

B.S. + M.S. in Computer Science - Five Year

The 5-year Bachelor of Science + Master of Science program in Computer Science provides research training for students who wish to work in a computing research lab, or possibly continue to PhD studies.

Students enter the "MS-phase" of the program when they have met the following requirements:

- They have achieved senior status, i.e., earned 89 credit hours towards their Bachelor of Science in Computer Science.
- Within the requirements for a Bachelor of Science in Computer Science, they have completed the prerequisites for entry into the regular Master of Science program, i.e.:

Code	Title	Credit Hours
Pre-Requisites for entry to Regular MS in Computer Science Program		
CSC 120	Computer Programming I	4
CSC 220	Computer Programming II	4
CSC 314	Computer Organization and Architecture	3
CSC 317	Data Structures and Algorithm Analysis	3
CSC 427	Theory of Computing	3
MTH 161	Calculus I	4
MTH 224	Introduction to Probability and Statistics	3
MTH 309	Discrete Mathematics I	3

- They have completed 3 credit hours of CSC 410 and/or CSC 411 in a research-oriented project.
- They have an overall GPA of at least 3.0.
- They have a GPA of at least 3.3 in the CSC courses taken towards their BS in Computer Science.
- They have advised the Director of Graduate Studies of their eligibility for the MS-phase.

Students in the MS-phase must complete 3 further credit hours of CSC 410 and/or CSC 411 in a research-oriented project, as part of their Bachelor of Science in Computer Science (this project will normally be the starting point for the Master of Science research). Students in the MS-phase may take up to 12 credits of courses, including 600 level courses, that count towards completing the requirements for the Master of Science in Computer Science. When students have completed the requirements for a Bachelor of Science in Computer Science they will be awarded that degree, and when they have completed the requirements for the Master of Science in Computer Science they will be awarded that degree.

Incoming students can be admitted to the program if their mathematics placement is MTH 108 or higher. Existing Bachelor of Science in Computer Science students can switch into the program when they have met the requirements for entering the MS-phase of the program. Students can be removed from the program if they have not met the prerequisites for admission to the MS-phase by the time they have achieved senior status. If a student is removed or decides to withdraw from the program, any 600 level courses taken may be used to fulfill the requirements for a Bachelor of Science in Computer Science.

B.S. Curriculum Requirements

Code	Title	Credit Hours
Core Computer Science Courses		
CSC 120	Computer Programming I	4
CSC 220	Computer Programming II	4
CSC 314	Computer Organization and Architecture	3
CSC 317	Data Structures and Algorithm Analysis	3
CSC 322	System Programming	3
CSC 427	Theory of Computing	3
CSC 431	Introduction to Software Engineering	3
Core Mathematics Courses ¹		
MTH 161	Calculus I (or equivalent - MTH 140 and MTH 141, MTH 151, or MTH 171)	4
MTH 162	Calculus II (or equivalent - MTH 172)	4
MTH 210	Introduction to Linear Algebra	3
MTH 224	Introduction to Probability and Statistics	3
MTH 309	Discrete Mathematics I	3
Tracks		
Select one of the following Tracks:		17
Comprehensive Track: ^{2,3}		
CSC 419	Programming Languages	
CSC 421	Principles of Computer Operating Systems	
CSC 423	Database Systems	
CSC 424	Computer Networks	
Select a minimum of 5 credit hours of approved electives		
Flexible Track: ²		
Select a minimum of 17 credit hours of approved electives		
Computational Science Track: ⁴		
CSC 210	Computing for Scientists	
CSC 528	Introduction to Parallel Computing	
CSC 547	Computational Geometry	
CSC 548	Bioinformatics Algorithms	
CSC 410	Computer Science Project Planning	
or CSC 411	Computer Science Project Implementation	
MTH 320	Introduction to Numerical Analysis	
or MTH 520	Numerical Linear Algebra	
BIL 150	General Biology ⁵	
BIL 151	General Biology Laboratory ⁵	
Cryptography and Security Track: ⁴		
CSC 421	Principles of Computer Operating Systems	
CSC 424	Computer Networks	
CSC 507	Data Security and Cryptography	

CSC 410 or CSC 411	Computer Science Project Planning Computer Science Project Implementation	
Select one of the following:		
MTH 461	Survey of Modern Algebra	
MTH 505	Theory of Numbers	
MTH 561	Abstract Algebra I	
Select a minimum of 2 credit hours of approved electives		
Graphics and Games Track: ⁴		
CSC 329	Introduction to Game Programming	
CSC 529	Introduction to Computer Graphics	
CSC 545	Introduction to Artificial Intelligence	
CSC 410 or CSC 411	Computer Science Project Planning Computer Science Project Implementation	
Select a minimum of 5 credit hours of approved electives ⁶		
PHY 201 or PHY 205 or PHY 101	University Physics I for the Sciences ⁵ University Physics I College Physics I	
Science & Ethics Requirement		
An approved two semester sequence of courses with laboratory in Biology, Chemistry, or Physics		8-11
PHI 115	Social and Ethical Issues in Computing	3
Approved Electives		
Any CSC 2XX, CSC 3XX, CSC 4XX, CSC 5XX ⁷		
BTE 535	Information Security	
BTE 565	Mobile to Cloud: Developing Distributed Applications	
ECE 414	Computer Organization and Design	
ECE 514	Computer Architecture	
ECE 548	Machine Learning	
ECE 553	Neural Networks	
ECE 570	Network Client-Server Programming	
ECE 572	Object-Oriented and Distributed Database Management Systems	
ECE 574	Agent Technology	
ECE 576	Internet and Intranet Security	
ECE 577	Data Mining	
MTH 320	Introduction to Numerical Analysis	
MTH 505	Theory of Numbers	
MTH 520	Numerical Linear Algebra	
MTH 521	Numerical Methods in Differential Equations	
MTH 524	Introduction to Probability	
MTH 525	Introduction to Mathematical Statistics	
MTH 542	Statistical Analysis	
Additional Requirements		
ENG 105	English Composition I	3
ENG 106	English Composition II	3
Language Requirement		3-9
Arts and Humanities Cognate		9
People and Society Cognate		9
Electives		25
Total Credit Hours		120-129

¹ These mathematics courses can also fulfill the requirements for a Minor in Mathematics (see here (<http://bulletin.miami.edu/undergraduate-academic-programs/arts-sciences/mathematics/mathematics-minor>) for details).

² Available to all students.

- ³ The Comprehensive Track provides coverage of the topics in Computer Science prescribed by the Association of Computing Machinery curriculum and the ABET Computing Accreditation Commission.
- ⁴ Requires permission of the Director of Undergraduate Studies.
- ⁵ This course may also be applied towards the Science requirement.
- ⁶ In addition to the generally approved electives, MMI 504 and MMI 505 are approved for the Graphics and Games track.
- ⁷ Maximally 6 credit hours from CSC 40X Computer Science Practicum, and maximally 6 credit hours from CSC 481.

M.S. Curriculum Requirements

Students must complete the Graduate School requirements, and the Departmental requirements described here.

Code	Title	Credit Hours
Select either the Thesis Option or the Coursework Option ¹		24-30
Thesis Option		
CSC 810	Master's Thesis	6
24 credits from approved courses, including at least 9 credits from CSC7XX courses.		
Coursework Option		
30 credits from approved courses, including at least 18 credits from CSC7XX courses.		
Total Credit Hours		30-36

- ¹ For both options, at least 18 credit hours must be from CSC 6XX and CSC 7XX courses, and may not include more than 6 credit hours from CSC 670.

Each program must include both theoretical and experimental topics. By graduation students will have knowledge in the areas of Programming Languages, Algorithm Design and Analysis, Theory of Computing, Operating Systems, Computer Networks, and Software Engineering. Each program is approved by the CSGC and the Department Chairman or designate. Programs may be individually tailored to meet varied backgrounds and objectives. It is recognized that there are individuals with undergraduate degrees in other fields wishing to pursue graduate work in Computer Science, and individuals with work experience in the field wishing to advance their formal training in Computer Science.

Suggested Plan of Study

Course	Title	Credit Hours
Year One		
Fall		
CSC 120	Computer Programming I	4
MTH 161	Calculus I	4
ENG 105	English Composition I	3
Language Course		3
Elective		3
Credit Hours		17
Spring		
CSC 220	Computer Programming II	4
MTH 162	Calculus II	4
ENG 106	English Composition II	3
Language Course		3
Elective		3
Credit Hours		17
Year Two		
Fall		
CSC 314	Computer Organization and Architecture	3
CSC 322	System Programming	3
MTH 309	Discrete Mathematics I	3
BIL or CHM or PHY Course I		4
BIL or CHM or PHY Associated Lab I		1
Language Course		3
Credit Hours		17

Spring		
CSC 317	Data Structures and Algorithm Analysis	3
CSC 427	Theory of Computing	3
MTH 210	Introduction to Linear Algebra	3
BIL or CHM or PHY Course II		4
BIL or CHM or PHY Associated Lab Course II		1
PHI 115	Social and Ethical Issues in Computing	3
Credit Hours		17
Year Three		
Fall		
CSC 421	Principles of Computer Operating Systems	3
CSC 423	Database Systems	3
MTH 224	Introduction to Probability and Statistics	3
People and Society Cognate Course		3
Writing Intensive Course		3
Credit Hours		15
Spring		
CSC 410	Computer Science Project Planning	3
CSC 424	Computer Networks	3
ENG 233	Advanced Writing for STEM	3
Arts and Humanities Cognate Course		3
People and Society Cognate Course		3
Credit Hours		15
Year Four		
Fall		
CSC 405	Computer Science Seminars	1
CSC 411	Computer Science Project Implementation	3
600 Level CSC Course		3
600 Level CSC Course		3
Arts and Humanities Cognate Course		3
People and Society Cognate Course		3
Credit Hours		16
Spring		
CSC 419	Programming Languages	3
CSC 431	Introduction to Software Engineering	3
600 Level CSC Course		3
Arts and Humanities Cognate Course		3
Elective		3
Credit Hours		15
Year Five		
Fall		
600 Level CSC Course		3
600 Level CSC Course		3
700 Level CSC Course		3
CSC 810	Master's Thesis	3
Elective		3
Credit Hours		15
Spring		
700 Level CSC Course		3
700 Level CSC Course		3
CSC 810	Master's Thesis	3
Elective		3

Elective	3
Credit Hours	15
Total Credit Hours	159

Minor in Computer Science

Code	Title	Credit Hours
Core Courses		
CSC 120	Computer Programming I	4
CSC 220	Computer Programming II	4
Electives		
CSC 3XX - Any 300-level Computer Science course		3
Select 6 approved credit hours of the following:		6
Any CSC 2XX, CSC 3XX, CSC 4XX, CSC 5XX		
CSC 116 or CSC 119 or BTE 320 or ECE 118 or GEG 310 or JMM 341 or MSC 321 or RSM 521	Cybersecurity: An Introduction to Security in Cyberspace Computers and Society Introduction to Programming Introduction to Programming Geographic Information Systems I Web Design Scientific Programming in the Atmospheric Sciences Object-Oriented Programming and Agent-Based Modelling	
BIL 552	Bioinformatics Tools	
BTE 360	Systems Analysis and Design	
BTE 465	Web Application Development	
BTE 524	Mobile Apps Development	
BTE 535	Information Security	
BTE 565	Mobile to Cloud: Developing Distributed Applications	
CIM 590	Prototyping Techniques	
CIM 593	Dynamic Data	
ECE 368	Internet Computing I	
ECE 414	Computer Organization and Design	
ECE 514	Computer Architecture	
ECE 548	Machine Learning	
ECE 553	Neural Networks	
ECE 570	Network Client-Server Programming	
ECE 572	Object-Oriented and Distributed Database Management Systems	
ECE 574	Agent Technology	
ECE 576	Internet and Intranet Security	
ECE 577	Data Mining	
ECE 579	Mobile Computing	
GEG 410	Geographic Information Systems II	
MTH 320	Introduction to Numerical Analysis	
MTH 505	Theory of Numbers	
MTH 520	Numerical Linear Algebra	
MTH 521	Numerical Methods in Differential Equations	
MTH 524	Introduction to Probability	
MTH 525	Introduction to Mathematical Statistics	
MTH 542	Statistical Analysis	
Total Credit Hours		17

Criminology

<http://www.as.miami.edu/sociology>

Overview

The major in Criminology provides a comprehensive understanding of crime and the criminal justice system. The major prepares students to assume roles of leadership in this critical area of modern society. Courses are designed to review theory, research, and applications of knowledge regarding delinquency and crime, as well as to understand the manner in which offenders are processed. Students learn about the nature and extent of crime, different types of crime and theories to explain crime. In addition, detailed analyses are made of the functions of the law, police, courts, and correctional systems and the ways in which these are linked to broader aspects of society. Students may also minor in Criminology. The Criminology major and minor are administered through the Department of Sociology.

Educational Objectives

The undergraduate program in Criminology has as its main objectives are to provide students with:

1. A strong component of a social science education, training in analytical and statistical skills that are highly valued by potential employers.
2. A valuable undergraduate preparation for pursuing careers in such fields as law in society, in the local and state criminal justice systems (e.g., juvenile probation officer, pretrial services officer, crime analyst for criminal justice agencies), or in federal agencies (e.g., DEA).
3. An excellent and comprehensive training program for students wishing to pursue graduate study in criminology, law school, criminal justice, sociology, or other social and behavioral sciences.

Degree Programs

Students may earn a Bachelor of Arts degree in Criminology. The Department of Sociology also offers graduate programs leading to a PhD. degree in the areas of:

- Criminology
- Medical Sociology
- Race, Ethnic Relations, and Immigration

Departmental Honors

Graduation with Departmental Honors is available to eligible students who fulfill the following:

1. Students desiring Departmental Honors in Criminology must maintain an overall GPA of 3.3 and a GPA of 3.5 in Criminology. They must also achieve a minimum of B in all Criminology courses. For transfer students, the Department uses the cumulative, combined GPA calculated by the Office of the Registrar.
2. A student seeking Departmental Honors is required to write an independent research paper which is submitted to the Undergraduate Committee in the Department of Sociology. The nature of the independent research project is determined by the faculty member(s) with whom the student works. This project is done in SOC 498 & SOC 499. The student should have the same professor for all six credit hours.
3. Recruitment of eligible students is by departmental invitation during a student's junior year.

Advanced Writing and Communication Requirements

To satisfy the College of Arts and Sciences Advanced Writing and Communication requirement, all Criminology majors must take 4 writing-designated courses, including 1 writing-designated course in the SOC area. Writing courses are regularly offered by the department; however, it is the student's responsibility to plan accordingly to incorporate a designated SOC writing-designated course into their graduation plans.

Alpha Phi Sigma

Majors, minors, and other students who meet certain academic criteria are eligible for membership in Alpha Phi Sigma, the National Criminal Justice Honor Society. Alpha Phi Sigma sponsors events that enhance the academic and social life of the department.

Major in Criminology

- B.A. in Criminology (p. 188)
- Criminology & Sociology Double Major; Combined Minor (p. 339)

Minor in Criminology

- Criminology (p. 190)

- Criminology & Sociology Double Major; Combined Minor (p. 339)

B.A. in Criminology

Curriculum Requirements

Code	Title	Credit Hours
Required Courses		
SOC 101	Introduction to Sociology	3
SOC 210	Introduction to Social Research	3
SOC 211	Quantitative Methods for Sociologists	3
SOC 212	Quantitative Methods Lab	1
SOC 371	Criminology	3
SOC 470	Theories of Deviant Behavior	3
SOC 271 or SOC 370	Criminal Justice Juvenile Delinquency	3
Departmental Electives		12
Additional Required Courses		
ENG 105	English Composition I	3
ENG 106	English Composition II	3
MTH 113	Finite Mathematics	3
Arts and Humanities Cognate		9
STEM Cognate		9
Additional Major/Minor		15-30
Science Course		3
Foreign Language		3-9
Electives		41
Total Credit Hours		120-141

- * EPS 452 can be substituted for SOC 210 only by students who are also enrolled in the School of Education
PSY 291 or PSY 292 can be substituted for SOC 211 only by students who are Psychology majors or minors and also majoring in Sociology or Criminology; they will be required to take SOC 212, unless a Psychology major. PSY 390 can be substituted for SOC 212 only by students who are psychology majors.
- ** A minimum final grade of C- in all courses offered by the Department
- *** A minimum cumulative GPA of 2.0 in all courses offered by the Department
- **** A minimum of 16 credit hours must be earned in residency in the Department; thus, only a maximum of 15 credit hours can be transferred from other institutions as eligible for the CRIMINOLOGY major

Suggested Plan of Study

Course	Title	Credit Hours
Freshman Year		
Fall		
ENG 105	English Composition I	3
MTH 113	Finite Mathematics	3
Language (first course)		3
Arts and Humanities Cognate (first course)		3
SOC 101	Introduction to Sociology	3
Credit Hours		15
Spring		
ENG 106	English Composition II	3
Language (second course)		3
STEM Cognate (first course)		3
SOC 210	Introduction to Social Research	3

Elective		3
	Credit Hours	15
Sophomore Year		
Fall		
SOC 211	Quantitative Methods for Sociologists	3
SOC 212	Quantitative Methods Lab	1
Arts and Humanities Cognate (second course)		3
Minor (first course)		3
Elective		3
	Credit Hours	13
Spring		
SOC 271 or 370	Criminal Justice or Juvenile Delinquency	3
Minor (second course)		3
STEM Cognate (second course)		3
Elective		3
Elective		3
	Credit Hours	15
Junior Year		
Fall		
SOC 371	Criminology	3
Minor (third course)		3
STEM Cognate (third course)		3
Elective		3
Elective		3
Elective		3
	Credit Hours	18
Spring		
Minor (fourth course)		3
Natural Science Course		3
Elective		3
Elective		3
Elective		3
	Credit Hours	15
Senior Year		
Fall		
SOC 470	Theories of Deviant Behavior	3
Minor (fifth course)		
Arts and Humanities Cognate (third course)		3
Elective		3
Elective		3
Elective		3
	Credit Hours	15
Spring		
Elective		3
Elective		3
Elective		3
Elective		3
Elective		3
	Credit Hours	15
	Total Credit Hours	121

Minor in Criminology

Code	Title	Credit Hours
Required Courses		
SOC 101	Introduction to Sociology	3
SOC 371	Criminology	3
Elective Courses		
Select three other courses offered by the Department, of which one must be 300-level or higher		9
Total Credit Hours		15

* A minimum final grade of C- in all courses offered by the Department.

** A minimum cumulative GPA of 2.0 in all courses offered by the Department.

*** A minimum of 9 credit hours must be earned in residency in the Department; thus, only a maximum of 6 credit hours may be transferred from other institutions as eligible credit hours for the Criminology major.

Economics

Introduction and Educational Objectives

Economics uses the idea of optimizing behavior to provide a unified framework for studying human action. The economics curriculum is designed to give students an understanding of economic theory and its application to a wide range of problems. The program provides excellent preparation for careers in business, government, and international agencies. It is particularly recommended for students planning graduate study or professional training in fields such as law, business, international studies, public administration, and economics.

A student pursuing the Economics major will select one of two possible tracks: Political Economy (the People and Society track) or Quantitative Economics (the Science, Technology, Mathematics, and Engineering track).

Members of the Department are prepared to counsel students in the selection of courses and in other matters relating to the preparation for careers. Economics may be the major area of specialization of a candidate for the Master of Arts (p. 1016) and Doctor of Philosophy (p. 995) degrees. Consult the Graduate Academic Programs section of the Bulletin for the general requirements of these programs.

Major in Economics

- B.A. in Economics (p. 190)
- Minor in Political Economy for Non Business Students (p. 413)
- Minor in Quantitative Economics for Non Business Students (p. 415)

B.A. in Economics

Curriculum Requirements

A student pursuing the major in Economics through the College of Arts and Sciences will select one of two possible tracks: Political Economy (the People and Society track) or Quantitative Economics (the Science, Technology, Mathematics, and Engineering track) and complete the curriculum requirements as follows:

Code	Title	Credit Hours
1. Choose either the POLITICAL ECONOMY Track or the QUANTITATIVE ECONOMICS Track ¹		30
Political Economy Track Required Courses (People & Society) :		
ECO 211	Principles of Microeconomics	
ECO 212	Principles of Macroeconomics	
ECO 300	Microeconomic Theory and Applications (ECO 302 may be taken instead if MTH 161 or equivalent is completed)	
ECO 301	Macroeconomic Theory	
ECO 430	Applied Econometrics	
Major Choice Courses (P&S) - Select five courses (15 credit hours) from the following: ²		
ECO 311	Labor Economics (I)	
ECO 333	Industrial Economics and Public Policy	
ECO 345	Environmental Economics	
ECO 351	Economics of Development	

ECO 371	Latin America and the Global Economy	
ECO 379	The Political Economy of Growth	
ECO 386	Health Economics	
ECO 403	Monetary Economics	
ECO 420	Economic Growth	
ECO 441	International Trade Theory	
ECO 442	International Monetary Economics	
ECO 443	Economic Analysis of Energy and Commodity Markets	
ECO 445	Global Economics: Trade and Currencies	
ECO 498	Special Topics in Economics (People and Society Topics)	
ECO 532	History of Economic Thought	
Students who have completed ECO 302 may select a maximum of two STEM-designated courses (6 credit hours) as their major choice courses. Students who have completed ECO 300 may select a maximum of three STEM-designated courses (9 credit hours) as major choice courses. ²		
ECO 444	Game Theory in Economic Applications.	
ECO 460	Industrial Organization	
ECO 499	Special Topics in Economics (STEM Topics)	
ECO 510	Mathematical Economics and Applications	
ECO 511	Empirical Labor Economics	
ECO 512	Topics in Mathematical Economics	
ECO 520	Econometrics	
ECO 521	Advanced Macroeconomic Theory	
ECO 533	Advanced Microeconomic Theory	
Quantitative Economics Track Required Courses (STEM) : ³		
ECO 211	Principles of Microeconomics	
ECO 212	Principles of Macroeconomics	
ECO 301	Macroeconomic Theory	
ECO 302	Microeconomic Theory (requires MTH 161 or equivalent as a pre-requisite)	
ECO 430	Applied Econometrics	
Major Choice Courses (STEM): Select five courses (15 credit hours). Only one course from these five major choice courses may be a People & Society ECO major choice course. Students must select four to five STEM-designated major choice courses (12-15 credit hours) from the following ²		
ECO 444	Game Theory in Economic Applications.	
ECO 460	Industrial Organization	
ECO 499	Special Topics in Economics (STEM Topics)	
ECO 510	Mathematical Economics and Applications	
ECO 511	Empirical Labor Economics	
ECO 512	Topics in Mathematical Economics	
ECO 520	Econometrics	
ECO 521	Advanced Macroeconomic Theory	
ECO 533	Advanced Microeconomic Theory	
2. Additional Graduation Requirements for Degree Completion:		
ENG 105	English Composition I	3
ENG 106	English Composition II	3
UMX 100	The University of Miami Experience	0
Calculus Course ⁴		4
Second Language Proficiency Requirement (3-9 credit hours, depending on the student's initial placement in the language chosen) ⁵		9
Minor (may be used in lieu of a cognate to satisfy an Area of Knowledge in General Education)		15
Arts and Humanities Cognate Courses		9
STEM or People and Society Cognate Courses (depends upon which Economics Major track is selected)		9
Natural Science Course ⁶		3

Electives ⁷	35
Advanced Writing and Communication - see note regarding ECO writing course ⁸	
Total Credit Hours	120

- ¹ All specific coursework for the major in Economics must be completed with a grade of "C-" or higher. A minimum cumulative GPA of 2.0 is required for all specific coursework taken in the major. All courses must be taken within the current pre-requisite structure.
- ² Course pre-requisites vary by course.
- ³ This track requires both MTH 161 or an equivalent calculus course and ECO 302.
- ⁴ This requirement is satisfied by MAS 110 or MTH 130 or MTH 141 or MTH 151 or MTH 161 or MTH 171 or an equivalent calculus course or higher. Please note: If the student wishes to take ECO 302 or the Quantitative Economics track, then MTH 161 or equivalent must be taken. Also note that if the student wishes to apply to transfer to the Miami Business School, he/she must take MTH 161 or an equivalent and earn a minimum "B" grade in the course, as well as have a minimum UM grade point average of 3.0.
- ⁵ Please see the College of Arts and Sciences Bulletin Overview page (p. 114) regarding the "Details of the Second Language Proficiency."
- ⁶ This requirement is waived if the student's STEM cognate includes a Natural Science course from the approved list. See the College of Arts and Sciences Bulletin Overview (p. 114) page for more information.
- ⁷ A minimum of 120 credits is required for graduation. Sufficient credits must be earned in electives to enable the student to complete this minimum of 120 credits. The exact number of elective credits required will vary depending on the number of credits needed to complete all other graduation requirements.
- ⁸ Advanced Writing and Communication Proficiency: Degree candidates must complete at least four writing courses, and at least one writing course must be in the student's major discipline. ECO 445 will satisfy the College of Arts & Sciences writing requirement in the discipline.

*The curriculum change to require 30 hours instead of 24 hours for the Economics major for Arts and Sciences students is pending Board of Trustee approval.

Sample Plan of Study

This Sample Plan of Study represents one possible version of a new freshman student's 8-semester plan. The individual student's plan may vary depending upon the initial placement into English Composition, mathematics, and modern language. Moreover, numerous plan variations are possible if a student enters the University with advanced college credits, wishes to participate in study abroad, chooses a special program option, or selects additional majors or minors.

Note that each major/minor satisfies a particular "Area of Knowledge" within the general education requirements of the University, so that a separate cognate in that same Area of Knowledge is not required. For example, if a student chooses the Political Economy track for the Economics major, then the People and Society Area of Knowledge will be fulfilled by the major. The STEM and Arts and Humanities Areas of Knowledge may likewise be fulfilled by an additional major, or through the minor or a cognate.

Students construct their individualized plans in collaboration with their assigned academic advisor.

Course	Title	Credit Hours
Freshman Year		
Fall		
ECO 211	Principles of Microeconomics	3
ENG 105	English Composition I	3
MTH 161	Calculus I ¹	4
UMX 100	The University of Miami Experience	0
Arts and Humanities Cognate Course		3
Language (first course)		3
	Credit Hours	16
Spring		
ECO 212	Principles of Macroeconomics	3
ENG 106	English Composition II	3
Arts and Humanities Cognate Course		3
Language (second course)		3
Elective		3
	Credit Hours	15

Sophomore Year		
Fall		
ECO 302 or 300	Microeconomic Theory or Microeconomic Theory and Applications	3
Arts and Humanities Cognate Course		3
Language (third course)		3
Minor (first course)		3
Elective		3
	Credit Hours	15
Spring		
ECO 301	Macroeconomic Theory	3
Economics Major Choice Course		3
Minor (second course)		3
People and Society or STEM Cognate Course		3
Elective		3
	Credit Hours	15
Junior Year		
Fall		
ECO 430	Applied Econometrics	3
Economics Major Choice Course		3
Minor (third course)		3
People and Society or STEM Cognate Course		3
Elective		3
	Credit Hours	15
Spring		
Economics Major Choice Course		3
Minor (fourth course)		3
People and Society or STEM Cognate Course		3
Elective		3
Elective		3
	Credit Hours	15
Senior Year		
Fall		
Economics Major Choice Course		3
Minor (fifth course)		3
Natural Science Course (if needed)		3
Elective		3
Elective		3
	Credit Hours	15
Spring		
Economics Major Choice Course		3
Elective		3
Elective		3
Elective		3
Elective		2
	Credit Hours	14
	Total Credit Hours	120

¹ A calculus course is required for the Economics major. If a student wishes to take ECO 302 or the Quantitative Economics track, then MTH 161 or an equivalent must be taken. If a student has taken an "applied" calculus course such as MAS 110 or MTH 130, then he/she will take ECO 300 instead of ECO 302 and must follow the Political Economy (P&S) Major track for Economics.

Ecosystem Science and Policy

<http://www.cesp.miami.edu>

Dept. Code: ECS

Introduction

The undergraduate program in Ecosystem Science and Policy (ECS) is offered by the Leonard and Jayne Abess Center for Ecosystem Science and Policy. The goal of the program is to educate the next generation of environmental leaders. The ECS program provides students with a broad background in environmental issues from a variety of perspectives, along with in-depth education in an area of specialization.

Educational Objectives

The ECS major offers a series of problem-based learning courses, culminating in a capstone course in the senior year. Courses emphasize integration of science and policy approaches to real-world environmental issues. This preparation gives students both the theoretical background and technical skills to pursue environmental careers in, teaching and research, as well as for careers in government and private industries concerned with the environment.

Advanced Writing and Communication Requirement

To satisfy the Advanced Writing and Communication requirement, students majoring in ECS take three ECS writing intensive courses (ECS 113, 302, 403). They also receive instruction in scientific communication, including how to make charts, graphs, maps, meeting posters, and other representations of data, in ECS 112 and 301. Many ECS courses co-listed with other departments /programs are writing intensive or include instruction in visual communication.

Degree Programs

The Ecosystem Science and Policy program offers two undergraduate degree major programs: a Bachelor of Science (B.S.) and a Bachelor of Arts (B.A.). The minor consists of 15 credit hours. Majors are required to complete either an environmentally related internship or a research project with the Center for Ecosystem Science and Policy or with other UM faculty.

Only those courses passed with a grade of "C-" or better in the ECS core may be applied to the major or minor. All ECS majors are required to maintain an overall cumulative grade point average of 2.5 or better.

Majors in Ecosystem Science and Policy

- B.S. in Ecosystem Science and Policy (p. 199)
- B.A. in Ecosystem Science and Policy (p. 194)

Minor in Ecosystem Science and Policy

- Ecosystem Science and Policy (p. 207)

Certificate in Ecosystem Science and Policy

- Sustainability (p. 205)

B.A. in Ecosystem Science and Policy

The B.A. degree in Ecosystem Science and Policy is recommended in preparation for careers in law, government and business, including professional schools and careers in government and private industries concerned with the environment. Students pursuing the B.A. may choose to have the major fulfill either the STEM or People & Society cognate; they will need to complete the other cognate plus the Arts & Humanities cognate. Students with a second major in another school or college should consult their advisors regarding requirements for that major. Any course used to fulfill one ECS requirement cannot be used to fulfill another; however, courses other than the ECS core can be used to fulfill requirements for a cognate, minor, or second major. Students whose primary college is Arts & Sciences are required to complete four courses designated as "Writing Intensive" (also known as "W") courses. Those seeking a B.A. degree in ECS must complete at least two, but as many as four, ECS courses designated as "W". These include ECS 113, ECS 301, ECS 302, ECS 402, and ECS 403. Up to two "W" courses may be selected from other departments. Students whose primary degree is in another school or college should follow its writing requirements.

Curriculum Requirements

Code	Title	Credit Hours
ECS Core Courses		
ECS 111	Introduction to the Earth's Ecosystem	3
ECS 112	Field Problems in Ecosystem Science and Policy	2

ECS 113	Introduction to Environmental Policy	3
ECS 201 or ECS 202	Seminar Series in Contemporary Environmental Issues I Seminar Series in Contemporary Environmental Issues II	1
ECS 232	Ecological Principles and Environmental Applications	3
ECS 301	Tools for Environmental Decision-Making: The Quantitative Perspective	3
ECS 302	Perspectives on Environmental Decision Making	3
ECS 401 or ECS 402	Internship Thesis	3
ECS 403	Interdisciplinary Approaches	3
Science Core Courses		
Geological Sciences:		
Select one of the following:		3-6
GSC 102	Evolution of the Biosphere	
GSC 103	Evolution of the Modern Earth's Environment	
GSC 106	Geological Influences on Society	
GSC 110 & GSC 114	The Earth System and Earth Processes Lab	
GSC 111	Earth System History	
Marine Science:		
MSC 101 or MSC 111	Survey of Oceanography Introduction to Marine Science	3
Electives:		
Environmentally-related science elective(s) to total 3 credits ¹		3
Mathematics Courses		
MTH 108	Precalculus Mathematics II (or higher)	3
Select one of the following Statistics courses:		3
ECS 204	Environmental Statistics	
MSC 204	Environmental Statistics	
MTH 224	Introduction to Probability and Statistics	
PSY 292	Introduction to Biobehavioral Statistics for Non-Majors	
Social Science Core Courses		
GEG 310	Geographic Information Systems I	3
Select one of the following:		3
ECO 211	Principles of Microeconomics	
ECO 212	Principles of Macroeconomics	
POL 201	Introduction to American National Government	
POL 202	Introduction to Comparative Politics	
POL 203	Introduction to International Relations	
Select one of the following:		3
APY 201	Principles of Archaeology	
APY 202	Principles of Cultural Anthropology	
APY 203	Principles of Physical Anthropology	
APY 204	Principles of Linguistic Anthropology	
Select three credit hours of environmentally-related People & Society electives: ²		3
Select three credit hours of environmentally-related People & Society electives at 300 level or higher: ²		3
APY 418	Seminar in Anthropology	
APY 435	Anthropology of Nature and Environment	
ARC 594	Geographic Information Systems in Urban Design	
ECO 345	Environmental Economics	
ECO 351	Economics of Development	
GEG 345	Drinking Water: Past, Present, and Future	

GEG 341	Population, Health, and Environment	
GEG 334	Biogeography and Conservation	
GEG 410	Geographic Information Systems II	
GEG 321	Remote Sensing of the Environment	
GEG 421	GIS and Environmental Modeling	
GEG 506	Field Studies in Geography	
HIS 368	Nature and the Environment in American History	
INS 322	Economics of Development and the Environment	
INS 421	Poverty and the Environment	
LAS 302	Interdisciplinary Topics in Latin American and Caribbean Studies- Travel Course	
POL 314	Legislative Processes	
SOC 210	Introduction to Social Research	
Additional Required Courses		
ENG 105	English Composition I	3
ENG 106	English Composition II	3
Arts and Humanities Cognate		9
Language Courses		9
Minor and Electives		42
Total Credit Hours		120-123

¹ Additional courses may be approved by the ECS program.

² APY, ARC, ECO, ECS, GEG, HIS, INS, LAS, MAF, POL, SOC

Suggested Plan of Study - with Minor

In this plan, we are showing the case in which study abroad simply counts toward the total required for graduation, 120 credits. However, study abroad courses generally can be used as courses for ECS, for a minor, or for cognates, in which case there would be additional electives opened up in subsequent semesters.

Course	Title	Credit Hours
Year One		
Fall		
ECS 111	Introduction to the Earth's Ecosystem	3
MTH 108	Precalculus Mathematics II	3
ENG 105	English Composition I	3
APY 202	Principles of Cultural Anthropology	3
Language Course		3
Credit Hours		15
Spring		
ECS 112	Field Problems in Ecosystem Science and Policy	2
ECS 113	Introduction to Environmental Policy	3
ENG 106	English Composition II	3
POL 201	Introduction to American National Government	3
ECO 211	Principles of Microeconomics	3
Language Course		3
Credit Hours		17
Year Two		
Fall		
ECS 201	Seminar Series in Contemporary Environmental Issues I	1
ECS 232	Ecological Principles and Environmental Applications	3
GSC 102	Evolution of the Biosphere	3
ENV Related STEM Course		3
Language Course		3

Minor Course		3
	Credit Hours	16
Spring		
ECS 301	Tools for Environmental Decision-Making: The Quantitative Perspective	3
GEG 310	Geographic Information Systems I	3
MSC 204	Environmental Statistics	3
Minor Course		3
Arts and Humanities Cognate Course		3
	Credit Hours	15
Year Three		
Fall		
Study Abroad		3
Study Abroad		3
Study Abroad		3
Study Abroad		3
	Credit Hours	12
Spring		
ECS 302	Perspectives on Environmental Decision Making	3
ECS Elective 300 level or higher		3
Minor Course		3
Arts and Humanities Cognate Course		3
Elective		3
	Credit Hours	15
Year Four		
Fall		
ECS 401	Internship	3
ENV Related People and Society Course		3
ECS Elective 300 level or higher		3
Arts and Humanities Cognate Course		3
Minor Course		3
	Credit Hours	15
Spring		
ECS 403	Interdisciplinary Approaches	3
ENV Related People and Society Cognate Course ¹		3
Minor Course		3
ENV Related STEM Course		3
Elective		3
	Credit Hours	15
	Total Credit Hours	120

¹ This course needs to be at the 300 level or higher.

Suggested Plan of Study - with Second Major

In this plan, we are showing the case in which no courses from the second major (30 credits) are double counted with ECS. However, some course may double count, in which case electives will be opened up.

Course	Title	Credit Hours
Year One		
Fall		
ECS 111	Introduction to the Earth's Ecosystem	3
MTH 108	Precalculus Mathematics II	3
ENG 105	English Composition I	3
Language Course		3

Second Major Course		3
	Credit Hours	15
Spring		
ECS 112	Field Problems in Ecosystem Science and Policy	2
ECS 113	Introduction to Environmental Policy	3
ENG 106	English Composition II	3
POL 201	Introduction to American National Government	3
Language Course		3
Second Major Course		3
	Credit Hours	17
Year Two		
Fall		
ECS 201	Seminar Series in Contemporary Environmental Issues I	1
ECS 232	Ecological Principles and Environmental Applications	3
GSC 102	Evolution of the Biosphere	3
APY 202	Principles of Cultural Anthropology	3
Language Course		3
Second Major Course		3
	Credit Hours	16
Spring		
ECS 302	Perspectives on Environmental Decision Making	3
MSC 204	Environmental Statistics	3
ECO 211	Principles of Microeconomics	3
GEG 310	Geographic Information Systems I	3
Second Major Course		3
	Credit Hours	15
Year Three		
Fall		
Second Major Course		3
Second Major Course		3
EVN Related STEM Course		3
Arts and Humanities Cognate		3
ECS Elective 300 level or higher		3
	Credit Hours	15
Spring		
ECS 301	Tools for Environmental Decision-Making: The Quantitative Perspective	3
Second Major Course		3
ENV Related People and Society Course		3
ECS Elective 300 level or higher		3
Arts and Humanities Cognate		3
	Credit Hours	15
Year Four		
Fall		
ECS 401	Internship	3
Second Major Course		3
Second Major Course		3
ENV Related People and Society Course ¹		3
Arts and Humanities Cognate		3
	Credit Hours	15
Spring		
ECS 403	Interdisciplinary Approaches	3
Second Major Course		3

ECS Elective 300 level or higher	3
Elective	3
Credit Hours	12
Total Credit Hours	120

¹ This course needs to be at the 300 level or higher.

B.S. in Ecosystem Science and Policy

The B.S. degree in Ecosystem Science and Policy is recommended for students intending to attend graduate or professional schools in pursuit of research or academic careers (including secondary or higher education). It is also suitable for those preparing for technical careers in government and private industries concerned with the environment. Students pursuing the B.S. may choose to have the major fulfill either the STEM or People & Society cognate; they will need to complete the other cognate plus the Arts & Humanities cognate. Students with a second major in another school or college should consult their advisors regarding requirements for that major and school or college. Any course used to fulfill one ECS requirement cannot be used to fulfill another; however, courses other than the ECS core can be used to fulfill requirements for a cognate, minor, or second major.

Students whose primary college is Arts & Sciences are required to complete four courses designated as "Writing Intensive" (also known as "W") courses. Those seeking a B.S. degree in ECS must complete at least two, but as many as four, ECS courses designated as "W". These include ECS 113, ECS 301, ECS 302, ECS 402, and ECS 403. Up to two "W" courses may be selected from other departments. Students whose primary degree is in another school or college should follow its writing requirements.

Curriculum Requirements

Code	Title	Credit Hours
ECS Core Courses		
ECS 111	Introduction to the Earth's Ecosystem	3
ECS 112	Field Problems in Ecosystem Science and Policy	2
ECS 113	Introduction to Environmental Policy	3
ECS 201 or ECS 202	Seminar Series in Contemporary Environmental Issues I Seminar Series in Contemporary Environmental Issues II	1
ECS 232 or BIL 330	Ecological Principles and Environmental Applications Ecology	3
ECS 301	Tools for Environmental Decision-Making: The Quantitative Perspective	3
ECS 302	Perspectives on Environmental Decision Making	3
ECS 401 or ECS 402	Internship Thesis	3
ECS 403	Interdisciplinary Approaches	3
ECS electives at the 300 level or higher		6
In addition, students must take the following courses, which may fulfill cognate or second major requirements:		
Science Core Courses		
A science course at the 110 level or above with lab (BIL, GSC, MSC, PHY)		4
CHM 111 & CHM 113	Principles of Chemistry I and Chemistry Laboratory I	4
CHM 112 & CHM 114	Principles of Chemistry II and Chemistry Laboratory II	4
CAE 240 or CAE 340	Environmental Pollution Introduction to Environmental Engineering	3
Complete one of the ECS science tracks (see table below)		9-22
Environmental Chemistry Track		
Environmental Health track		
Geology track		
Geospatial Certificate track		
Mathematics track		
Conservation Biology track		
Climate Science & Policy track		
Mathematics Courses		

Select one of the following:		8-9
MTH 151 & MTH 162	Calculus I for Engineers and Calculus II	
MTH 161 & MTH 162	Calculus I and Calculus II	
MTH 171 & MTH 172	Calculus I and Calculus II	
Select one of the following Statistics courses:		3
ECS 204	Environmental Statistics	
MSC 204	Environmental Statistics	
MTH 224	Introduction to Probability and Statistics	
PSY 292	Introduction to Biobehavioral Statistics for Non-Majors	
Social Science Core Courses		
Select one of the following Economics/Political Science courses for BS:		3
ECS 377	Topics in Environmental Economics and Development	
ECO 211	Principles of Microeconomics	
ECO 212	Principles of Macroeconomics	
INS 102	Global Economics	
INS 421	Poverty and the Environment	
MSC 345	Economics of Natural Resources and the Environment	
POL 201	Introduction to American National Government	
POL 202	Introduction to Comparative Politics	
POL 203	Introduction to International Relations	
Select one of the following ECS social science skills courses for BS: ¹		3
BSL 212	Introduction to Business Law	
STC 114	Principles of Advertising	
JMM 106	Visual Design	
JMM 341	Web Design	
ECS 376	Topics in Environmental Communication	
ECS 377	Topics in Environmental Economics and Development	
EPS 321	Understanding Human Service Organizations	
FIN 300	Fundamentals of Finance for Non-Finance Majors	
FIN 302	Fundamentals of Finance	
GEG 120	Physical Geography	
INS 503	International Relations Topics (e.g., Role of Foreign Aid in International Development)	
LAS 502	Research Design in Latin American Studies	
MGT 253	Introduction to Entrepreneurship	
MGT 303	Operations Management	
MKT 201	Foundations of Marketing	
PHI 110	Critical Thinking	
PHI 215	Logic and Law	
POL 314	Legislative Processes	
POL 342	State Government and Politics	
POL 353	Interest Groups and Lobbying	
POL 524	Non-Profit Organizations: Law, Policy, and Management	
SOC 210	Introduction to Social Research	
GEG 310	Geographic Information Systems I	
Additional Required Courses		
ENG 105	English Composition I	3
ENG 106	English Composition II	3
Arts and Humanities Cognate		9
Language Courses		9

Electives/Additional minor ²	25
Total Credit Hours	120-134

Track Requirements

Code	Title	Credit Hours
Complete one of the following ECS science tracks:		
Environmental Chemistry Track: ³		11-12
Select three of the following (must include 2 labs):		
CHM 201 & CHM 205	Organic Chemistry I (Lecture) and Organic Chemistry Laboratory I	
CHM 202 & CHM 206	Organic Chemistry II (Lecture) and Organic Chemistry Laboratory II	
CHM 360 & CHM 364	Physical Chemistry I (Lecture) and Physical Chemistry (Laboratory I)	
CHM 365 & CHM 464	Physical Chemistry II (Lecture) and Physical Chemistry (Laboratory II)	
CHM 401	Environmental Chemistry	
Geology track: ⁴		19-21
GSC 110 & GSC 114	The Earth System and Earth Processes Lab	
GSC 111	Earth System History	
GSC 260	Earth Materials	
Select two of the following:		
GSC 360	Depositional and Diagenetic Systems	
GSC 380	Paleontology and Stratigraphy	
GSC 410	Environmental Geochemistry	
GSC 420	Geophysics	
GSC 480	Structural Geology	
GSC 550	Hydrogeology	
Geospatial Certificate track: ⁵		15
GEG 310	Geographic Information Systems I	
GEG 321	Remote Sensing of the Environment	
GEG 410	Geographic Information Systems II	
Select 2 of the following:		
GEG 305	Spatial Data Analysis I	
GEG 390 or GEG 590	Topics in Geography Advanced Topics in Geography	
GEG 315	Digital Cartography	
GEG 405	Spatial Data Analysis II	
GEG 415	Web GIS	
Mathematics track: ⁶		9
MTH 359	Mathematical Models in Biology and Medicine	
Select two of the following:		
MTH 210	Introduction to Linear Algebra	
MTH 310	Multivariable Calculus	
MTH 311	Introduction to Ordinary Differential Equations	
Environmental Health track: ⁷		23-25
BIL 150 & BIL 151	General Biology and General Biology Laboratory	
CHM 121	Chemistry for the Biosciences I	
CHM 221	CHM211 Chemistry for the Biosciences II	
CHM 222	CHM212 Chemistry for the Biosciences III	
Select one of the following:		

BPH 208	Introductory Epidemiology	
BMB 401	Biochemistry for the Biomedical Sciences	
MIC 301	Introduction to Microbes and the Immune System	
MIC 322	Medical Parasitology	
Climate Science & Policy track: ⁸		18
MSC 111	Introduction to Marine Science	
ATM 102 or ATM 103	Introduction to Weather and Climate Survey of Modern Meteorology	
MSC 346	Climate Science and Policy	
Select two courses from the following:		
MSC 220	Climate and Global Change	
MSC 222	The Earth's Climate: Past and Future	
GSC 462	Earth's Ancient Atmospheres, Climates, and Sea Levels	
Other approved climate science course		
Select one course from the following:		
MSC 313	Coastal Law	
MSC 314	Ocean Law	
MSC 340	Ocean Policy	
MSC 342	Decision Making and the Environment	
Other approved climate policy course		
Conservation Biology track: ⁹		22
BIL 150 & BIL 151	General Biology and General Biology Laboratory	
BIL 160	Evolution and Biodiversity	
Select 12 credits from the following (must include 3 credits in the field/lab category):		
BIL 220	Evolution and Disease	
BIL 226	General Botany	
BIL 230	Introduction to Marine Biology	
BIL 250	Genetics	
BIL 315	Marine Biota and Biogeochemical Cycles	
BIL 316	Global Primary Production	
BIL 330	Ecology	
BIL 350	Survey of Marine Mammals	
BIL 360	Comparative Physiology	
BIL 415	Coral Reef Science and Management	
BIL 433	Conservation in Practice	
BIL 435	Origins, Ecology and Conservation of Insular Diversity	
BIL 441	Animal Behavior	
BIL 539	Conservation and Protected Areas	
Field/Lab Category:		
BIL 227	General Botany Laboratory	
BIL 231	Introduction to Marine Biology Laboratory	
BIL 321	Invertebrate Zoology	
BIL 328	Biology of Birds	
BIL 331	Ecology Laboratory	
BIL 332	Tropical Ecology	
BIL 432	Ecology in the Galapagos	
BIL 525	Herpetology	

¹ Note: ECS B.S. majors without a second major must take a GIS course, e.g. GEG310.

² Note: For tracks having a higher credit count, the number of electives available is reduced.

³ Note: CHM111/CHM113, CHM112/CHM114 must be taken before the Environmental Chemistry track. Fulfillment of the Environmental Chemistry track earns a Chemistry minor.

- 4 *Note: Fulfillment of the Geology track earns a minor in Geological Sciences.*
- 5 *Note: Fulfillment of the Geospatial Certificate track PLUS GEG 110 earns a geography minor.*
- 6 *Note: Calculus II must be taken before the Mathematics track. Fulfillment of the Mathematics track earns a Mathematics minor.*
- 7 *Note: The 12-credit CHM121/221/222 sequence of the Environmental Health track replaces the normal 8 credit ECS B.S. CHM111/112/113/114 series, making the effective credit count for the Environmental Chemistry track 19-21. This track as described does not earn a minor; additional courses to finish a minor (or a separate minor) must be undertaken.*
- 8 *Note: MSC346 (co-listed with ECS403) taken to satisfy the Climate Science & Policy track cannot also satisfy the ECS403 core course requirement; a separate ECS403 section must be taken. Fulfillment of the track earns a minor in Climate Science & Policy.*
- 9 *Note: BIL539 (Co-listed with ECS403) taken to satisfy the Conservation Biology track cannot also satisfy the ECS403 core course requirement; a separate ECS403 section must be taken. Fulfillment of the Conservation Biology track earns a Biology minor.*
- * Students following the ECS Bachelor of Science must complete either a track (listed separately above) or a second major in a STEM field.

Suggested Plan of Study - with Track

Course	Title	Credit Hours
Year One		
Fall		
ECS 111	Introduction to the Earth's Ecosystem	3
ENG 105	English Composition I	3
CHM 111	Principles of Chemistry I	3
CHM 113	Chemistry Laboratory I	1
MTH 108	Precalculus Mathematics II	3
Elective		3
	Credit Hours	16
Spring		
ECS 112	Field Problems in Ecosystem Science and Policy	2
ECS 113	Introduction to Environmental Policy	3
ENG 106	English Composition II	3
CHM 112	Principles of Chemistry II	3
CHM 114	Chemistry Laboratory II	1
Pre-track course + lab		4
	Credit Hours	16
Year Two		
Fall		
ECS 201	Seminar Series in Contemporary Environmental Issues I	1
ECS 232	Ecological Principles and Environmental Applications	3
MTH 171	Calculus I	4
GEG 310	Geographic Information Systems I	3
Pre-track course + lab		4
	Credit Hours	15
Spring		
CAE 240	Environmental Pollution	3
MTH 172	Calculus II	4
Track Course #1		3
ECO or POL Course		3
	Credit Hours	13
Year Three		
Fall		
ECS 302	Perspectives on Environmental Decision Making	3
MSC 204	Environmental Statistics	3
Language Course #1		3
Track Course #2		3

Elective		3
	Credit Hours	15
Spring		
ECS 301	Tools for Environmental Decision-Making: The Quantitative Perspective	3
Language Course #2		3
Track Course #3		3
Arts and Humanities Cognate #1		3
Elective		3
	Credit Hours	15
Year Four		
Fall		
ECS 401	Internship	3
Language Course #3		3
Track Course #4		3
Arts and Humanities Cognate #2		3
ECS Elective 300 level or higher		3
	Credit Hours	15
Spring		
ECS 403	Interdisciplinary Approaches	3
Arts and Humanities Cognate #3		3
ECS Elective 300 level or higher		3
Elective		3
Elective		3
	Credit Hours	15
	Total Credit Hours	120

Suggested Plan of Study - with Second Major

Course	Title	Credit Hours
Year One		
Fall		
ECS 111	Introduction to the Earth's Ecosystem	3
ENG 105	English Composition I	3
CHM 111	Principles of Chemistry I	3
CHM 113	Chemistry Laboratory I	1
MTH 108	Precalculus Mathematics II	3
	Credit Hours	13
Spring		
ECS 112	Field Problems in Ecosystem Science and Policy	2
ECS 113	Introduction to Environmental Policy	3
ENG 106	English Composition II	3
CHM 112	Principles of Chemistry II	3
CHM 114	Chemistry Laboratory II	1
Second Major Course + Lab		4
	Credit Hours	16
Year Two		
Fall		
ECS 201	Seminar Series in Contemporary Environmental Issues I	1
ECS 232	Ecological Principles and Environmental Applications	3
MTH 171	Calculus I	4
GEG 310	Geographic Information Systems I	3
Second Major Course + Lab		4
	Credit Hours	15

Spring		
CAE 240	Environmental Pollution	3
MTH 172	Calculus II	4
Second Major Course + Lab		4
Second Major Course		3
ECO or POL course		3
Credit Hours		17
Year Three		
Fall		
ECS 302	Perspectives on Environmental Decision Making	3
MSC 204	Environmental Statistics	3
Language Course		3
Second Major Course + Lab		4
Credit Hours		13
Spring		
ECS 301	Tools for Environmental Decision-Making: The Quantitative Perspective	3
Language Course		3
Second Major Course		3
Arts and Humanities Cognate		3
ECS Elective 300 level or higher		3
Credit Hours		15
Year Four		
Fall		
ECS 401	Internship	3
Language Course		3
Second Major Course + Lab		4
Second Major Course		3
Arts and Humanities Cognate		3
Credit Hours		16
Spring		
ECS 403	Interdisciplinary Approaches	3
Second Major Course		3
Second Major Course		3
Arts and Humanities Cognate		3
ECS Elective 300 level or higher		3
Credit Hours		15
Total Credit Hours		120

Certificate in Sustainability

The certificate program is intended to equip students with knowledge and skills for implementing positive change through environmentally responsible practices in various fields; to serve as a curricular adjunct to sustainable initiatives at UM; to foster a culture of conservation at the University; to enhance students' preparation for a variety of careers, including engineering, architecture, business, marketing, government, and more; and to affirm UM's commitment to sustainability and complement its efforts to enhance environmental education.

To obtain the sustainability certificate, students will complete 18 credits from the courses below.

Students may take courses to align with their major or minor, or individual interests (e.g., energy, green buildings, natural resource management). Note that some courses on the list may require one or more prerequisites. It is the responsibility of students to obtain any permissions for waivers of prerequisites from the appropriate parties in a given School or College. Courses not on the list below may be substituted; students should obtain permission for substitutions in advance from the director or assistant director of ECS.

Students must be enrolled full time and all courses for the Certificate must be passed with no lower than a "C" grade. Students who successfully complete the program will receive a notation on their transcripts that they have received the Sustainability Certificate.

Prerequisite Courses

- POL 322 has a prerequisite of POL 201 or POL 202; it is only offered in Summer
- MSC 340 has a prerequisite of MSC 111
- ARC 223 has a prerequisite of ARC 102 and ARC 122
- INS 322 has a prerequisite of INS 102 or ECO 211 and ECO 212, or permission of instructor
- INS 421 has a prerequisite of INS 102 or permission of instructor
- ECO 345 has a prerequisite of ECO 211 and ECO 302
- MSC 345 has a prerequisite of ECO 211
- GEG 341 has a prerequisite of any 100 level GEG course.

Curriculum Requirements

Code	Title	Credit Hours
Group 1: Human Impacts on Natural World		3
ECS 111	Introduction to the Earth's Ecosystem	
GSC 103	Evolution of the Modern Earth's Environment	
MSC 220	Climate and Global Change	
Group 2: Environmental Politics & Policy		3
ECS 113	Introduction to Environmental Policy	
ECS 372	Special Topics in Ecosystem Science and Policy	
POL 322	Environmental Politics and Policy	
MSC 340	Ocean Policy	
MSC 313	Coastal Law	
MSC 346	Climate Science and Policy	
Group 3: Social Implications		3
ARC 223	Architecture and the Environment	
INS 322	Economics of Development and the Environment	
INS 421	Poverty and the Environment	
ECO 345	Environmental Economics	
MSC 345	Economics of Natural Resources and the Environment	
ECS 310	Sustainable Living	
GEG 345	Drinking Water: Past, Present, and Future	
GEG 341	Population, Health, and Environment	
Total Credit Hours		9

Additional Courses

Choose 9 additional credits from courses below:

Code	Title	Credit Hours
College of Arts and Sciences		
Anthropology		
APY 307	Human Adaptation	
APY 360	Anthropology of Food	
APY 435	Anthropology of Nature and Environment	
Biology		
BIL 103	Introduction to Ecology	
BIL 220	Evolution and Disease	
BIL 330	Ecology	
BIL 332	Tropical Ecology	
BIL 433	Conservation in Practice	
Ecosystem Science and Policy		
ECS 201	Seminar Series in Contemporary Environmental Issues I	
ECS 202	Seminar Series in Contemporary Environmental Issues II	

ECS 301	Tools for Environmental Decision-Making: The Quantitative Perspective
ECS 302	Perspectives on Environmental Decision Making
ECS 433	Conservation in Practice
ECS 501	Interdisciplinary Environmental Theory
Geography	
GEG 331	Sustainable Development
GEG 334	Biogeography and Conservation
GEG 530	Seminar in Sustainability
Geological Sciences	
GSC 106	Geological Influences on Society
GSC 107	Natural Disasters: Hollywood vs. Reality
GSC 550	Hydrogeology
History	
HIS 229	Consumer Society: A Global History
HIS 368	Nature and the Environment in American History
International Studies	
INS 101	Global Perspectives
INS 102	Global Economics
INS 201	Globalization and Change in World Politics
Latin-American Studies	
LAS 320	Special Topics in Latin American and Caribbean Environment
LAS 321	Latin American Environmental Issues
LAS 520	Interdisciplinary Topics in Latin American and Caribbean Environments
LAS 521	Latin American Environmental Issues
Political Science	
POL 323	Global Warming, Politics and the European Union
POL 370	Global Energy Politics
POL 531	Global Environmental Politics
POL 545	Environmental Policy Making
Sociology	
SOC 341	Social and Cultural Change
Civil and Architectural Engineering	
CAE 240	Environmental Pollution
CAE 340	Introduction to Environmental Engineering
CAE 430	Water-Resources Engineering I
CAE 530	Water Resources Engineering II
CAE 560	Sustainable Construction
CAE 581	Energy-Efficient Building Design
Marine Science	
MSC 300	Water Resources: History, Management, and Policy
MSC 410	Marine Conservation Science
RSMAS-General	
RSM 570	Carbon and Climate (Total credit hours)
RSM 520	Climate and Society
Credit hours	9

Minor in Ecosystem Science and Policy

Code	Title	Credit Hours
ECS 111	Introduction to the Earth's Ecosystem	3
ECS 113	Introduction to Environmental Policy	3

Select nine more credit hours in ECS (6 of which are at the 300-level or above)	9
Total Credit Hours	15

Education

Degree in Teacher Education for Elementary and Secondary Schools

The School of Education and Human Development has suspended admission into the accredited Secondary Education program for the 2018-2019 academic year. Though admission to the major is currently suspended, the school offers a Professional Training Option (PTO) minor that provides eligibility for a temporary teaching certificate in the State of Florida for students who are majoring in English, Mathematics, Biology, Economics, Geography, History, International Studies, Political Science, Art, Drama, or Music.

¹ For specific information regarding required coursework, field experiences, and State requirements, please see an academic advisor in the School of Education and Human Development.

Florida State Department of Education

All education programs are approved by the State of Florida Department of Education. For specific information regarding required coursework, please see an advisor in the School of Education and Human Development.

Minor in Education

- Traditional Education (p. 208)

Certificate in Education

- Professional Training Option (p. 208)

Minor in Traditional Education

Code	Title	Credit Hours
TAL 103	Psychological Foundations of Education	3
Take any TAL course at the 200 level or higher		3
Take two courses at the 300 level or higher		6
Total Credit Hours		12

* The requirements for a minor in education consist of 12 credit hours passed with a C or higher, with an overall GPA of 2.5 in courses selected from the list of acceptable TAL departmental courses.

** A minimum of six credit hours must be numbered 300 or higher. This minor does not lead to teaching credentials.

*** American Sign Language courses **do not count** toward the Education minor (TAL 107, 207, 307, and 407).
TAL 191 **does not count** toward the Education minor.

Professional Training Option Certificate

The Professional Training Option (PTO) is a Florida Department of Education approved pathway for non-education majors to complete the professional component, one of the requirements to become a certified teacher in the State of Florida.

The PTO minor is 18 credit hours. Students must successfully pass the required portions of the Florida Teacher Certification Exam (FTCE) prior to degree conferral. UM transcripts will indicate that the student has completed a Florida State approved PTO program. Program completers will be eligible to apply for a Temporary Teaching Certificate in the State of Florida. Please see an academic advisor in the School of Education and Human Development for exam requirements and course advising.

Curriculum Requirements

Code	Title	Credit Hours
PTO Minor Courses		
TAL 103	Psychological Foundations of Education	3
TAL 305	Classroom and Behavior Management	3
TAL 330	Introduction to the Education of Exceptional Individuals	3
TAL 404	Content Area Literacy in the Secondary Classroom	3
TAL 506	Issues and Strategies for ESOL	3

Select one of the following (appropriate for the subject area):	3
TAL 524	Education and the Arts
TAL 541	Instruction and Assessment in Secondary English Language Arts
TAL 542	Instruction and Assessment in Secondary Mathematics
TAL 543	Instruction and Assessment in Secondary Science
TAL 544	Instruction and Assessment in Secondary Social Studies
Total Credit Hours	18

Engineering

<http://www.miami.edu/engineering>

Minor in Engineering

The College of Engineering offers the student in the College of Arts and Sciences a variety of 15 credit hour minors designed to give the student a basic understanding of the technologies that support and shape our civilization. Minors may be elected in Architectural, Civil, Computer, Electrical, Environmental, Industrial, or Mechanical Engineering. The student is given considerable freedom in choosing courses in accordance with the student's interests.

Faculty in the College is prepared to assist students seeking Engineering minors in the preparation of programs of study.

More detailed descriptions of these minors will be found in the College of Engineering (p. 592) section of this Bulletin.

English

<http://www.as.miami.edu/english>

Dept. Code: ENG

Introduction

The English Department offers programs for students interested in a liberal arts education. While many English majors direct their studies toward careers in law, creative writing, secondary education, or university teaching and scholarship, a major in English is just as valuable to students considering careers in business, journalism, or any of the health professions. Students who would like to learn more about any of these programs are encouraged to consult the Director of Undergraduate Studies in the Department of English, Ashe Bldg. 321.

Educational Objectives

English as a discipline offers an opportunity for a general humanistic education, and it develops skills in communication and analysis essential in most careers. An education in English teaches students to write, to think critically, to weigh values, and to communicate ideas. At the same time, it develops their creativity and aesthetic understanding, and affords them a knowledge of our literary heritage in all of its historical and cultural dimensions.

Degree Programs

The major in English leads to the degree of Bachelor of Arts.

Advanced Writing and Communication Proficiency

All English courses (other than ENG 103, ENG 105, ENG 106, and ENG 107) are designated writing courses (WRIT credit). A student majoring in English will complete the advanced writing and communication requirement of the College of Arts and Sciences (which requires four writing classes, including at least one in one of the student's major disciplines).

Major in English

Students majoring in English must earn 30 credit hours in English courses (36 credit hours for Departmental Honors) and must meet the requirements for one of the tracks described below:

- The Major in English (p. 211) (with a concentration in Literature),
- The Creative Writing Concentration (p. 216),
- The Concentration in British Literary History (p. 213), or
- The Women's Literature Concentration (p. 219).

Credit hours earned for courses in freshman composition (ENG 105, ENG 106, ENG 107, and ENG 208) may not be applied toward the total number of credit hours required for the major. In each English course, the English major must earn a grade of C- or better, with an overall GPA in the major of 2.0 or better.

Students pursuing both a major and a minor (or two majors) offered by the Department of English may double-count a maximum of two English courses toward the fulfillment of their degree requirements. They must also have an additional major or minor in a department other than English.

Since all ENG courses, other than freshman composition, are designated as writing (WRIT) courses, all English majors satisfy the College of Arts & Sciences Advanced Writing and Communication requirement by completing their major.

Minor

The Department of English offers two minors:

- The Minor in English (p. 222) and
- The English Minor in Creative Writing (p. 221).

Students pursuing both a major and a minor (or two majors) offered by the Department of English may double-count a maximum of two English courses toward the fulfillment of their degree requirements. They must also have an additional major or minor in a department other than English.

Departmental Honors in English

Students interested in seeking Departmental Honors in English should consult the Director of Undergraduate Studies in English, normally before the end of the junior year.

To enter the program a student must have achieved by the end of the junior year at least a 3.5 average in English courses and a 3.3 average overall. In addition to fulfilling the requirements for the Major in English (with a concentration in Literature), the candidate for Departmental Honors must:

1. Take at least three literature courses numbered 400 or above in fulfilling requirement #2 of the English Literature Major.
2. Complete a six-credit-hour Senior Thesis. This thesis is a documented essay of about 10,000 words on a literary subject. The student undertaking a Senior Thesis normally registers in ENG 497 for the first semester of the project, and in ENG 498 for the second semester. The student must receive a grade of B or higher in both courses in order to qualify for honors. (**6 credit hours**)
3. While taking ENG 497 and ENG 498, participate in any workshops offered by the English Department for students engaged in independent research projects.
4. Receive for the thesis a recommendation for honors by the director of the Senior Thesis and by one other faculty reader from the Department of English.
5. Achieve an average in the major of at least 3.5, and an overall average of at least 3.3.

Total: 36 credit hours

Departmental Honors in Creative Writing

Students interested in seeking Departmental Honors in Creative Writing should consult the Director of Creative Writing, normally before the end of the junior year.

To enter the program a student must have achieved by the end of the junior year at least a 3.5 average in English courses (including courses in creative writing) and a 3.3 average overall. In addition to meeting the requirements for the Creative Writing Concentration, the candidate for Departmental Honors must:

1. Take at least three literature courses numbered 400 or above in fulfilling requirement #3 of the Creative Writing Concentration.
2. Complete a six-credit-hour Senior Creative Writing Project. The student undertaking this project normally registers in ENG 497 for the first semester of the project, and in ENG 498 for the second semester. The student must receive a grade of B or higher in both courses in order to qualify for honors. (**6 credit hours**)
3. Receive for the project a recommendation for honors by the director of the Senior Creative Writing Project and by one other faculty reader designated by the Director of Creative Writing.
4. Achieve an average in the major of at least 3.5, and an overall average of at least 3.3.

Total: 36 credit hours

Departmental Honors in Women's Literature

Students interested in seeking Departmental Honors in Women's Literature should consult the Director of Undergraduate Studies in English, normally before the end of the junior year.

To enter the program a student must have achieved by the end of the junior year at least a 3.5 average in English courses and a 3.3 average overall. In addition to fulfilling the requirements for the Women's Literature Concentration, the candidate for Departmental Honors must:

1. Take at least three literature courses numbered 400 or above in fulfilling requirements #2 and #3 of the Women's Literature Concentration.
2. Complete a six-credit-hour Senior Thesis. This thesis is a documented essay of about 10,000 words on a literary subject. The student undertaking a Senior Thesis normally registers in ENG 497 for the first semester of the project, and in ENG 498 for the second semester. The student must receive a grade of B or higher in both courses in order to qualify for honors. **(6 credit hours)**
3. While taking ENG 497 and ENG 498, participate in any workshops offered by the English Department for students engaged in independent research projects.
4. Receive for the thesis a recommendation for honors by the director of the Senior Thesis and by one other faculty reader from the Department of English.
5. Achieve an average in the major of at least 3.5, and an overall average of at least 3.3.

Total: 36 credit hours

Majors in English

- B.A. in English (p. 211)
- B.A. in English with Concentrations in:
 - Creative Writing (p. 216)
 - British Literary History (p. 213)
 - Women's Literature (p. 219)

Minors in English

- English (p. 222)
- Creative Writing (p. 221)

B.A. in English

Curriculum Requirements

Requirements for the Major in English (with a concentration in Literature) are as follows:

Code	Title	Credit Hours
1. Select ONE of the following (N.B., ENG 210 may NOT be used to fulfill this requirement):		3
ENG 201	World Literary Masterpieces I	
ENG 202	World Literary Masterpieces II	
ENG 205	Jewish Literature	
ENG 211	English Literature I	
ENG 212	English Literature II	
ENG 213	American Literature I	
ENG 214	American Literature II	
ENG 215	English and American Literature by Women	
ENG 260	African-American Literature	
ENG 261	Literature of the Americas	
2. Select FIVE LITERATURE courses numbered 300 or above. At least TWO must be numbered 400 or above. The courses must be distributed as follows:		15
Select two courses numbered 300 or above in literature before 1700		
Select two courses numbered 300 or above in literature between 1700 and 1900		
Select one course numbered 300 or above in literature since 1900		
3. Select FOUR additional English courses other than freshman composition ¹		12
Total credits required for the major: 30 (36 credits required for Departmental Honors)		
4. Additional Graduation Requirements:		
ENG 105	English Composition I	3
ENG 106	English Composition II	3
MTH 101	Algebra for College Students (not needed by students who place into MTH 113)	3

MTH 113	Finite Mathematics (or any MTH course numbered 108 or higher)	3
Language Requirement (3-9 credits, depending on the student's initial placement in the language chosen)		9
Minor		15
People & Society Cognate ²		9
STEM Cognate ³		9
Natural Science course ⁴		3
Advanced Writing & Communication ⁵		
Electives ⁶		33
Total Credit Hours		120

¹ i.e., any four courses designated ENG and numbered 200 or above, excluding ENG 208.

² If the student has a minor (or second major) that counts as "People & Society," the student does not need to satisfy the requirement for a People & Society cognate.

³ If the student has a minor (or second major) that counts as "STEM," the student does not need to satisfy the requirement for a STEM cognate.

⁴ This requirement is waived if the STEM cognate includes a Natural Science course from the approved list.

⁵ Students satisfy this requirement by taking four writing courses, at least one of which must be in one of the student's major disciplines. Since all ENG courses, other than freshman composition, are designated as writing (WRIT) courses, all English majors satisfy this requirement by completing their major.

⁶ A minimum of 120 credits is required for graduation. Sufficient credits must be earned in electives to enable the student to complete this minimum of 120 credits. The exact number of elective credits required will vary depending on the number of credits needed to complete all other graduation requirements.

Suggested Plan of Study

This Suggested Plan of Study is a sample four-year plan, but an individual student's actual plan is likely to vary from this sample plan in a number of ways, depending on such factors as (1) AP, dual-enrollment, and transfer credits that a student brings in; (2) the student's initial placement in composition, mathematics, and foreign language; and (3) the minor chosen by the student, as well as any additional minor or major the student chooses to complete. For example, a student is not required to complete a cognate in People & Society if the student has a minor (or second major) that counts as "People & Society," and similarly, a student is not required to complete a cognate in STEM if the student has a minor (or second major) that counts as "STEM."

Course	Title	Credit Hours
Freshman Year		
Fall		
ENG 105	English Composition I	3
MTH 101	Algebra for College Students (if needed; otherwise, can be replaced by an elective)	3
Language (first course)		3
People & Society cognate (first course)		3
Elective		3
Credit Hours		15
Spring		
ENG 106	English Composition II	3
MTH 113	Finite Mathematics	3
Language (second course)		3
STEM cognate (first course)		3
Elective		3
Credit Hours		15
Sophomore Year		
Fall		
ENG 201	World Literary Masterpieces I (or one of the other 200-level courses that satisfy requirement #1 of the major)	3
Language (third course)		3
People & Society cognate (second course)		3
Minor (first course)		3

Elective ¹		3
	Credit Hours	15
Spring		
ENG 2xx		3
ENG 3xx (course in literature before 1700)		3
Minor (second course)		3
STEM cognate (second course)		3
Elective		3
	Credit Hours	15
Junior Year		
Fall		
ENG 3xx (course in literature 1700-1900)		3
ENG 4xx (course in literature since 1900)		3
Minor (third course)		3
STEM cognate (third course)		3
Elective		3
	Credit Hours	15
Spring		
ENG 3xx		3
ENG 4xx (course in literature before 1700)		3
Minor (fourth course)		3
Natural Science course (if needed)		3
Elective		3
	Credit Hours	15
Senior Year		
Fall		
ENG 3xx ²		3
ENG 4xx (course in literature 1700-1900)		3
Minor (fifth course)		3
People & Society cognate (third course)		3
Elective		3
	Credit Hours	15
Spring		
ENG 4xx		3
Elective ³		3
Elective		3
Elective		3
Elective		3
	Credit Hours	15
	Total Credit Hours	120

¹ Students who are considering the possibility of writing a six-credit senior thesis for Departmental Honors in English their last year should replace this elective course with an ENG course for their major.

² Students who are writing a six-credit senior thesis for Departmental Honors in English should, ideally, have completed eight ENG courses for their major prior to their senior year, and should therefore be able to replace this course with ENG 497.

³ Students who are writing a six-credit senior thesis for Departmental Honors in English should replace this elective course with ENG 498 .

B.A. in English - Concentration in British Literary History

Curriculum Requirements

Requirements for the Concentration in British Literary History are as follows:

Code	Title	Credit Hours
1. Complete the two-semester survey of British literature:		6
ENG 211	English Literature I	
ENG 212	English Literature II	
2. Select EIGHT English courses numbered 300 or above, at least FOUR of which must be numbered 400 or above. These courses must be distributed as follows:		24
Select one course numbered 300 or above on Shakespeare		
Select one course numbered 300 or above on literary theory or the history of criticism		
Select two additional courses numbered 300 or above in British literature (or a combination of British and other literatures) before 1800		
Select two additional courses numbered 300 or above in British literature (or a combination of British and other literatures) after 1800		
Select two ENG electives numbered 300 or above		
3. Recommended Courses:		
Select ancillary courses in Art History, Music, History, and Philosophy, in consultation with a departmental advisor		
Total credits required for the major: 30		
4. Additional Graduation Requirements:		
ENG 105	English Composition I	3
ENG 106	English Composition II	3
MTH 101	Algebra for College Students (not needed by students who place into MTH 113)	3
MTH 113	Finite Mathematics (or any MTH course numbered 108 or higher)	3
Language Requirement (3-9 credits, depending on the student's initial placement in the language chosen)		9
Minor		15
People & Society Cognate ¹		9
STEM Cognate ²		9
Natural Science course ³		3
Advanced Writing & Communication ⁴		
Electives ⁵		33
Total Credit Hours		120

- ¹ If the student has a minor (or second major) that counts as "People & Society," the student does not need to satisfy the requirement for a People & Society cognate.
- ² If the student has a minor (or second major) that counts as "STEM," the student does not need to satisfy the requirement for a STEM cognate.
- ³ This requirement is waived if the STEM cognate includes a Natural Science course from the approved list.
- ⁴ Students satisfy this requirement by taking four writing courses, at least one of which must be in one of the student's major disciplines. Since all ENG courses, other than freshman composition, are designated as writing (WRIT) courses, all English majors satisfy this requirement by completing their major.
- ⁵ A minimum of 120 credits is required for graduation. Sufficient credits must be earned in electives to enable the student to complete this minimum of 120 credits. The exact number of elective credits required will vary depending on the number of credits needed to complete all other graduation requirements.

Suggested Plan of Study

This Suggested Plan of Study is a sample four-year plan, but an individual student's actual plan is likely to vary from this sample plan in a number of ways, depending on such factors as (1) AP, dual-enrollment, and transfer credits that a student brings in; (2) the student's initial placement in composition, mathematics, and foreign language; and (3) the minor chosen by the student, as well as any additional minor or major the student chooses to complete. For example, a student is not required to complete a cognate in People & Society if the student has a minor (or second major) that counts as "People & Society," and similarly, a student is not required to complete a cognate in STEM if the student has a minor (or second major) that counts as "STEM."

Course	Title	Credit Hours
Freshman Year		
Fall		
ENG 105	English Composition I	3

MTH 101	Algebra for College Students (if needed; otherwise, can be replaced by an elective)	3
Language (first course)		3
People & Society cognate (first course)		3
Elective		3
Credit Hours		15
Spring		
ENG 106	English Composition II	3
MTH 113	Finite Mathematics	3
Language (second course)		3
STEM cognate (first course)		3
Elective		3
Credit Hours		15
Sophomore Year		
Fall		
ENG 211	English Literature I	3
Language (third course)		3
People & Society cognate (second course)		3
Minor (first course)		3
Elective		3
Credit Hours		15
Spring		
ENG 212	English Literature II	3
ENG 319	Shakespeare	3
Minor (second course)		3
STEM cognate (second course)		3
Elective		3
Credit Hours		15
Junior Year		
Fall		
ENG 3xx (course in British literature before 1800)		3
ENG 4xx (course in British literature after 1800)		3
Minor (third course)		3
STEM cognate (third course)		3
Elective		3
Credit Hours		15
Spring		
ENG 3xx (course in literature)		3
ENG 4xx (course in British literature after 1800)		3
Minor (fourth course)		3
Natural Science course (if needed)		3
Elective		3
Credit Hours		15
Senior Year		
Fall		
ENG 3xx (course in literature)		3
ENG 4xx (course on literary theory or the history of criticism)		3
Minor (fifth course)		3
People & Society cognate (third course)		3
Elective		3
Credit Hours		15

Spring	
ENG 4xx (course in literature before 1800)	3
Elective	3
Elective	3
Elective	3
Elective	3
	Credit Hours
	15
	Total Credit Hours
	120

B.A. in English - Concentration in Creative Writing

Curriculum Requirements

Students who declare a major in English with a Creative Writing Concentration should meet with the Director of Creative Writing.

Code	Title	Credit Hours
1. Select either the FICTION TRACK or the POETRY TRACK:		12
Fiction Track		
ENG 290	Beginning Fiction Workshop	
ENG 390	Intermediate Fiction Workshop	
Select one of the following options to complete the FICTION TRACK:		
ENG 404 & 404	Creative Writing (Prose Fiction) and Creative Writing (Prose Fiction) (ENG 404 to be taken twice)	
OR		
ENG 404 & ENG 407	Creative Writing (Prose Fiction) and Creative Writing Special Topics, Advanced Workshop (taken in either order)	
OR		
ENG 404 & ENG 408	Creative Writing (Prose Fiction) and Writing Autobiography (taken in either order)	
Poetry Track		
ENG 292	Beginning Poetry Workshop	
ENG 392	Intermediate Poetry Workshop	
Select one of the following options to complete the POETRY TRACK:		
ENG 406 & 406	Creative Writing (Poetry) and Creative Writing (Poetry) (ENG 406 to be taken twice)	
OR		
ENG 406 & ENG 407	Creative Writing (Poetry) and Creative Writing Special Topics, Advanced Workshop (taken in either order)	
OR		
ENG 406 & ENG 408	Creative Writing (Poetry) and Writing Autobiography (taken in either order)	
2. Select one of the following (N. B., ENG 210 may NOT be used toward the fulfillment of this requirement):		3
ENG 201	World Literary Masterpieces I	
ENG 202	World Literary Masterpieces II	
ENG 205	Jewish Literature	
ENG 211	English Literature I	
ENG 212	English Literature II	
ENG 213	American Literature I	
ENG 214	American Literature II	
ENG 215	English and American Literature by Women	
ENG 260	African-American Literature	
ENG 261	Literature of the Americas	

3. Select FOUR LITERATURE courses numbered 300 or above, at least TWO of which must cover literature earlier than 1900. At least TWO of the four courses must be numbered 400 or above.	12
4. Select one additional LITERATURE course numbered 200 or higher	3
Total credits required for the major: 30 (36 credits required for Departmental Honors)	
5. Additional Graduation Requirements:	
ENG 105 English Composition I	3
ENG 106 English Composition II	3
MTH 101 Algebra for College Students (not needed by students who place into MTH 113)	3
MTH 113 Finite Mathematics (or any MTH course numbered 108 or higher)	3
Language Requirement (3-9 credits, depending on the student's initial placement in the language chosen)	9
Minor	15
People & Society cognate ¹	9
STEM cognate ²	9
Natural Science course ³	3
Advanced Writing & Communication ⁴	
Electives ⁵	33
Total Credit Hours	120

¹ If the student has a minor (or second major) that counts as "People & Society," the student does not need to satisfy the requirement for a People & Society cognate.

² If the student has a minor (or second major) that counts as "STEM," the student does not need to satisfy the requirement for a STEM cognate.

³ This requirement is waived if the STEM cognate includes a Natural Science course from the approved list.

⁴ Students satisfy this requirement by taking four writing courses, at least one of which must be in one of the student's major disciplines. Since all ENG courses, other than freshman composition, are designated as writing (WRIT) courses, all English majors satisfy this requirement by completing their major.

⁵ A minimum of 120 credits is required for graduation. Sufficient credits must be earned in electives to enable the student to complete this minimum of 120 credits. The exact number of elective credits required will vary depending on the number of credits needed to complete all other graduation requirements.

Suggested Plan of Study

This Suggested Plan of Study is a sample four-year plan, but an individual student's actual plan is likely to vary from this sample plan in a number of ways, depending on such factors as (1) AP, dual-enrollment, and transfer credits that a student brings in; (2) the student's initial placement in composition, mathematics, and foreign language; and (3) the minor chosen by the student, as well as any additional minor or major the student chooses to complete. For example, a student is not required to complete a cognate in People & Society if the student has a minor (or second major) that counts as "People & Society," and similarly, a student is not required to complete a cognate in STEM if the student has a minor (or second major) that counts as "STEM."

Course	Title	Credit Hours
Freshman Year		
Fall		
ENG 105	English Composition I	3
MTH 101	Algebra for College Students (if needed; otherwise, can be replaced by an elective)	3
Language (first course)		3
People & Society cognate (first course)		3
Elective		3
		Credit Hours
		15
Spring		
ENG 106	English Composition II	3
MTH 113	Finite Mathematics	3
Language (second course)		3
STEM cognate (first course)		3
Elective		3
		Credit Hours
		15

Sophomore Year		
Fall		
ENG 290 or 292	Beginning Fiction Workshop or Beginning Poetry Workshop	3
Language (third course)		3
People & Society cognate (second course)		3
Minor (first course)		3
Elective ¹		3
Credit Hours		15
Spring		
ENG 390 or 392	Intermediate Fiction Workshop or Intermediate Poetry Workshop	3
ENG 201	World Literary Masterpieces I (or one of the other 200-level courses that satisfy requirement #2 of the major)	3
Minor (second course)		3
STEM cognate (second course)		3
Elective		3
Credit Hours		15
Junior Year		
Fall		
ENG 404 or 406	Creative Writing (Prose Fiction) or Creative Writing (Poetry)	3
ENG 3xx (course in literature before 1900)		3
Minor (third course)		3
STEM cognate (third course)		3
Elective		3
Credit Hours		15
Spring		
ENG 404 or 406	Creative Writing (Prose Fiction) or Creative Writing (Poetry)	3
ENG 3xx (literature course; students seeking Departmental Honors in Creative Writing must take this literature course at the 400-level)		3
Minor (fourth course)		3
Natural Science course (if needed)		3
Elective		3
Credit Hours		15
Senior Year		
Fall		
ENG xxx (any literature course numbered 200 or higher) ²		3
ENG 4xx (course in literature before 1900)		3
Minor (fifth course)		3
People & Society cognate (third course)		3
Elective		3
Credit Hours		15
Spring		
ENG 4xx (literature course)		3
Elective ³		3
Elective		3
Elective		3
Elective		3
Credit Hours		15
Total Credit Hours		120

- ¹ Students who are considering the possibility of writing a six-credit senior thesis for Departmental Honors in Creative Writing their last year should replace this elective course with one of the literature courses required for the Creative Writing major.
- ² Students who are writing a six-credit senior thesis for Departmental Honors in Creative Writing should, ideally, have completed eight ENG courses for their major prior to their senior year, and should therefore be able to replace this course with ENG 497.
- ³ Students who are writing a six-credit senior thesis for Departmental Honors in Creative Writing should replace this elective course with ENG 498.

B.A. in English - Concentration in Women's Literature

Curriculum Requirements

Code	Title	Credit Hours
ENG 215	English and American Literature by Women	3
Select FOUR literature courses numbered 300 or above, at least TWO of which must be numbered 400 or above. These courses must be distributed as follows:		12
Select two courses in literature before 1700		
Select two courses in literature between 1700 and 1900		
Select FIVE additional English courses other than freshman composition ¹		15
Select 3 of the following courses:		6
ENG 372	Women Writing: Theory and Practice	
ENG 373	Literary Representations of Women	
ENG 374	Women Writers	
ENG 490	Studies in Women and Literature	
ENG 494	Feminist Literary Theory	
Any 200 level course except ENG 215		
Recommended Courses:		
Select ancillary courses in Women's and Gender Studies, in consultation with a departmental advisor		
Total credits required for the major: 30 (36 credits required for Departmental Honors)		
Additional Graduation Requirements:		
ENG 105	English Composition I	3
ENG 106	English Composition II	3
MTH 101	Algebra for College Students (not needed by students who place into MTH 113)	3
MTH 113	Finite Mathematics (or any MTH course numbered 108 or higher)	3
Language Requirement (3-9 credits, depending on the student's initial placement in the language chosen)		9
Minor		15
People & Society Cognate ³		9
STEM Cognate ⁴		9
Natural Science course ⁵		3
Advanced Writing & Communication ⁶		
Electives ⁷		33
Total Credit Hours		126

- ¹ i.e., any five courses designated ENG and numbered 200 or above, excluding ENG 208.
- ² The topics for some courses on this list, such as ENG 373, vary from semester to semester. Such courses may be repeated and may count more than once toward the fulfillment of this requirement.
- ³ If the student has a minor (or second major) that counts as "People & Society," the student does not need to satisfy the requirement for a People & Society cognate.
- ⁴ If the student has a minor (or second major) that counts as "STEM," the student does not need to satisfy the requirement for a STEM cognate.
- ⁵ This requirement is waived if the STEM cognate includes a Natural Science course from the approved list.
- ⁶ Students satisfy this requirement by taking four writing courses, at least one of which must be in one of the student's major disciplines. Since all ENG courses, other than freshman composition, are designated as writing (WRIT) courses, all English majors satisfy this requirement by completing their major.

⁷ A minimum of 120 credits is required for graduation. Sufficient credits must be earned in electives to enable the student to complete this minimum of 120 credits. The exact number of elective credits required will vary depending on the number of credits needed to complete all other graduation requirements.

* Students considering this concentration may want to take a special Women's Studies section of ENG 106 in the freshman year.

Suggested Plan of Study

This Suggested Plan of Study is a sample four-year plan, but an individual student's actual plan is likely to vary from this sample plan in a number of ways, depending on such factors as (1) AP, dual-enrollment, and transfer credits that a student brings in; (2) the student's initial placement in composition, mathematics, and foreign language; and (3) the minor chosen by the student, as well as any additional minor or major the student chooses to complete. For example, a student is not required to complete a cognate in People & Society if the student has a minor (or second major) that counts as "People & Society," and similarly, a student is not required to complete a cognate in STEM if the student has a minor (or second major) that counts as "STEM."

Course	Title	Credit Hours
Freshman Year		
Fall		
ENG 105	English Composition I	3
MTH 101	Algebra for College Students (if needed; otherwise, can be replaced by an elective)	3
Language (first course)		3
People & Society cognate (first course)		3
Elective		3
		Credit Hours
		15
Spring		
ENG 106	English Composition II	3
MTH 113	Finite Mathematics	3
Language (second course)		3
STEM cognate (first course)		3
Elective		3
		Credit Hours
		15
Sophomore Year		
Fall		
ENG 215	English and American Literature by Women	3
Language (third course)		3
People & Society cognate (second course)		3
Minor (first course)		3
Elective ¹		3
		Credit Hours
		15
Spring		
ENG xxx (course in Women's Literature)		3
ENG 3xx (course in literature before 1700)		3
Minor (second course)		3
STEM cognate (second course)		3
Elective		3
		Credit Hours
		15
Junior Year		
Fall		
ENG 3xx (course in literature 1700-1900)		3
ENG 4xx (course in literature before 1700)		3
Minor (third course)		3
STEM cognate (third course)		3
Elective		3
		Credit Hours
		15

Spring		
ENG xxx (course in Women's Literature)		3
ENG 4xx (course in literature 1700-1900)		3
Minor (fourth course)		3
Natural Science course (if needed)		3
Elective		3
	Credit Hours	15
Senior Year		
Fall		
ENG xxx (course in Women's Literature)		3
ENG 3xx ²		3
Minor (fifth course)		3
People & Society cognate (third course)		3
Elective		3
	Credit Hours	15
Spring		
ENG 4xx (course in literature)		3
Elective ³		3
Elective		3
Elective		3
Elective		3
	Credit Hours	15
	Total Credit Hours	120

¹ Students who are considering the possibility of writing a six-credit senior thesis for Departmental Honors in English their last year should replace this elective course with an ENG course for their major.

² Students who are writing a six-credit senior thesis for Departmental Honors in English should, ideally, have completed eight ENG courses for their major prior to their senior year, and should therefore be able to replace this course with ENG 497.

³ Students who are writing a six-credit senior thesis for Departmental Honors in English should replace this elective course with ENG 498.

Minor in Creative Writing

Code	Title	Credit Hours
ENG 209	Creative Writing	3
After taking ENG 209, complete ONE of the following three tracks:		6
ENG 290 & ENG 292	Beginning Fiction Workshop and Beginning Poetry Workshop (taken in either order)	
ENG 290 & ENG 390	Beginning Fiction Workshop and Intermediate Fiction Workshop	
ENG 292 & ENG 392	Beginning Poetry Workshop and Intermediate Poetry Workshop	
Select one LITERATURE course at the 200-level		3
Select one LITERATURE course at the 300-level or above		3
Total Credit Hours		15

* Students may declare an English Minor in Creative Writing through their school or college. Submitting materials to the Creative Writing Program is not required for the minor.

** The student completes at least 15 credit hours at the 200-level or above beyond the credits earned for freshman composition.

*** A minimum grade of C- or better is required in each course and along with an overall GPA in the minor of 2.0 or better,

**** Students pursuing both a major and a minor (or two majors) offered by the Department of English may double-count a maximum of two English courses toward the fulfillment of their degree requirements. They must also have an additional major or minor in a department other than English.

Minor in English

Code	Title	Credit Hours
	Select one LITERATURE course at the 200-level	3
	Select one LITERATURE course at the 200-level or the 300-level	3
	Select one LITERATURE course at the 400-level	3
	Select TWO additional English courses other than freshman composition ¹	6
	Total Credit Hours	15

¹ i.e., any two courses designated ENG and numbered 200 or above, excluding ENG 208.

* The student minoring in English completes at least 15 credit hours at the 200-level or above beyond the credits earned for freshman composition.

** A grade of C- or better is required in each course along with an overall GPA in the minor of 2.0 or better,

*** Students pursuing both a major and a minor (or two majors) offered by the Department of English may double-count a maximum of two English courses toward the fulfillment of their degree requirements. They must also have an additional major or minor in a department other than English.

Geography

<http://www.as.miami.edu/geography>

Dept. Code: GEG

Introduction

Geography is the science of place and space. Geographers ask where things are located on the surface of the earth, why they are located where they are, how places differ from one another, and how people interact with the environment. There are two main branches of geography: human geography and physical geography. Human geography is concerned with the spatial aspects of human existence. Physical geographers study patterns of climates, landforms, vegetation, soils, and water. Thus, Geography links the social sciences and natural sciences.

Geographers use many tools and techniques in their work, and geographic technologies are increasingly among the most important emerging fields for understanding our complex world. They include Geographic Information Systems (GIS), Remote Sensing, Global Positioning Systems (GPS), online mapping platforms such as Google Earth, statistics, survey research, and others.

Geographers work in many different areas, such as environmental management, education, disaster response, city and county planning, community development, and more. Geography is an interdisciplinary field that offers diverse career opportunities.

The relevance and prestige of Geography as a discipline was helped enormously during the past 20 years by four key developments:

1. the emergence of "globalization" as a phenomenon requiring analysis and explanation;
2. the increasing recognition of space and place in cognate social and physical sciences;
3. deepening concern for nature-society interactions and issues of environmental sustainability, development, and climate change;
4. the development of geographic information systems (GIS and GIScience) and remote sensing technologies and their widespread adoption by organizations in both the public and private sectors.

Knowledge of GIS and Geospatial Technology can be important in the field of geography and cognate disciplines. The US Bureau of Labor Statistics has identified GIS as a top emerging field, with more than 41,000 GIS-related job postings in 2016, according to Education Advisory Board research.

Educational Objectives

Geography offers specializations in areas such as

- Geographic Information Systems and Remote Sensing
- Medical Geography and Global Health
- Urban Geography and International urbanization
- Environmental Studies

Geography offers courses that provide training in indispensable skills for everyone entering the present-day labor market:

- Research Methodology
- Statistics
- Computer Cartography

- Geographic Information Systems (GIS)
- Remote Sensing of the Environment
- Survey Research

Study Abroad

Majors are strongly encouraged to study abroad. Study abroad at carefully selected institutions will complement the student's curriculum and area of specialization, will enhance fluency in a foreign language, and will result in heightened affinity for a foreign culture. The study abroad experience need not result in credit overloads or extended time spent in the program.

Writing within the Discipline

To satisfy the College of Arts and Sciences writing requirement in the discipline, students whose first major is Geography must take at least one of the following courses for a writing credit: GEG 306, GEG 346, GEG 402.

Degree Programs

The major in Geography leads to a Bachelor of Arts Degree, or a Bachelor of Science Degree.

Departmental Honors in Geography

The Department of Geography encourages its majors and minors to intensify and deepen their knowledge of Geography through its Departmental Honors Program. The program is designed to give our students the opportunity to explore various topics and problems in Geography that are of particular interest to them, to work more closely with faculty in the department, to develop skills in research and thesis preparation, and in some cases to prepare for graduate work in Geography or other disciplines.

Minimum requirements for the program are as follows:

1. a cumulative grade point average of at least 3.30;
2. a cumulative grade point average in Geography of at least 3.50; and
3. a thesis that is approved by departmental faculty.

Students have 3 options for writing the thesis.

1. Students may take 6 credit hours of independent study (GEG 598) with one or more departmental faculty.
2. Students may take a 3 credit hour course offered at the 300-level or above and 3 credit hours of independent study (GEG 598).
3. In exceptional circumstances, a student's thesis may be written as part of the requirements for earning 6 credit hours in Geography at the 300-level or above.

In all three cases, the thesis must be a single, coherent work of scholarship through which the student earns 6 credit hours in Geography over the course of two semesters.

A Geography faculty member must serve as the Honors thesis advisor, and a second reader, who may be from another department, must be selected in consultation with the thesis advisor. The thesis must be at least 30 pages in length (double spaced, 12 point font), not including tables and figures. Once the topic and committee are secured, students should turn in their signed Departmental Honors Thesis Form to the main office of the Geography Department. This form must be signed by the Director of Undergraduate Studies and submitted by October 15 for fall graduation and February 15 for Spring graduation.

In addition to completing the written thesis, students must orally present the results of their work to faculty and students at a special honors colloquium to be held at the end of the semester.

Majors in Geography and Regional Studies

- B.A. in Geography (p. 224)
- B.S. in Geography (p. 225)

Minor in Geography and Regional Studies

- Minor in Geography (p. 228)
- Minor in Geospatial Technology (p. 228)

Certificate in Geography and Regional Studies

- Geospatial Technology (p. 227)

B.A. in Geography

Curriculum Requirements

Code	Title	Credit Hours
University General Education Requirements		
ENG 105	English Composition I	3
ENG 106	English Composition II	3
MTH 108	Precalculus Mathematics II	3
Arts and Humanities Cognate		9
STEM Cognate		9
Language Requirement		3-9
Minor Requirement		15
Writing Requirement ¹		12
Study Abroad (optional)		15
Degree Requirements ^{2,3}		
Select one of the following:		3
GEG 101	Digital Earth	
GEG 105	World Regional Geography	
GEG 110	Introduction to Human Geography	
Required:		
GEG 120	Physical Geography	3
GEG 306	Geographic Research Methods	3
GEG 501	Capstone Research Seminar	3
Elective Courses ⁴		18
Additional Electives		18
Total Credit Hours		120-126

¹ To satisfy the College of Arts and Sciences writing requirement in the discipline, students majoring in Geography must take at least one writing eligible course in Geography. GEG 501 satisfies this requirement for most students.

² Students must complete at least 30 credit hours in Geography with a grade of C- or higher.

³ The overall GPA in courses counted toward the major must be 2.00 or higher.

⁴ The major requires 18 credits of of electives at least 9 of which must be at the 300 level or above, exclusive of GEG 501.

Suggested Plan of Study

Course	Title	Credit Hours
Year One		
Fall		
ENG 105	English Composition I	3
MTH 113	Finite Mathematics	3
UMX 100	The University of Miami Experience	0
GEG 101	Digital Earth	3
GEG 120	Physical Geography	3
Language Course		3
Credit Hours		15
Spring		
ENG 106	English Composition II	3
GEG 310	Geographic Information Systems I	3
Language Course		3
Arts and Humanities Cognate Course		3
General or GEG Elective Course		3
Credit Hours		15

Year Two		
Fall		
GEG 305	Spatial Data Analysis I	3
Language Course		3
General or GEG Elective Course		3
General or GEG Elective Course		3
Arts and Humanities Cognate Course		3
	Credit Hours	15
Spring		
GEG 241	Health and Medical Geography	3
GEG 306	Geographic Research Methods	3
General or GEG Elective Course		3
General or GEG Elective Course		3
Arts and Humanities Cognate Course		3
	Credit Hours	15
Year Three		
Fall		
GEG 331	Sustainable Development	3
STEM Cognate Course		3
General or GEG Elective Course		3
General or GEG Elective Course		3
General or GEG Elective Course		3
	Credit Hours	15
Spring		
300 Level GEG Elective		3
STEM Cognate Course		3
General or GEG Elective Course		3
General or GEG Elective Course		3
General or GEG Elective Course		3
	Credit Hours	15
Year Four		
Fall		
300 Level GEG Elective		3
STEM Cognate Course		3
General or GEG Elective Course		3
General or GEG Elective Course		3
General or GEG Elective Course		3
	Credit Hours	15
Spring		
GEG 501	Capstone Research Seminar	3
General or GEG Elective Course		3
General or GEG Elective Course		3
General or GEG Elective Course		3
General or GEG Elective Course		3
	Credit Hours	15
	Total Credit Hours	120

B.S. in Geography

Curriculum Requirements

Code	Title	Credit Hours
University General Education Requirements		

ENG 105	English Composition I	3
ENG 106	English Composition II	3
Arts and Humanities Cognate		9
People and Society Cognate		9
Language Requirement		3-9
Minor Requirement		15
Math Sequence		6
Writing Requirement ¹		12
Study Abroad (optional)		15
Degree Requirements ^{2,3}		
Choose 1 of the following:		3
GEG 101	Digital Earth	
GEG 105	World Regional Geography	
GEG 110	Introduction to Human Geography	
Required:		
GEG 120	Physical Geography	3
GEG 305	Spatial Data Analysis I	3
GEG 306	Geographic Research Methods	3
GEG 310	Geographic Information Systems I	3
GEG 321	Remote Sensing of the Environment	3
GEG 410	Geographic Information Systems II	3
GEG 501	Capstone Research Seminar	3
Choose 1 advanced techniques course		3
Elective Courses		6
Additional Electives		12
Total Credit Hours		120-126

¹ To satisfy the College of Arts and Sciences writing requirement in the discipline, students majoring in Geography must take at least one writing eligible course in Geography. GEG 501 satisfies this requirement for most students.

² Students must complete at least 33 credit hours in Geography with a grade of C- or higher.

³ The overall GPA in courses counted toward the major must be 2.00 or higher.

Suggested Plan of Study

Course	Title	Credit Hours
Year One		
Fall		
ENG 105	English Composition I	3
MTH 161	Calculus I	4
UMX 100	The University of Miami Experience	0
GEG 101	Digital Earth	3
GEG 120	Physical Geography	3
Language Course		3
Credit Hours		16
Spring		
ENG 106	English Composition II	3
MTH 162	Calculus II	4
GEG 310	Geographic Information Systems I	3
Language Course		3
Arts and Humanities Cognate Course		3
Credit Hours		16

Year Two		
Fall		
GEG 305	Spatial Data Analysis I	3
Language Course		3
Arts and Humanities Cognate Course		3
General or GEG Elective Course		3
BIO, CHM, GEL, or PHY Course		3
Credit Hours		15
Spring		
GEG 306	Geographic Research Methods	3
GEG 241	Health and Medical Geography	3
GEG 321	Remote Sensing of the Environment	3
Arts and Humanities Cognate Course		3
General or GEG Elective Course		3
Credit Hours		15
Year Three		
Fall		
GEG 331	Sustainable Development	3
GEG 410	Geographic Information Systems II	3
General or GEG Elective Course		3
General or GEG Elective Course		3
People and Society Cognate Course		3
Credit Hours		15
Spring		
300 Level GEG Elective		3
People and Society Cognate Course		3
GEG Elective - Advanced Techniques		3
General or GEG Elective Course		3
General or GEG Elective Course		3
Credit Hours		15
Year Four		
Fall		
300 Level GEG Elective		3
People and Society Cognate Course		3
General or GEG Elective Course		3
General or GEG Elective Course		3
General or GEG Elective Course		3
Credit Hours		15
Spring		
GEG 501	Capstone Research Seminar	3
General or GEG Elective Course		3
General or GEG Elective Course		3
General or GEG Elective Course		3
General or GEG Elective Course		3
Credit Hours		15
Total Credit Hours		122

Certificate in Geospatial Technology

This Certificate Program is not currently offered. For a similar program see the minor in Geospatial Technology (p. 228).

Minor in Geography

Code	Title	Credit Hours
Select One:		3
GEG 101	Digital Earth	
GEG 105	World Regional Geography	
GEG 110	Introduction to Human Geography	
GEG 120	Physical Geography	
Geography Electives		12
Total Credit Hours		15

¹ Students must complete at least 15 credit hours in Geography with a grade of C- or higher.

² At least 6 credit hours must be at the 300-level or higher.

Minor in Geospatial Technology

Code	Title	Credit Hours
Choose one:		3
GEG 101	Digital Earth	
GEG 105	World Regional Geography	
GEG 110	Introduction to Human Geography	
GEG 120	Physical Geography	
Core Courses		9
GEG 310	Geographic Information Systems I	
GEG 321	Remote Sensing of the Environment	
GEG 410	Geographic Information Systems II (GIS Minor Electives)	
Geospatial Technology Electives ¹		3
Select one of the following:		
GEG 305	Spatial Data Analysis I	
GEG 315	Digital Cartography	
GEG 390	Topics in Geography	
or GEG 590	Advanced Topics in Geography	
GEG 398	Independent Research	
or GEG 598	Advanced Independent Research	
GEG 399	Independent Study	
GEG 405	Spatial Data Analysis II	
GEG 412	GIS for Health and Environment	
GEG 414	Crime Mapping and Analysis	
GEG 415	Web GIS	
GEG 597	Internship in Geography	
Geography Elective 200 level or above		3
Total Credit Hours		18

¹ Other electives may be approved by the Director of Undergraduate Studies.

Minor in Social Science and Medicine

Code	Title	Credit Hours
Required Courses		6-9
Select at least two of the following:		
APY 413	Medical Anthropology	
GEG 241	Health and Medical Geography	
SOC 384	Medical Sociology	
Elective Courses ¹		6-9

Select up to three of the following:

APY 105	HIV: Sex, Science, and Society
APY 205	Medicine and Health Care in Society
APY 416	Bioarchaeology-Peopling the past
APY 423	Paleopathology: Health and disease in ancient peoples
APY 512	Advanced Medical Anthropology
GEG 335	Sustainable Food Systems
GEG 341	Population, Health, and Environment
GEG 343	Population, Sustainability, and the Media
GEG 345	Drinking Water: Past, Present, and Future
GEG 346	Immigrant and Refugee Health
GEG 348	Climate Change and Public Health
GEG 412	GIS for Health and Environment
ECO 386	Health Economics
INS 509	International Migration and the Health Care System
INS 570	Globalization and Health
INS 571	International Development and Human Welfare
INS 572	Global Health Policy and Ethics
INS 573	Disasters, Terrorism and Global Public Health
POL 536	U.S. Health Care Crisis: Politics and Policies
SOC 320	Social Epidemiology: Illness and Death in Society
SOC 321	Applied Health Policy
SOC 368	Violence in America
SOC 345	Population and Society
SOC 375	Sociology of Mental Health and Illness
SOC 377	Sociology of Drug Abuse
SOC 381	Aging in Society
SOC 480	Health Disparities in the U.S.
PSY 411	Relationships and Health
PSY 426	Health Psychology
CIM 471	Social Impact Games
COS 324	Health Communication
COS 325	Communication in Health Organization
COS 426	Patient-Provider Communication
COS 427	Health Behavior and Risk
BPH 206	Introduction to Public Health
BPH 208	Introductory Epidemiology
BPH 301	Human Sexuality and Vulnerable Populations
BPH 305	Issues in Health Disparities
BPH 309	Health and Environment
BPH 310	Global Health
BPH 317	Theories in Growth and Development
BPH 321	Health Promotion and Disease Prevention
BPH 322	Introduction to Health Policy
HSM 270	Introduction to Health Sector Management and Policy
HSM 310	Population Health
HSM 320	Health Care Demand and Supply
Total Credit Hours	

15

- ¹
- Courses offered as Special Topics or Independent Research may be applied toward the minor with approval by the program advisor.
 - No more than 6 credit hours may be applied to the minor from a single department.
 - At least 6 credit hours must be taken at the 300 level or higher.

- * Students must earn a grade of C- or better in each course and maintain a cumulative GPA of at least 2.0 in all courses counting toward the minor.

History

<http://www.as.miami.edu/history>

Dept. Code: HIS

Introduction

History is the systematic study of the past. The study of history includes training in how to gather information, how to research issues and problems, how to analyze data and construct arguments, and how to communicate ideas in writing. These are essential skills, tools that are prized in the world beyond the university. A major in history is an excellent beginning and solid stepping stone to professional school and the business world. For goals ranging from law to journalism, and from medicine to the MBA, history serves as a versatile undergraduate major. Multinational businesses demand that their executives understand the peoples and cultures around them, and be able to communicate that understanding effectively. If an occupation demands critical thinking and analysis, a background in history is invaluable.

Educational Objectives

All history courses expose students to historical interpretation and critical analysis.

- Courses at the 100 and 200 levels are intended as introductions to broad fields of history and are open to students with no previous college-level history experience.
- All 300 level history courses are writing intensive, are graded principally through essay examinations and short papers, and count toward the fulfillment of the University of Miami writing across the curriculum requirement.
- Courses at the 500 level require a 300 level history course as prerequisite. All 500 level courses deal extensively with the historiography of their particular subjects, and all require a written research project as a major component of the work of the course.
- Since all History courses at the 300-level and higher are officially designated as "Writing" courses, History majors will automatically fulfill the College of Arts & Sciences's Advanced Writing and Communication requirement by completing the major.

Degree Programs

The major in History leads to the degree of Bachelor of Arts.

Departmental Honors

History majors with a cumulative GPA of at least 3.6 in history courses may earn departmental honors by completing a two-semester-long, 500-level Honors seminar course HIS 597 and HIS 598, held in the Spring and Fall respectively). Admittance to the History Honors program is by application in the Fall semester during course registration week. Also, students must have completed at least 6 courses in History worth 18 credit hours at the University of Miami.

Major in History

- B.A. in History (p. 230)

Minor in History

- History (p. 232)

B.A. in History

A major in history consists of at least 30 credit hours in history with a grade of C- or better in each course, and with a cumulative GPA of at least 2.0 in history courses. These credit hours may include history courses taken for general distribution requirements, and must include at least 18 credit hours at the 300 level or above, of which at least 6 credit hours must be taken in the form of 500-level seminars. (HIS 599 does not count). All courses for majors will be selected by students in consultation with advisors designated by the department.

Credit hours from other institutions may be counted toward the major or minor, and to general distribution requirements as appropriate, but departmental approval is required in each case. Students who complete the Advanced Placement course in either United States or European history and pass the examination with a grade of 4 or 5 may receive credit in the appropriate history courses. Students who complete the International Baccalaureate program and pass the higher level history examination with a grade of 6 or higher will receive 3 credit hours in the appropriate entry-level history course. (However, in some cases students will only receive elective credit hours). At least 18 credit hours of the major and at least 9 credit hours of the minor must be completed at the University of Miami.

The department offers a variety of study abroad options with credit toward the major or minor.

Curriculum Requirements

Code	Title	Credit Hours
HIS 3XX Level or Higher		12
HIS 500 Level Seminars ¹		6
HIS Courses at any Level		12
Other Required Courses		
ENG 105	English Composition I	3
ENG 106	English Composition II	3
MTH 113	Finite Mathematics	3
Foreign Language Requirement		9
Minor Requirement (Non-History)		15
Natural Science Course		3
People and Society Cognate		9
STEM Cognate		9
Electives		36
Total Credit Hours		120

¹ HIS 599 does not count toward the 6 hours of required 500 level seminars.

* A grade of C- or better and a cumulative GPA of at least 2.0 are required for all history courses.

** All courses for majors will be selected by students in consultation with advisors designated by the department.

Suggested Plan of Study

Course	Title	Credit Hours
Year One		
Fall		
ENG 105	English Composition I	3
HIS 100 or 200 level Course		3
MTH 113	Finite Mathematics	3
UMX 100	The University of Miami Experience	0
Language Course		3
Natural Science Course		3
	Credit Hours	15
Spring		
ENG 106	English Composition II	3
HIS 100 or 200 Level Course		3
Language Course		3
Elective		3
Elective		3
	Credit Hours	15
Year Two		
Fall		
HIS 100 or 200 Level Course		3
HIS 300 Level Course		3
Language Course		3
People and Society Cognate Course		3
Elective		3
	Credit Hours	15
Spring		
HIS 300 Level Course		3
HIS 300 Level Course		3

People and Society Cognate Course	3
STEM Cognate Course	3
Elective	3
Credit Hours	15
Year Three	
Fall	
HIS 300 Level Course	3
Minor Course (Non-History)	3
People and Society Cognate Course	3
STEM Cognate Course	3
Elective	3
Credit Hours	15
Spring	
HIS 500 Level Course	3
Minor Course (Non-History)	3
People and Society Cognate Course	3
STEM Cognate Course	3
Elective	3
Credit Hours	15
Year Four	
Fall	
HIS 500 Level Course	3
Minor Course (Non-History)	3
Elective	3
Elective	3
Elective	e
Credit Hours	12
Spring	
HIS 300 Level Course	3
Minor Course (Non-History)	3
Minor Course (Non-History)	3
Elective	3
Elective	3
Elective	3
Credit Hours	18
Total Credit Hours	120

Minor in History

Code	Title	Credit Hours
Required Courses ¹		
HIS Courses 300 Level or Higher		9
Two Additional Courses		6
Total Credit Hours		15

¹ Courses for minors should be selected in consultation with a departmental advisor. These credit hours may include history courses taken for general distribution requirements, and must include at least 9 credit hours at the 300 level or above.

* A grade of C- or above in each course and a cumulative GPA of at least 2.0 are required in all history courses.

International Studies

<http://www.as.miami.edu/international-studies>

Dept. Code: INS

Introduction

The International Studies major provides a focused educational experience aimed at familiarizing students with the key structural features and dynamics of the international system and preparing them to enter the growing international job market. Processes of globalization, in part driven by global capital flows, expanding trade and the unrelenting development of communication and information technologies, have affected virtually everyone in every country, often in ways we are just beginning to understand. These developments often pose serious problems for government and other societal institutions, while also creating a demand for individuals who understand international processes. Jobs in virtually all sectors have acquired a decidedly international dimension, whether in trade, tourism, finance, public policy, government, or education. INS Graduates have moved on to the corporate world, the public sector, started their own businesses, or have continued their studies at the graduate level (i.e. Law, Business, and International Studies).

Educational Objectives

International Studies seeks to provide students with the ability to understand:

- International politics within the context of interstate relations and foreign policy.
- International economics and its sub-discipline international political economy, including such issues as trade and production, money and finance, and development.
- Social science research methods including qualitative, quantitative, comparative case study and formal modeling.

Students are encouraged to explore interdisciplinary options that further their understanding of international studies. This type of coursework can be taken in other disciplines offered at the university or taken outside the institution, either through exchange programs or other inter-institutional options provided by UM. Students will demonstrate the ability to synthesize the various thematic areas of the discipline through required participation in advanced seminars. Seminars will stress analytical participation, oral presentations and the ability to interpret and critique core theoretical readings.

Degree Programs

International Studies provides both a major and minor option for students. The flexibility of the program often allows students to double major without the need to extend their university studies. Students are encouraged to speak with the International Studies advisor to explore such possibilities. The major in International Studies leads to the degree of Bachelor of Arts.

Advanced Writing & Communication Requirements

Details of the Advanced Writing and Communication Proficiency:

Degree candidates must complete at least four writing courses, and at least one writing course must be in one of the student's major disciplines (not applicable to BLA students who do not select a major). Students should consult the bulletin section of their major to find out which writing-intensive courses are acceptable to the discipline.

Individual writing course offerings may make the writing component independent of the rest of the course. As such the writing component might be optional, the writing component might not contribute to the overall grade, and writing credit might be awarded even if the overall grade is a fail.

Transfer students may use a maximum of two courses towards the writing requirement.

Departmental Honors

The Department of International Studies encourages its majors to intensify and deepen their knowledge of the field through its departmental honors program. The program is designed to give students the opportunity to explore various topics and problems in international studies that are of particular interest to them, to work more closely with departmental faculty, to develop skills in research and thesis preparation, and in some cases to prepare for graduate work in international studies and related fields.

Minimal requirements for the program are as follows:

1. a cumulative grade point average of at least 3.30;
2. a cumulative grade point average in international studies of at least 3.50; and
3. a thesis that is approved, with a grade of at least B+, by a member of the departmental faculty.

After reaching agreement with a member of the faculty who will serve as the honors thesis advisor, students writing a senior honors thesis will enroll in INS 418 and INS 419, Honors Thesis, for a total of six credit hours [the credit hours may be spread over two semesters or taken in a single semester]. The thesis itself is expected to be an extended, coherent work of scholarship on an issue of relevance in the field of international studies.

Major in International Studies

- B.A. in International Studies (p. 234)

Minor in International Studies

• International Studies (p. 236)

B.A. in International Studies

Curriculum Requirements

Code	Title	Credit Hours
Core Requirements		
INS 101	Global Perspectives ¹	3
INS 102	Global Economics	3
INS 201	Globalization and Change in World Politics ¹	3
INS 202	INS Methodology	3
Thematic Core		
Select a total of six courses from the following listed below: ²		18
INS 341	Nationalism, Ethnicity and Conflict	
INS 540	National Security	
INS 542	Drug-Trafficking in the Americas	
INS 560	U.S. Foreign Policy	
INS 561	Negotiation and Bargaining	
INS 566	U.S.-Latin American Relations	
INS 330	Introduction of Comparative Studies	
INS 335	Democratization	
INS 533	Transnational Social Movements	
INS 534	Military, State and Society	
INS 565	The World Before European Domination	
INS 584	Latin American Thought	
INS 320	Global Economics II	
INS 321	Global Political Economy	
INS 322	Economics of Development and the Environment	
INS 420	Global Trade	
INS 520	Microeconomics for INS	
INS 571	International Development and Human Welfare	
INS 460	United Nations Seminar	
INS 570	Globalization and Health	
INS 573	Disasters, Terrorism and Global Public Health	
INS 591	The European Union	
INS 595	European Social Movements	
INS Electives and Interdisciplinary Options		
Select six credit hours of electives at the 300 level or above. ³		6
Additional Required Courses		
ENG 105	English Composition I	3
ENG 106	English Composition II	3
MTH 113	Finite Mathematics	3
UMX 100	The University of Miami Experience	0
Arts and Humanities Cognate		9
STEM Cognate		9
Language Requirement		3-9
Minor Requirement		15
General Electives		33
Total Credit Hours		120

¹ These courses must be completed before taking the Thematic Core courses.

- 2 Additional classes will be counted toward the elective portion of the INS major, if taken. Other courses, including classes in other disciplines, may be taken with the approval of the INS Advisor.
- 3 With the approval of the INS Advisor, students may take courses from other departments outside of INS such as Geography and Regional Studies, History, Anthropology, Sociology, Political Science, Economics, Religion, Art History, Foreign Languages, Environmental Science, et cetera. Appropriate study abroad courses, an approved internship (INS 519), or an honors thesis (INS 418 & INS 419) may also be used to fulfill elective credit hour requirements.

Important Advising Notes for all International Studies Majors

- Double Counting:** Of the combined courses in the INS Electives, no more than 6 credit hours may count double towards a second major. A student may not count any course used to fulfill the requirements of the INS major toward a minor requirement.
- Study Abroad:** Students are strongly encouraged to study abroad for a summer, a semester, or an entire year, depending on the program. Study abroad at carefully selected institutions will complement the student’s curriculum and area of specialization, will enhance fluency in the foreign language, and will result in heightened affinity for a foreign culture. The study abroad experience need not result in credit hour overloads or extended time spent in the program.
- Internship Credit Hour:** Students are encouraged to find a suitable internship during their undergraduate career. Upon approval by an advisor in the International Studies Undergraduate Program Office, 3 credit hours may be earned with an internship (INS 519), either toward the major or as elective credit hours (depending on the relevance of the particular internship to the INS major). The University’s Toppel Career Planning and Placement Center regularly advertises internships.
- Academic Standing:** Only courses in which a grade of C- or better is attained, may be counted towards the International Studies major and students must maintain a GPA of 2.75 or better in all major requirements (30 credit hours).

Suggested Plan of Study

Course	Title	Credit Hours
Year One		
Fall		
ENG 105	English Composition I	3
MTH 113	Finite Mathematics	3
UMX 100	The University of Miami Experience	0
INS 101	Global Perspectives	3
Language 101 Course		3
STEM Cognate Course		3
	Credit Hours	15
Spring		
ENG 106	English Composition II	3
INS 103	World in Crisis	3
INS 201	Globalization and Change in World Politics	3
Language 102 Course		3
Arts and Humanities Cognate Course		3
	Credit Hours	15
Year Two		
Fall		
INS 394	European Topics	3
Arts and Humanities Cognate Course		3
Language 201 Course		3
STEM Cognate Course		3
INS Elective 300 level or higher		3
	Credit Hours	15
Spring		
Arts and Humanities Cognate Course		3
INS Elective 300 level or higher		3
Minor Course		3
STEM Cognate Course		3
Thematic Core Course		3
	Credit Hours	15

Year Three		
Fall		
Thematic Core Course		3
Thematic Core Course		3
General Elective		3
Minor Course		3
Minor Course		3
	Credit Hours	15
Spring		
Thematic Core Course		3
Thematic Core Course		3
Minor Course		3
General Elective		3
General Elective		3
	Credit Hours	15
Year Four		
Fall		
Thematic Core Course		3
Minor Course		3
General Elective		3
General Elective		3
General Elective		3
	Credit Hours	15
Spring		
INS 519	Internship: Knowledge Partnership Civic Engagement	3
General Elective		3
General Elective		3
General Elective		3
General Elective		3
	Credit Hours	15
	Total Credit Hours	120

Minor in International Studies

Code	Title	Credit Hours
Base Courses		
Select two of the following core requirements:		6
INS 101	Global Perspectives	
INS 102	Global Economics	
INS 103	World in Crisis	
INS 201	Globalization and Change in World Politics	
Advanced Courses		
Select three INS courses at the 300-level or above in order to graduate with a minor in International Studies ¹		9
Total Credit Hours		15

¹ Advanced level courses from other departments may be taken if approved by the INS advisor. Only courses in which a grade of C- or better is attained may be counted towards the minor in International Studies, and students must maintain a GPA of 2.75 or better in all minor requirements (15 credit hours).

Judaic Studies

<http://www.as.miami.edu/judaic>

Dept. Code: JUS

Introduction

The George Feldenkreis Program in Judaic Studies is a broad, flexible, interdisciplinary program designed for undergraduates to gain an understanding of Jewish civilization and its diverse cultural experiences. The program, which is non-theological in orientation, is an academic exploration of the multi-faceted, socio-historical, 4,000-year record of the Jewish people. Courses taught by, and combined with the program highlight the variety of cultural, political, social, and religious experiences of Jews in different times and places.

Educational Objectives

The program is structured to provide an in-depth liberal arts education that will constitute a foundation for advanced academic study, professional careers in a variety of fields, and a more complex and rich understanding of the Jewish world. There are a total of 5 Judaic Studies Cognates. Judaic Studies cognates meet the requirements for People & Society and Arts & Humanities Cognates in the College of Arts and Sciences.

Advanced Writing and Communication Requirement

Students majoring in Judaic Studies satisfy the college of Arts and Sciences "Writing requirement in the discipline" when they take any course in Jewish or Israeli literature offered by the Department of English and any Judaic Studies course with the Writing Credit designation.

Major in Judaic Studies

- B.A. in the George Feldenkreis Program in Judaic Studies (p. 237)

Minor in Judaic Studies

- The George Feldenkreis Program in Judaic Studies (p. 239)

B.A. in the George Feldenkreis Program in Judaic Studies

Curriculum Requirements

Code	Title	Credit Hours
JUS 231	Jewish Civilization: Society, Culture and Religion	3
Choose one of the following courses in Jewish or Israeli literature offered by the English Department: ¹		3
ENG 205	Jewish Literature	
ENG 363	Jewish American Literature	
ENG 365	Literature of the Holocaust	
ENG 384	The Bible as Literature	
Choose one of the following courses in Hebrew at the 200 level or higher: ²		3
HEB 201	Intermediate Hebrew I	
HEB 202	Intermediate Hebrew II	
Choose one course in Ancient Jewish History and Society and one course in Modern Jewish History and Society ¹		6
Choose five JUS courses in classes listed in the JUS Degree audit or combined sections approved for JUS credit hours. ^{1,3}		15
Additional Requirements		
ENG 105	English Composition I	3
ENG 106	English Composition II	3
MTH 108	Precalculus Mathematics II	3
Arts and Humanities Cognate Or People and Society Cognate ⁴		3
STEM Cognate		3
Language Requirement		3-9
Natural Science Course		3
Electives		69
Total Credit Hours		120-126

¹ Courses will be designated appropriately by the Program Director each semester.

² Can be used simultaneously to fulfill the College of Arts and Sciences Language requirement.

³ 9 credit hours of which must be completed at the 300-level or higher. Students who complete HEB 201 need only complete 6 credit hours at the 300-level or higher.

⁴ A major or minor in Judaic Studies Fulfills the Cognate requirement for Arts and Humanities or People and Society.

* Honors in Judaic Studies consist of the above plus an Honors Thesis and one additional elective at the 300 level or higher.

** A grade of "C-" or better must be attained in each course taken for the JUS major with an overall GPA of 2.0.

Suggested Plan of Study

Course	Title	Credit Hours
Freshman Year		
Fall		
ENG 105	English Composition I	3
MTH 108	Precalculus Mathematics II	3
People & Society or Arts and Humanities Cognate (First Course)		3
HEB 101	Elementary Hebrew I	3
Elective		3
Credit Hours		15
Spring		
ENG 106	English Composition II	3
STEM Cognate (First Course)		3
HEB 102	Elementary Hebrew II	3
Elective		3
Elective		3
Credit Hours		15
Sophomore Year		
Fall		
JUS 231	Jewish Civilization: Society, Culture and Religion	3
People & Society or Arts and Humanities Cognate (Second Course)		3
HEB 201	Intermediate Hebrew I	3
Minor (First Course)		3
Elective		3
Credit Hours		15
Spring		
Choose one course in Jewish or Israeli Literature offered by the English Department		3
JUS 301	Studies in Judaica	3
Minor (Second Course)		3
STEM Cognate (Second Course)		3
Elective		3
Elective		3
Credit Hours		18
Junior Year		
Fall		
JUS 324	The History of Zionism	3
Minor (Third Course)		3
STEM Cognate		3
Elective		3
Elective		3
Credit Hours		15
Spring		
Choose one course in Modern Jewish History and Society		3
Choose one course in Ancient Jewish History and Society		3
Minor (Fourth Course)		3
Elective		3
Elective		3
Credit Hours		15

Senior Year	
Fall	
Any Upper Level JUS Course	3
Minor (Fifth Course)	3
People & Society or Arts and Humanities Cognate (Third Course)	3
Elective	3
Elective	3
Credit Hours	15
Spring	
Any Upper level JUS Course	3
Elective	3
Elective	3
Elective	3
Elective	3
Credit Hours	15
Total Credit Hours	123

Minor in the George Feldenkreis Program in Judaic Studies

Regular Option

Code	Title	Credit Hours
One or more of the following 3 courses (regular concentration):		3
JUS 231	Jewish Civilization: Society, Culture and Religion	
Any course in Jewish Literature offered by the English Department:		
GEG 385	Jewish Geography	
Up to four courses in ancient/modern Jewish History, Society, Culture and Religion (to be designated as "ancient" or "modern" and published by the JUS Program Director each semester). Students are strongly encouraged to take at least one course in the "ancient," and at least one course in the "modern" categories. ¹		12
Students are also strongly encouraged to take HEB 101 as one of the 4 courses.		
Total Credit Hours		15

Hebrew Language Option

Code	Title	Credit Hours
One or more of the following 3 courses:		3
JUS 231	Jewish Civilization: Society, Culture and Religion	
GEG 385	Jewish Geography	
Any course in Jewish Literature offered by the English Department		
Choose at least two of the following:		6
HEB 101	Elementary Hebrew I	
HEB 102	Elementary Hebrew II	
HEB 201	Intermediate Hebrew I	
HEB 202	Intermediate Hebrew II	
Any additional JUS course(s), or course(s) combined with JUS, that are needed to complete a total of 15 JUS credits.		6
Native Hebrew speakers require the advance approval of the JUS Undergraduate Advisor before they enroll in this concentration		
Completing the JUS Minor with Hebrew Language Concentration, including HEB 201 and/or 202 will be counted as fulfilling the requirement of a foreign language.		
Total Credit Hours		15

¹ To be designated as such and published by the JUS program director each semester. Students are strongly encouraged to take at least 1 course in Ancient Jewish History and Society and at least one course in Modern Jewish History and Society.

* A grade of "C-" or better must be attained in each course taken for the Minor, with an overall GPA of 2.0.

* Both JUS Minor concentrations will be listed in the student's transcript as a "Minor in Judaic Studies."

- * Each of the JUS Minor concentrations are eligible to qualify as a cognate in either “Arts and Humanities” or “People and Society.” Students are encouraged to contact the JUS Undergraduate Advisor, who will make the determination based on whether at least three courses of the JUS Minor count toward either “Arts and Humanities” or “People and Society.”

Latin American Studies

<http://www.as.miami.edu/las>

Dept. Code: LAS

Introduction

The Latin American Studies Program at the University of Miami takes an interdisciplinary approach to the study of the politics, economics, cultures, and societies of Latin America and the Caribbean. Courses in the program are offered in departments from every school and college at the University of Miami, and the program’s faculty research topics ranging from development economics to immigrant health care, from indigenous music to Caribbean colonial literature, from the archaeology of the region’s earliest people to present-day questions of resource conservation and management. Our students become true experts who can speak to a wide range of issues confronting Latin America; experts who can contribute proactively to development and cooperation as well as to business and political analysis in ways that their peers with a more traditional disciplinary focus simply cannot.

Educational Objectives

The goal of the BA in Latin American Studies is to acquire, advance and disseminate knowledge of the history, literature, culture, politics, economics, and natural and social sciences of the regions within an interdisciplinary framework. This program also places special emphasis on the languages and cultures of Hispanophone, Francophone and Lusophone Americas, including the transnational study of Latin Americans, Caribbeans and their descendants in the United States. Students should leave the program with the following:

- the analytical and methodological tools needed to conduct interdisciplinary research;
- the ability to read, write and think critically about primary and secondary sources;
- a general knowledge of the different regions that comprise Latin America, the Caribbean, and their Diaspora, as well as a critical understanding that the geographic, political, and cultural boundaries that have traditionally defined the “area” as an object of study are not isomorphic and are connected to the interests of European and North American powers;
- a critical understanding of the competing ways in which Latin American and Caribbean peoples have represented themselves paying particular attention to race/ethnicity, class, gender and sexuality, language, religion, migration, transculturation, and other historical, social, economic, and political factors;
- a language competency in either French, Spanish, Portuguese, or Haitian Creole at an intermediate level and a beginning competency in a second language spoken in the region (either French, Spanish, Portuguese, Haitian Creole, or an indigenous language of Latin America or the Caribbean);
- a “Beyond the Books” experience that will bridge the gap between the university and the surrounding communities, and will help solidify a long-term interest in and commitment to the regions.

Degree Programs

- Bachelor of Arts

Departmental Honors

The Latin American Studies Program invites its undergraduate majors and minors to apply for departmental honors and expand their knowledge of Latin America and the Caribbean. Admission into the departmental honors program is by invitation, but any student who believes her or himself qualified may apply to the academic director of Latin American Studies, preferably during the sophomore or early junior year. Candidates for departmental honors work closely with one faculty member for two semesters to engage in original research in an area of her/his choice. LAS majors and minors with a cumulative G.P.A. of at least 3.0 and an overall G.P.A. of at least 3.5 in the LAS major or minor may earn departmental honors by completing two honors thesis courses, LAS 495 and LAS 496 (Honors I & II). Candidates for departmental honors are responsible for finding a faculty member who is willing to serve as honors thesis advisor and obtain written approval of the Academic Director. The faculty member with whom the student works will help determine the nature of the independent research project. Candidates must complete a thesis (with a grade of at least a B+, which must be approved by the thesis advisor) and present the work at the LAS Annual Student Symposium or another similar event showcasing undergraduate research at the university.

Advanced Writing and Communication Requirement

To satisfy a portion of the College of Arts and Sciences writing requirement, students majoring in Latin American Studies should take at least one Latin American Studies course with a “W” (writing) designation.

Requests for Information

Dr. William J. Pestle
Academic Director, Latin American Studies Program
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University of Miami
Coral Gables, FL 33124-2005
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The Latin American Studies major is designed for students who desire a comprehensive understanding of Latin America and the Caribbean; its history, cultures, languages, economics, politics, and societies. Majors often combine their studies with concentrations in other departments or schools. LAS majors also learn outside of the classroom, through interaction with visiting experts, participation in symposium and conferences, and travel courses. Students are required to attain at least competency in two Latin American languages, and are advised (but not required) to spend at least one semester in Latin America.

FILAS is a highly selective Honors Program, in which students follow a rigorous, accelerated curriculum to complete a dual degree (B.A./M.A.) in Latin American and Caribbean Studies in five years. The program provides exciting collaborative research, travel, and work opportunities. Working with UM's world-class faculty in various academic disciplines, FILAS participants design individualized curricula. In addition to the regular general education course requirements of the College of Arts and Sciences, FILAS students choose one focus track for their most advanced courses: Social Sciences, Literature & Culture, Communication, Environmental Studies, Public Health, or History.

Majors in Latin American Studies

- B.A. in Latin American Studies (p. 241)
- B.A./M.A in Latin American Studies (Fellows in Latin American Studies) (p. 243)

The minor in Latin American Studies is designed for students who have an interest in Latin America and the Caribbean, but may not have the flexibility to pursue a Major. The minor may be obtained by completing five courses (detailed below), or through participation in the UBuenos Aires program.

Minor in Latin American Studies

- Minor in Latin American Studies (p. 245)

B.A. in Latin American Studies

Curriculum Requirements

Code	Title	Credit Hours
Gateway Course		
LAS 101	Introduction to Latin American and Caribbean Studies	3
Advanced Language Proficiency in Spanish, French, Portuguese, or Haitian Creole		
Select one of the following:		3
SPA 203	Advanced Spanish	
FRE 203	Advanced French	
HAI 201	Intermediate Haitian Creole I (or equivalent)	
POR 202	Intermediate Portuguese II	
Secondary Language Competence in another Latin American or Caribbean Language		
Select one of the following:		3
SPA 105	Accelerated Elementary Spanish	
FRE 105	Accelerated Elementary French	
POR 105	Beginning Portuguese for Spanish Speakers	
HAI 102	Elementary Haitian Creole II (or equivalent)	
A Latin American, Caribbean, or Indigenous language course in the DILS program		
Upper Division LAS Courses		
Select two courses in Latin American history		6
Select six courses in classes listed in LAS or combined with LAS ¹		18
Select one of the following:		3
LAS 494	Independent Study in Latin American and Caribbean Studies	
LAS 501	Interdisciplinary in Latin American and Caribbean	
LAS 505	Internship in Latin American and Caribbean Studies	

LAS 506	Civic Engagement in Latin America	
Additional required courses		
UMX 100	The University of Miami Experience	0
ENG 105	English Composition I	3
ENG 106	English Composition II	3
MTH 108	Precalculus Mathematics II ((or higher))	3
Minor (not LAS)		15
STEM Cognate		9
People and Society/Arts and Humanities Cognate		9
Electives to 120 credits		42
Total Credit Hours		120

* A C- or better for all major courses, with a GPA of 2.0 are required for successful completion of the LAS Major.

¹ 12 credit hours of which must be completed at the 300-level or higher. Courses that are not combined with LAS but do have a significant focus on Latin America may be taken with the approval of the academic director. A freshman seminar with a significant focus (25% or more) on Latin America or the Caribbean may be counted towards this requirement. SPA 203 and FRE 203 may be counted towards this requirement if not used to satisfy the aforementioned language requirements.

Disclaimer: This is a model plan of study only. It is not guaranteed that every course will be available in the year/semester noted below.

Suggested Plan of Study

Course	Title	Credit Hours
Year One		
Fall		
ENG 105	English Composition I	3
LAS 101	Introduction to Latin American and Caribbean Studies	3
MTH 113	Finite Mathematics	3
UMX 100	The University of Miami Experience	0
Natural Science Course		3
Language Course		3
	Credit Hours	15
Spring		
ENG 106	English Composition II	3
LAS 301	Interdisciplinary Topics in Latin American and Caribbean Studies	3
POL 203	Introduction to International Relations	3
LAS Language Course		3
Elective		3
	Credit Hours	15
Year Two		
Fall		
LAS 330	Special Topics in Latin American and Caribbean Religions	3
ECO 211	Principles of Microeconomics	3
Arts and Humanities Cognate Course		3
STEM Cognate Course		3
Minor Course		3
	Credit Hours	15
Spring		
LAS 350	Special Topics in Latin American and Caribbean Art and Culture	3
LAS Language Course		3
STEM Cognate Course		3
Arts and Humanities Cognate Course		3
Minor Course		3
	Credit Hours	15

Year Three		
Fall		
LAS 340	Special Topics in Latin American and Caribbean Economics	3
LAS 491	Debates on Current Issues in Latin American and Caribbean Studies	3
Arts and Humanities Cognate Course		3
STEM Cognate Course		3
Minor Course		3
Credit Hours		15
Spring		
LAS 494	Independent Study in Latin American and Caribbean Studies	3
HIS 554	Studies in Modern Latin American History	3
LAS Language Course		3
Minor Course		3
Elective		3
Credit Hours		15
Year Four		
Fall		
LAS 411	Studies in Latin America and the Caribbean	3
LAS 495	Senior Honors Thesis I	3
LAS 505	Internship in Latin American and Caribbean Studies	3
LAS 520	Interdisciplinary Topics in Latin American and Caribbean Environments	3
Minor Course		3
Credit Hours		15
Spring		
LAS 496	Senior Honors Thesis II	3
LAS Language Course		3
Elective		3
Elective		3
Elective		3
Credit Hours		15
Total Credit Hours		120

B.A./M.A in Latin American Studies (Fellows in Latin American Studies) FILAS (Fellows in Latin American Studies)

In this highly selective Honors Program. Students follow a rigorous, accelerated curriculum to complete a dual degree (B.A./M.A.) in Latin American and Caribbean Studies in five years. The program provides exciting collaborative research, travel, and work opportunities.

Working with UM's world-class faculty in various academic disciplines, *FILAS* participants design individualized curricula. In addition to the regular general education course requirements of the College of Arts and Sciences, *FILAS* students choose one focus track for their most advanced courses: Social Sciences, Literature & Culture, Communication, Environmental Studies, Public Health, or History. For broad-based, multi-disciplinary preparation, students choose courses that focus on Latin America and the Caribbean (at least ten of these courses must be taken at the Master's level).

FILAS Admission Requirements

- SAT1 composite score of 1360 or ACT 31.
- Top 10% of high school graduating class.
- Regular Application for Admission to the University of Miami. We recommend students submit their applications by November 15.
- Recommendations from three high school teachers.
- Statement of interest in *FILAS*, emphasizing prior language or area study
- To continue through the graduate level (MA Phase), students must maintain at least a 3.4 GPA and take the GRE Exam.

Curriculum Requirements

Code	Title	Credit Hours
CAS GENERAL EDUCATION REQUIREMENTS		
English Composition ¹		6
ENG 105	English Composition I	
ENG 106	English Composition II	
Mathematics, Computing & Statistics ²		3
Second Language ³		
Writing Across the Curriculum ⁴		
Cognates ⁵		9
Advanced Language Proficiency in Spanish, French, Portuguese, or Haitian Creole		3
Select one of the following:		
FRE 203	Advanced French	
HAI 201	Intermediate Haitian Creole I	
POR 202	Intermediate Portuguese II	
SPA 203	Advanced Spanish	
Secondary Language Competence in another Latin American or Caribbean Language		3
Select one of the following:		
FRE 105	Accelerated Elementary French	
HAI 102	Elementary Haitian Creole II ((or equivalent))	
POR 105	Beginning Portuguese for Spanish Speakers	
SPA 105	Accelerated Elementary Spanish	
FILAS Specific Requirements		
Select one gateway seminar in Latin American Studies		3
Select two History courses		6
Select two International Studies courses		6
Select two Economics courses		6
Select two advanced Languages and Literatures courses (SPA, POR, FRE, or HAI)		6
Select seven courses in Study Abroad		21
Select one course as Internship in Latin America		3
Select five courses above the 300-level (third-year) in a range of disciplines		15
Select ten courses in one focus track		30
MA Phase Requirements		
GRE Exam in Semester 7 or 8		
LAS 601	Interdisciplinary in Latin American and Caribbean	3
LAS 602	Research Design in Latin American Studies	3
Select two Regional Fundamentals courses		6
Select four electives from approved LAS or combined courses		12
LAS 810	Pre-candidacy thesis credits (students must enroll in two semesters of this 3-credit course to fulfill this requirement.)	3
LAS 810	Pre-candidacy thesis credits	3
Total Credit Hours		150

¹ Certain AP/IB scores may be used to fulfill the Composition requirement as credit. If Transfer students transfer one of the two above, but not both, they may take ENG 208 to complete the requirement. ENG 105 must be taken unless exempted by SAT/V or ACT/V scores (does not include credits).

² MTH 108 or higher. Unless exempted by AP/IB, or UM placement test. UM placement test does not include credits. Prerequisites must be met before enrolling in MTH courses.

³ Students must take at least three credits in a language other than English at the 200-level or higher. Prerequisites may be required. Courses taken in order to meet this requirement, including necessary prerequisite courses to the 200 level courses, cannot be used in cognates seen below. FILAS students already fulfill this requirement when completing the language requirements cited below.

⁴ Degree candidates must complete at least four writing courses, and at least one such course must be in the student's major discipline.

- ⁵ Typically, students must complete a minimum of three cognates, one from each of the three areas of the University curriculum: Arts & Humanities; People & Society; and Science, Technology, Engineering & Mathematics. A cognate is a minimum of 9 credit hours, however it can be more. Each major/minor fulfills the cognate requirement in one Area of Knowledge. However, FILAS students must complete only the STEM Cognate as the FILAS program fulfills the Arts & Humanities and People & Society cognates. To avoid additional course credits, please select a STEM Cognate that includes a Natural Science course to concurrently fulfill this CAS general education requirement. According to the Collage of Arts & Sciences, "three credits must be earned from one of the following departments: Biology, Chemistry, Ecosystem Science & Policy (only ECS 111, ECS 112, or ECS 202), Geological Sciences, Marine Science (except MSC 313 and MSC 314), Physical Science, or Physics. APY 203 and GEG 120 may also count. These credits may double count with any other requirement, e.g., courses in the STEM cognate."
- ⁶ FILAS students also write a Master's Thesis based on an original research project. In addition, they must defend the thesis and present their findings at the LAS Annual Student Symposium.

Disclaimer: This is a model plan of study only. It is not guaranteed that every course will be available in the year/semester noted below.

Suggested Plan of Study for the BA

Code	Title	Credit Hours
CAS GENERAL EDUCATION REQUIREMENTS		
English Composition ¹		6
ENG 105	English Composition I	
ENG 106	English Composition II	
Mathematics, Computing & Statistics ²		3
Second Language ³		
Writing Across the Curriculum ⁴		
Cognates ⁵		9
Advanced Language Proficiency in Spanish, French, Portuguese, or Haitian Creole		3
Select one of the following:		
FRE 203	Advanced French	
HAI 201	Intermediate Haitian Creole I	
POR 202	Intermediate Portuguese II	
SPA 203	Advanced Spanish	
Secondary Language Competence in another Latin American or Caribbean Language		3
Select one of the following:		
FRE 105	Accelerated Elementary French	
HAI 102	Elementary Haitian Creole II ((or equivalent))	
POR 105	Beginning Portuguese for Spanish Speakers	
SPA 105	Accelerated Elementary Spanish	
FILAS Specific Requirements		
Select one gateway seminar in Latin American Studies		3
Select two History courses		6
Select two International Studies courses		6
Select two Economics courses		6
Select two advanced Languages and Literatures courses (SPA, POR, FRE, or HAI)		6
Select seven courses in Study Abroad		21
Select one course as Internship in Latin America		3
Select five courses above the 300-level (third-year) in a range of disciplines		15
Select ten courses in one focus track		30
Total Credit Hours		120

Minor in Latin American Studies

The minor in Latin American Studies is designed for students who have an interest in Latin America and the Caribbean, but may not have the flexibility to pursue a Major. The minor may be obtained by completing five courses (detailed below), or through participation in the UBuenos Aires program.

Code	Title	Credit Hours
LAS 101	Introduction to Latin American and Caribbean Studies	3
LAS Courses 300 Level or Higher		9

Additional LAS Course	3
Total Credit Hours	15

UBuenos Aires

This UM designed program offers students the opportunity to earn a Latin American Studies minor in one semester while studying in the Argentine capital of Buenos Aires. Students will also have the opportunity to carry out an internship. Students from all majors are welcome to apply. Students will earn UM credits while taking classes in English or Spanish with other students from U.S. institutions. In the fall semester, coursework will be completed at the University of Belgrano. In the spring semester, coursework will be completed at the CEA Study Center.

Further information is available from UM Study Abroad at https://goabroad.miami.edu/index.cfm?FuseAction=Programs.ViewProgram&Program_ID=10256.

Students wanting to apply these classes towards an LAS major should consult with the academic director of Latin American Studies for further guidance.

Mathematics

<http://www.math.miami.edu>

Dept. Code: MTH

Educational Objectives

The aim of our mathematics degree programs is to provide students with a core knowledge of mathematics essential to the understanding of science and other disciplines. Students should gain substantial problem solving and critical reasoning skills and should develop an understanding of the conceptual underpinnings of mathematics. The knowledge gained through these programs should provide the necessary background in mathematics for those students planning to go on to graduate study in mathematics and related fields. This knowledge should also prepare those students who will be immediately entering careers in science, business, education or other fields which are increasingly making use of mathematics.

Degree Programs

- Bachelor of Arts and Bachelor of Science

Major

The requirements for a major in mathematics (p. 247) vary according to the objectives of the student. There are **seven courses** required of all mathematics majors.

An **additional four courses** are required, selected from one of the following track options:

- Core Mathematics
- Applied Analysis
- Computational Mathematics
- Probability and Statistics
- Secondary School Teaching
- Mathematical Economics

Writing Requirement

In order to satisfy the College of Arts and Sciences writing requirement, students majoring in mathematics must obtain writing credit in one of the following courses: MTH 433, MTH 461, MTH 502, MTH 504, MTH 520, MTH 533, MTH 561, and in three more writing courses from other departments.

Minor

A student seeking a minor in mathematics (p. 251) must have credit for a **calculus sequence**: MTH 161-MTH 162 or MTH 171-MTH 172.

In addition, a minor in mathematics requires **three courses** from a list of approved courses for the minor. (p. 251) All three courses must be taken in the Department of Mathematics, University of Miami. A grade of C- or better is required for each of the three courses applied toward the minor and the quality point average for the three courses must be 2.5 or above.

Departmental Honors

Requirements for Departmental Honors in Mathematics (p. 247):

The student must complete **three sequences** from a list of approved two-course sequences. The student must attain at least a B in each course used to fulfill this requirement. In addition, the student must attain at least a 3.5 average over all courses counted toward the mathematics major and an overall (university-wide) average of at least 3.3.

For requirements leading to the Master of Arts, Master of Science, or Doctor of Philosophy degrees, with a major in mathematics, see the Bulletin of the Graduate School (p. 969).

B.A. or B.S. in Mathematics (p. 247) Minor in Mathematics (p. 251)

B.A. or B.S. in Mathematics

www.math.miami.edu

The requirements of a major in mathematics vary according to the objectives of the student. There are seven courses required of all mathematics majors. An additional four courses are required selected from one of six track options:

Core Courses and Track Options

Code	Title	Credit Hours
Courses Required for All Mathematics Majors		
MTH 161 or MTH 171	Calculus I Calculus I	4
MTH 162 or MTH 172	Calculus II Calculus II	4
MTH 210	Introduction to Linear Algebra	3
MTH 230	Introduction to Abstract Mathematics	3
MTH 310	Multivariable Calculus	3
MTH 461 or MTH 561	Survey of Modern Algebra Abstract Algebra I	3
MTH 433 or MTH 533	Advanced Calculus Introduction to Real Analysis I	3
Track Options		
Select four courses from one of the following Tracks:		12
Core Mathematics Track:		
Select four of the following:		
MTH 510	Linear Algebra	
MTH 512	Elementary Complex Analysis	
MTH 531	Topology I	
MTH 532	Topology II	
MTH 534	Introduction to Real Analysis II	
MTH 551	Introduction to Differential Geometry	
MTH 562	Abstract Algebra II	
Applied Analysis Track: ¹		
MTH 311	Introduction to Ordinary Differential Equations	
MTH 512	Elementary Complex Analysis	
Select one of the following sequences:		
MTH 513 & MTH 514	Partial Differential Equations I and Partial Differential Equations II	
MTH 515 & MTH 516	Ordinary Differential Equations and Dynamics and Bifurcations	
Computational Mathematics Track:		
MTH 320	Introduction to Numerical Analysis	
CSC 317	Data Structures and Algorithm Analysis	
MTH 520 & MTH 521	Numerical Linear Algebra and Numerical Methods in Differential Equations	
Probability and Statistics Track:		
MTH 224	Introduction to Probability and Statistics	

MTH 524 & MTH 525	Introduction to Probability and Introduction to Mathematical Statistics	
MTH 542	Statistical Analysis	
Secondary School Teaching Track: ²		
MTH 224	Introduction to Probability and Statistics	
MTH 309	Discrete Mathematics I	
Select two of the following:		
MTH 502	History of Mathematics	
MTH 504	Foundations of Geometry	
MTH 505	Theory of Numbers	
Mathematical Economics Track:		
MTH 524 & MTH 525	Introduction to Probability and Introduction to Mathematical Statistics	
ECO 533	Advanced Microeconomic Theory	
Select one of the following:		
ECO 512	Topics in Mathematical Economics	
ECO 520	Econometrics	
ECO 521	Advanced Macroeconomic Theory	
Other Requirements		
University and School/College Specific General Education Requirements and Electives ^{3, 4, 5}		85
Total Credit Hours		120

- ¹ Course work in physics is desirable.
- ² This option is only for those obtaining a teaching credential.
- ³ Students should satisfy the General Education Requirements stipulated by the University as well as their specific School/College. These requirements typically include proficiency requirements in language, along with requirements for advanced writing and communication skills.
- ⁴ All students must satisfy University cognate requirements. A mathematics major satisfies the STEM Cognate requirement.
- ⁵ Elective courses selected must include courses that satisfy the requirements of an additional major or a minor outside of mathematics.
- * **Notes**
- It would be useful for students planning to do graduate study in mathematics to complete the following courses: MTH 531, MTH 532, MTH 533, MTH 534, MTH 561, MTH 562.
 - Students interested in **actuarial science** should choose the Probability and Statistics option; for these students a finance minor is recommended.
 - Transfer students will be permitted to apply up to 14 transfer credit hours towards the major; however, the courses MTH 461 (or MTH 561) and MTH 433 (or MTH 533) must be completed at the University of Miami.
 - A grade of C- or better is required for each course applied toward the major; the overall quality point average for University of Miami courses applied toward the major must be 2.5 or above.

Requirements for Departmental Honors in Mathematics:

Code	Title	Credit Hours
Select three of the following sequences		18
MTH 513 & MTH 514	Partial Differential Equations I and Partial Differential Equations II	6
MTH 515 & MTH 516	Ordinary Differential Equations and Dynamics and Bifurcations	6
MTH 520 & MTH 521	Numerical Linear Algebra and Numerical Methods in Differential Equations	6
MTH 524 & MTH 525	Introduction to Probability and Introduction to Mathematical Statistics	6
MTH 531 & MTH 532	Topology I and Topology II	6
MTH 533 & MTH 534	Introduction to Real Analysis I and Introduction to Real Analysis II	6
MTH 561 & MTH 562	Abstract Algebra I and Abstract Algebra II	6

- * The student must attain at least a B in each course used to fulfill this requirement. In addition, the student must attain at least a 3.5 average over all courses counted toward the mathematics major and an overall (university-wide) average of at least 3.3.

Dual Major in Meteorology and Mathematics

A combined major in meteorology and mathematics (p. 720) is available. For specific information please see the Meteorology section of the bulletin.

Possible Plan of Study

The B.A. and B.S. degrees in Mathematics differ only in the College of Arts and Sciences general education requirements. Here is a possible plan of study.

Course	Title	Credit Hours
Year One		
Fall		
MTH 161	Calculus I	4
ENG 105	English Composition I	3
Language course		3
Select one of the following		3
Natural Science		
Elective		
Select one of the following		3
Cognate		
Elective		
	Credit Hours	16
Spring		
MTH 162	Calculus II	4
MTH 210	Introduction to Linear Algebra	3
ENG 106	English Composition II	3
Language course		3
Select one of the following		3
Natural Science		
Cognate		
Elective		
	Credit Hours	16
Year Two		
Fall		
MTH 230 or 310	Introduction to Abstract Mathematics or Multivariable Calculus	3
Language course		3
Select one of the following		3
Natural Science		
Cognate		
Elective		
Select one of the following		3
Cognate		
Elective		
Elective		3
	Credit Hours	15
Spring		
MTH 310 or 230	Multivariable Calculus or Introduction to Abstract Mathematics	3
Select one of the following		3
Mathematics 200 Or 300- level track course		
Cognate		

Elective		
Cognate		3
Electives		6
	Credit Hours	15
Year Three		
Fall		
Select one of the following		3
MTH 433	Advanced Calculus	
MTH 533	Introduction to Real Analysis I	
Mathematics track course		
Select one of the following		3
MTH 561	Abstract Algebra I	
Mathematics track course		
Elective		
Select one of the following		3
Mathematics track course		
Elective		
Cognate		3
Elective		3
	Credit Hours	15
Spring		
Select one of the following		3
MTH 461	Survey of Modern Algebra	
Mathematics track course		
Elective		
Select one of the following		3
Mathematics track course		
Elective		
Select one of the following		3
Cognate		
Elective		
Electives		6
	Credit Hours	15
Year Four		
Fall		
Select one of the following		3
MTH 433	Advanced Calculus	
MTH 533	Introduction to Real Analysis I	
Mathematics track course		
Select one of the following		3
MTH 561	Abstract Algebra I	
Mathematics track course		
Elective		
Select one of the following		3
Mathematics track course		
Elective		
Select one of the following		3
Mathematics track course		
Cognate		
Elective		
Elective		3
	Credit Hours	15

Spring	
Select one of the following	3
MTH 461	Survey of Modern Algebra
Mathematics track course	
Elective	
Select one of the following	3
Mathematics track course	
Elective	
Select one of the following	3
Cognate	
Elective	
Electives	6
	Credit Hours
	15
	Total Credit Hours
	122

Minor in Mathematics

www.math.miami.edu

Code	Title	Credit Hours
Select three of the following:		9
MTH 210	Introduction to Linear Algebra	
MTH 211	Calculus III	
or MTH 310	Multivariable Calculus	
MTH 224	Introduction to Probability and Statistics	
MTH 230	Introduction to Abstract Mathematics	
MTH 309	Discrete Mathematics I	
MTH 311	Introduction to Ordinary Differential Equations	
MTH 320	Introduction to Numerical Analysis	
MTH 359	Mathematical Models in Biology and Medicine	
MTH 433	Advanced Calculus	
MTH 461	Survey of Modern Algebra	
Total Credit Hours		9

* A student seeking a minor in mathematics must have credit in a **calculus sequence**: MTH 161-MTH 162 or MTH 171-MTH 172.

** All three courses must be taken in the Department of Mathematics, University of Miami.

*** It is possible to select certain 500 level mathematics courses among the three, with prior approval of the Mathematics Department.

**** A grade of C- or better is required for each of these three courses and the quality point average for the three courses must be 2.5 or above; and in case the quality point average is below 2.5, an additional mathematics course must be taken.

Microbiology and Immunology

<http://www.as.miami.edu/mic/>

Dept. Code: MIC

Introduction

Microbiology and Immunology is an ancillary department in the College of Arts and Sciences. Our primary goal is to educate students in their chosen field and instill into them a desire for lifelong learning. Research opportunities and laboratory engagement help create knowledge in our students while preparing them to become active members of the scientific and public communities. A major in Microbiology and Immunology requires thorough preparation in chemistry, biology, biochemistry, physics, and mathematics.

Educational Objectives

1. To expose students to the various disciplines within the field of Microbiology and Immunology, including virology, parasitology, microbial genetics, immunology and medical bacteriology.

- To introduce students to special projects and/or research opportunities in laboratories at the School of Medicine.
- To provide laboratory experience for the development of skills required for the conduct of research.
- To make students aware of current cutting edge research in the field of Microbiology and Immunology by attending seminars of speakers from within and outside the University.

Degree Programs

- A Bachelor's of Science degree is awarded to all microbiology and immunology majors upon completion of the requirements. A chemistry minor is automatically received however, a student's choice of minor may be science or non-science.

Advanced Writing and Communication

To satisfy the College of Arts and Sciences writing requirement in the discipline, students majoring in Microbiology and Immunology should take at least one course from the following: MIC 280, MIC 304, MIC 441.

Departmental Honors

Students that wish to gain a deeper understanding of Microbiology and Immunology can choose to write a thesis. The following program constitutes receiving Departmental Honors in Microbiology and Immunology.

- Overall GPA 3.3 or higher
- Six credit hours of Special Projects (MIC 451, MIC 452, MIC 453, MIC 454, MIC 455 or MIC 456) carried out under supervision of a member of the Microbiology and Immunology faculty, culminating in a senior thesis that includes 15 references. Once the mentor and student have revised and finalized the document a hard copy must be turned in to the Program Director.

Major in Microbiology and Immunology (Pre-Med and Graduate)

MCAT (<https://students-residents.aamc.org/applying-medical-school/taking-mcat-exam>) or GRE (http://www.ets.org/gre/revised_general/register)

- B.S. in Microbiology and Immunology (Pre-Medical and Graduate) (p. 252)

Double Major in Marine Science/Microbiology and Immunology

- B.S. in Marine Science/Microbiology and Immunology (p. 762)

Minor in Microbiology and Immunology

- Microbiology and Immunology (p. 256)

B.S. in Microbiology and Immunology

<http://www.as.miami.edu/mic/>

Curriculum Requirements

Code	Title	Credit Hours
Required MIC Courses		
Take the following: ¹		5
MIC 301	Introduction to Microbes and the Immune System ³	
MIC 304	Introduction to Microbes and the Immune System (Lab) ^{4,7}	
Select one of the following: ¹		3
MIC 319	Innate Immunity ²	
MIC 321	Immunobiology ³	
Select one of the following: ¹		3
MIC 201	Modern Plagues and Society ²	
MIC 322	Medical Parasitology ³	
MIC 323	Microbial Pathogenesis and Physiology ²	
MIC 436	Fundamental and Medical Virology ³	
Elective MIC Courses		13
MIC 201	Modern Plagues and Society ²	
MIC 319	Innate Immunity ²	
MIC 321	Immunobiology ³	

MIC 322	Medical Parasitology ³	
MIC 323	Microbial Pathogenesis and Physiology ²	
MIC 436	Fundamental and Medical Virology ³	
MIC 441	Microbiology and Immunology Colloquium ^{4,7}	
MIC 460	Advanced Topics in Microbiology and Immunology ³	
Research in MIC for Credit		
(only 6 credit hours may be applied to count toward the 13 MIC Elective hours, any credits over 6 count as elective credits toward the 120 credits required for graduation)		
MIC 451	Special Projects in Immunobiology ^{4,5}	
MIC 452	Special Projects in Parasitology ^{4,5}	
MIC 453	Special Projects in Pathogenic Bacteriology ^{4,5}	
MIC 454	Special Projects in Microbial Genetics ^{4,5}	
MIC 455	Special Projects in Immunogenetics ^{4,5}	
MIC 456	Special Projects in Virology ^{4,5}	
Outside Electives that can be taken to count toward the 13 credit hours above (3 courses maximum)		
BIL 255 or BIL 250	Cellular and Molecular Biology Genetics	
GSC 309 or MSC 465	Microbes and the Environment Marine Comparative Immunology	
Required Natural Science Courses		
CHM 111 & CHM 113	Principles of Chemistry I and Chemistry Laboratory I	4
CHM 112 & CHM 114	Principles of Chemistry II and Chemistry Laboratory II	4
CHM 201 & CHM 205	Organic Chemistry I (Lecture) and Organic Chemistry Laboratory I	4
CHM 202 & CHM 206	Organic Chemistry II (Lecture) and Organic Chemistry Laboratory II	4
BIL 150 & BIL 151	General Biology and General Biology Laboratory	5
BIL 160 & BIL 161	Evolution and Biodiversity and Evolution and Biodiversity Laboratory	5
BMB 401	Biochemistry for the Biomedical Sciences	4
Select one of the following Physics Options:		10-11
Option 1:		
PHY 101 & PHY 106	College Physics I and College Physics Laboratory I	
PHY 102 & PHY 108	College Physics II and College Physics Laboratory II	
Option 2:		
PHY 205	University Physics I	
PHY 206	University Physics II	
PHY 207	University Physics III	
PHY 208	University Physics II Lab	
PHY 209	University Physics III Lab	
Select one of the following: ⁶		8
MTH 140 & MTH 141 & MTH 162	Calculus Concepts with Foundations A and Calculus Concepts with Foundations B and Calculus II	
MTH 161 & MTH 162	Calculus I and Calculus II	
MTH 171 & MTH 172	Calculus I and Calculus II	
Select one of the following Computer Science or Statistics courses:		

CSC 120	Computer Programming I	
CSC 210	Computing for Scientists	
MTH 224	Introduction to Probability and Statistics	
PSY 292	Introduction to Biobehavioral Statistics for Non-Majors	
SOC 211	Quantitative Methods for Sociologists	
Additional Required Courses		
ENG 105	English Composition I	3
ENG 106	English Composition II	3
or ENG 107	English Composition II: Science and Technology	
PSY 110	Introduction to Psychology	3
SOC 101	Introduction to Sociology	3
Language Courses		3-9
Arts and Humanities Cognate		9
People and Society Cognate		9
Electives		13
Total Credit Hours		127-129

- 1 Required of all Microbiology and Immunology majors.
- 2 MIC 201, MIC 319, MIC 323, GSC 309, BIL 554 Fall Semester only or by announcement
- 3 MIC 301, MIC 321, MIC 322, MIC 436, MIC 460 Spring Semester only or by announcement
- 4 Fall and Spring Semesters
- 5 MIC 451, MIC 452, MIC 453, MIC 454, MIC 455, MIC 456 all require that you have already completed 17 credit hours in MIC/MIC electives and a 3.0 cumm GPA with permission of Program Director or Roger Fall and Spring Semester
- 6 Depends on Math placement from SAT/ACT or ALEKS score.
- 7 University writing credit course
- * All MIC majors are required to have a minor (science or non-science). Students automatically get a CHM minor provided that they take one year of organic chemistry while in residence at UM.
- ** Transfer students seeking a Microbiology and Immunology major must earn at least 10 credit hours taken in residence at UM beyond MIC 301 in the courses listed above for majors.

Sample Plan of Study

This is a 4 year sample plan of study that assumes courses are taken during the fall and spring.

This is a guide and is not meant to take the place of the advice of your major advisor, you should consult with them before making any changes.

Course	Title	Credit Hours
Freshman Year		
Fall		
MIC 304 or 201	Introduction to Microbes and the Immune System (Lab) or Modern Plagues and Society	2-3
BIL 150	General Biology	4
BIL 151	General Biology Laboratory	1
CHM 111	Principles of Chemistry I	3
CHM 113	Chemistry Laboratory I	1
ENG 105	English Composition I	3
PSY 110	Introduction to Psychology (People & Society Cognate)	3
	Credit Hours	17-18
Spring		
MIC 301	Introduction to Microbes and the Immune System	3
MIC 304	Introduction to Microbes and the Immune System (Lab)	2
BIL 160	Evolution and Biodiversity	4
BIL 161	Evolution and Biodiversity Laboratory	1
CHM 112	Principles of Chemistry II	3
CHM 114	Chemistry Laboratory II	1

ENG 106 or 107	English Composition II or English Composition II: Science and Technology	3
Credit Hours		17
Sophomore Year		
Fall		
MIC 319 or 201	Innate Immunity (and MIC 304 if MIC 303 taken prior) or Modern Plagues and Society	3
Arts and Humanities Cognate Course		3
CHM 201	Organic Chemistry I (Lecture)	3
CHM 205	Organic Chemistry Laboratory I	1
MTH 161	Calculus I	4
Foreign Language		3
Credit Hours		17
Spring		
MIC 321	Immunobiology (or MIC 322 or MIC 436 or MIC 460)	3
CHM 202	Organic Chemistry II (Lecture)	3
CHM 206	Organic Chemistry Laboratory II	1
MTH 162	Calculus II	4
BIL 255 or 250	Cellular and Molecular Biology (Optional elective in MIC) or Genetics	3
SOC 101	Introduction to Sociology (or Foreign Language)	3
Credit Hours		17
Junior Year		
Fall		
MIC 323	Microbial Pathogenesis and Physiology	3
GSC 309 or MSC 465	Microbes and the Environment (Optional elective credit in MIC) or Marine Comparative Immunology	3
PHY 101	College Physics I	4
PHY 106	College Physics Laboratory I	1
BMB 401	Biochemistry for the Biomedical Sciences	4
Foreign Language		3
MCAT or GRE		
Credit Hours		18
Spring		
MIC 436	Fundamental and Medical Virology	3
People and Society Cognate		3
PHY 102	College Physics II	4
PHY 108	College Physics Laboratory II	1
Statistics or Computer Science Course		3-4
CSC 120	Computer Programming I	
CSC 210	Computing for Scientists	
MTH 224	Introduction to Probability and Statistics	
PSY 292	Introduction to Biobehavioral Statistics for Non-Majors	
SOC 211	Quantitative Methods for Sociologists	
Arts and Humanities Cognate Course		3
MCAT or GRE		
Credit Hours		17-18
Senior Year		
Fall		
MIC 441	Microbiology and Immunology Colloquium	1
Choose one of the following:		2-6
MIC 451	Special Projects in Immunobiology	
MIC 452	Special Projects in Parasitology	

MIC 453	Special Projects in Pathogenic Bacteriology	
MIC 454	Special Projects in Microbial Genetics	
MIC 455	Special Projects in Immunogenetics	
MIC 456	Special Projects in Virology	
BIL 554	Electron Microscopy (Optional elective credit in MIC cannot be used if BIL 352 has been taken)	
Applications to Medical or Graduate School		
Elective		3
Elective		3
People and Society Cognate Course		3
Credit Hours		12-16
Spring		
MIC 322	Medical Parasitology	3
Choose one of the following:		2-6
MIC 451	Special Projects in Immunobiology	
MIC 452	Special Projects in Parasitology	
MIC 453	Special Projects in Pathogenic Bacteriology	
MIC 454	Special Projects in Microbial Genetics	
MIC 455	Special Projects in Immunogenetics	
MIC 456	Special Projects in Virology	
BIL 352	Techniques in Scanning Electron Microscopy (Cannot be taken to count toward MIC if BIL 554 has been taken)	
Elective		3
Arts and Humanities Cognate Course		3
Credit Hours		11-15
Total Credit Hours		126-136

Minor in Microbiology and Immunology

Code	Title	Credit Hours
Take the following: ¹		11
MIC 301	Introduction to Microbes and the Immune System ³	
MIC 304	Introduction to Microbes and the Immune System (Lab) (Can be taken before or after the MIC 301) ⁴	
Select one of the following: ¹		
MIC 319	Innate Immunity ²	
MIC 321	Immunobiology ³	
Select one of the following: ¹		
MIC 201	Modern Plagues and Society ²	
MIC 322	Medical Parasitology ³	
MIC 323	Microbial Pathogenesis and Physiology ²	
MIC 436	Fundamental and Medical Virology ³	
Select a minimum of one credit hour from the following:		1
MIC 201	Modern Plagues and Society ²	
MIC 322	Medical Parasitology ³	
MIC 319	Innate Immunity ²	
MIC 321	Immunobiology ³	
MIC 323	Microbial Pathogenesis and Physiology ²	
MIC 436	Fundamental and Medical Virology ³	
MIC 441	Microbiology and Immunology Colloquium ⁴	
MIC 460	Advanced Topics in Microbiology and Immunology ³	
Total Credit Hours		12

- 1 Required of all Microbiology and Immunology Minors
 - 2 MIC 201, MIC 319, MIC 323 Fall Semester Only or by announcement
 - 3 MIC 301, MIC 321, MIC 322, MIC 436, MIC 460 Spring Semester Only or by announcement
 - 4 Fall and Spring Semesters
- * Variations in the above programs may, in special cases, be approved by the Microbiology and Immunology undergraduate advisor and Director.
- ** All courses in Microbiology and Immunology to be credited toward a Microbiology and Immunology major or minor must be completed with a grade of C- or better with an overall GPA of 2.0.

Military Science

<http://www.as.miami.edu/armyrotc>

Dept. Code: MSL

Introduction

The Army Reserve Officer Training Corps is a college elective that will help students succeed in their desired career, whether civilian or military. Students who complete all ROTC requirements may be commissioned second lieutenants and serve in the Army, Army National Guard or Army Reserve.

The military science department's Reserve Officers Training Corps (ROTC) program of instruction qualifies the student for a commission in the United States Army, Army National Guard, or United States Army Reserve. The curriculum does not provide technical training in a job specialty nor does it emphasize vocational training; rather, it complements and provides a base for normal progression in the commissioned officers' educational program.

Leadership and management objectives are included in academic periods of instruction. Practical leadership experience is gained in a field training environment by attendance at a 31-day summer camp, normally between the junior and senior years. Nursing students may attend a nursing internship at Army hospitals following the normal summer camp. A leadership laboratory also provides experience in a range of leadership positions during the school year. The department offers both a four-year and a two-year program, each with its own special advantages. Students are invited to visit or write the Department of Military Science to obtain additional information.

Core Program

The program requires four years of military science courses which consist of a two-year basic course and a two-year advanced course. Students can begin the four-year program as freshmen or as sophomores.

There is also a two-year ROTC program for those students with only two years of college remaining. The two-year course is designed for junior college and other non-ROTC college transfer students, but may be utilized by students who did not enroll in the basic course outlined below.

Graduate students may also qualify for enrollment in the two-year course. Additional information regarding eligibility requirements for the two-year program may be obtained by contacting the Department of Military Science.

Women are encouraged to enroll and will be commissioned as officers in the United States Army upon completion of the ROTC curriculum. Job opportunities for women officers in the Army are the same as those for men, excluding a few combat arms fields.

Basic Course

The basic course is normally taken as an elective subject by students in their freshman and sophomore years. The purpose of this instruction is to qualify students for entry into the advanced course by familiarizing them with the organization of the Army, military skills, and military tradition. Students do not incur any military obligation as a result of enrolling in the basic course. Enrollment in ROTC requires proof of a doctor's physical screening. Participation in regularly scheduled physical training is required. In addition to classroom instruction, a one and a half hour leadership laboratory period is required every other week.

Advanced Course

Instruction in the advanced course includes leadership and management, the exercise of command, military teaching methods, tactics, logistics, administration, history, and military justice. Leadership experience and command experience are provided by assigning advanced course students as cadet officers and noncommissioned officers. Participation in regularly scheduled physical training is a required part of the leadership training. Classroom instruction consists of two one and a quarter hour (75 minutes) periods each week and a two hour (120 minutes) leadership laboratory period every week. Only students who have demonstrated a definite potential for becoming competent officers will be selected for the advanced course.

Army Nurse Corps Option

Students enrolled in the School of Nursing curriculum leading to the degree of Bachelor of Science in Nursing may simultaneously qualify for commissions as Second Lieutenants in the Army Nurse Corps. Nursing students qualify for entry into the Officer Development Course through

satisfactory completion of the General Military Course, the Basic Camp option or equivalent training. Nursing students participate in a summer Advanced Camp training program and an Army nurse training program. They provide practical and leadership experience in the clinical setting. The focus is to provide nursing cadets an experience which integrates clinical, interpersonal and leadership knowledge and skills. Emphasis is placed on practical experience under the direct supervision of an Army Nurse Corps Officer who acts as the cadet's preceptor throughout the camp period.

Professional Military Education

In addition to basic and advanced ROTC courses, cadets must complete professional military education requirements consisting of one course in each of the following areas: written and oral communication skills, U.S. military history, and computer literacy. Students should consult with the professor of military science to determine those University courses suitable for fulfilling these requirements.

Monetary Allowances

Cadets selected for admission into the advanced course qualify for a nontaxable monetary allowance of \$450–\$500 per month for up to 20 months. Cadets may also qualify for the simultaneous membership program with the United States Army Reserve or National Guard, which can provide approximately \$4,800 per semester during the last two years of school. Both the United States Army Reserve and the National Guard offer additional monetary incentives for cadets who join their organizations (drill pay).

Army ROTC College Scholarship Program

Financial assistance is available in the form of two- or three-year ROTC academic scholarships for selected students. Under the Army ROTC Scholarship Program, the students/cadets receive FULL Tuition and Fees. Additionally, Army scholarship recipients receive a flat-rate allowance of \$1200 per year for textbooks and other expenses and \$350–\$500 per month stipend for up to 10 months per year. During the 32-day advanced course summer training between the junior and senior years, Army ROTC also pays attending cadets \$27 per day plus room and board. There are also numerous national and organizational scholarships that students may compete for as a member of Army ROTC.

Additionally, University of Miami undergraduates enrolled in the Army ROTC program are assured a combined University grant and/or scholarship award during the fall and spring semesters equal to 25% of the University's tuition charge for a maximum of four years. The subsidy is not available during the summer term. Students must maintain continuous enrollment in the Army ROTC program, must maintain satisfactory academic progress to continue receiving the subsidy, and full time enrollment in one of the University's undergraduate degree programs is required. No application is required. Awards are made automatically based on information provided by the University's Army ROTC detachment.

Uniforms and Textbooks

All uniforms and items of insignia incident to membership in the Army ROTC Program are furnished by the Department of Military Science. Textbooks are provided at no cost to students/cadets enrolled in the basic course.

Special Activities

Cadets have the opportunity to join and participate in a number of military affiliated organizations and activities, both on a voluntary and a selective basis. The Color Guard is a voluntary organization that functions as a military unit participating in military ceremonies and presenting the national colors at civic events. Cadets have the opportunity to qualify for and compete with cadets from other universities and colleges in a series of military events termed Ranger Challenge.

Awards and Decorations

Awards and decorations made available by national organizations, the University of Miami Army ROTC Alumni Association, and local and national military organizations, are presented to both basic and advanced officer course cadets each year. These plaques, trophies, medals, and ribbons symbolize superior achievement in Army ROTC and other University academic courses, and in outstanding campus and cadet corps leadership.

Prerequisite for Admission to the Professional Officer Course

1. Be at least 17 years of age at time of acceptance.
2. Be able to complete the professional officer course and graduate from the University of Miami prior to reaching the age of thirty (30) at the time of commissioning.
3. Selection by the professor of military science and acceptance by the University of Miami.
4. Execute a written agreement with the government to complete the professional officer course and accept an Army ROTC commission.
5. Enlist in the Army Reserve Component-ROTC (terminated upon receiving an Army officer commission).

Those students enrolled in the four-year Army ROTC program must complete the basic course or its equivalent, or have acceptable prior military service. Veterans and students with previous ROTC training are invited to write, visit, or call the Department of Military Science 305-284-3329 or 305-348-1619 to discuss their eligibility status.

Students desiring entry into the two-year Army ROTC program should contact the Department of Military Science one semester prior to the semester in which they wish to enroll in the professional officer course. This lead time is required to complete the application and a physical examination prior to enrollment in the professional officer course.

Leadership Laboratory

Leadership laboratory is open to students who are members of the Reserve Officer Training Corps or who are eligible to pursue a commission as determined by the professor of military science. Leadership laboratory is the formalized phase of leadership training conducted by the cadets. It is scheduled for two (120 minutes) hours every week for both the basic and advanced officer courses (non-contracted and contracted). All uniforms and equipment required for cadet activities are furnished.

Educational Objectives

To provide a base of knowledge in the areas of ethics, leadership, Communication skills, Military Leadership, U.S Military History, Tactics and Team building to include future Officer development.

Degree Programs

Students can receive degrees from the university in addition to being in the Army ROTC program, as well as being eligible (once requirements are met) to receive a minor in Military Science.

Modern Languages and Literatures

<http://www.as.miami.edu/ml>

Dept. Code: MLL

Introduction

The study of languages and cultures is an integral part of a modern, global university education. At the University of Miami, students can choose courses in Arabic, Chinese, French, German, Haitian Creole, Hebrew, Italian, Japanese, Portuguese, and Spanish. All majors (French, German, Spanish), minors (Arabic Studies, French, German, Italian, Portuguese, Spanish), and language programs (Chinese, Haitian Creole, Hebrew, Japanese) in the department are articulated through the notion of Global Literacy. Global literacy is the **ability to participate in sociocultural practices** by both interacting with others in different languages and by creating, presenting, and interpreting ideas through oral and written texts **in more than one language**. Consequently, global literacy involves awareness about oral and written texts, their conventions and genres, and their social, historical, political, and artistic uses. It entails linguistic proficiency in a language other than your own. You cannot be global if you only live in one language. Global Literacy includes written and oral communication, critical thinking and social responsibility, and appreciation of cultural artifacts, artistic products, and new technologies in more than one language.

Global Literacy and multilingualism foster success in business, economics, education, law, medicine, natural sciences, politics, social sciences, arts, and humanities. Language study most effectively enriches academic as well as personal experiences when students choose a language based on its relevance to possible careers, to research in particular fields, to personal heritage, or to the understanding of unfamiliar cultures. Students combine advanced modern language study with majors in other fields, such as International Studies, Communications, History, Political Science (and other pre-law fields), Biology (and other pre-med fields), Nursing, English, Finance, Latin American Studies, Anthropology, Psychology, Computer Science, Sociology, and Philosophy.

The Department has Undergraduate Advisors for each language (<http://www.as.miami.edu/ml/undergraduate/advising>). You are encouraged to consult with them for placement, and must consult with them if you plan to major, minor, or study abroad (contact the Department office for names and office hours). If you plan to double major, you must have an advisor from each of your fields.

Students may qualify for a wide range of departmental awards (<http://www.as.miami.edu/ml/undergraduate/student-awards>) for excellence in linguistic and literary achievement. The Modern Languages and Literatures Awards Reception takes place annually during graduation week. Some awards are conferred through nomination by professors; others require an application. Students may obtain information on specific awards in the Department office. The annual deadline for applications is usually in early March.

Placement Guidelines for MLL Courses

Most students studying a second language can determine their appropriate level by adhering to the following guidelines. However, various factors (i.e., the strength of the program in which the student previously studied the language, how long it has been since the student has used the language, the extent of the student's exposure to the language at home/in social settings, the student's knowledge of other languages, etc.) make it such that these are only guidelines and individual cases may differ. For this reason, on the first day of class of each course section, the instructor conducts a diagnostic evaluation of students' abilities. The instructor will then inform students whether that course is indeed the level or track that will benefit him/her the most or, if not, which course he/she must take. Therefore, it is extremely important that students attend their language class on the first day of class for the semester.

Students who wish to study Spanish (as a second language, native language, or heritage language) can get more tailored placement advice through our on-line placement advisor (<http://www.as.miami.edu/labs/resources/placement>).

The following are MLL's general placement guidelines (<http://www.as.miami.edu/ml/undergraduate/placement-guidelines>):

- If you have not studied Arabic, Chinese, French, German, Hebrew, Italian, Japanese, or Spanish in high school, or have completed one to two years of high school instruction, take 101; for Portuguese, take 105.
- If you have taken 101 or its equivalent at another institution, take 102.
- If you have completed three years of high school instruction in French or Spanish, or scored a 3 on the AP language exam take 105. If you have had three years of high school Arabic, Chinese, German, Hebrew, Italian, or Japanese, take 102.
- If you have taken four years of high school French or Spanish, scored a 4 on the AP language exam or a 4 on the IB exam in French or Spanish, or took the equivalent of 102 or 105 at another university, take 201. If you have taken four years of high school German, Italian or Portuguese, take 201. If you have taken four years of Arabic, Chinese, Hebrew, or Japanese, take 201.
- If you had five to six years of French, German, Italian, or Spanish in middle and high school, take 202.
- If you have taken the equivalent of 201 at another university or scored a 5 on the AP language exam, you have completed your language requirement. If you wish to continue your studies, take 202.
- If you took the equivalent of 202 in French or Spanish at another university or scored a 4 on the AP literature exam, you have completed your language requirement. If you wish to continue your studies, take 203. If you took the equivalent of 202 in German, Italian or Portuguese at another university, you have completed your language requirement. If you wish to continue your studies, take 301.
- If you scored a 5 on the AP literature exam in French, Italian or Spanish, you have completed your language requirement. If you wish to continue your studies, take 301.

The Department offers courses open to native speakers of French, German, Italian, Portuguese, and Spanish. Native speakers may *not* enroll in 101, 102, 105, 201, 202, 203, or 301 in their language. If you are a native speaker of French, German, Italian, or Portuguese, and graduated from a high school where that was the official language of instruction, you may take any course above 301 (consult with the respective Undergraduate Advisor). If you are a native speaker of Spanish and graduated from a high school where that was the official language of instruction, your first SPA course at UM must be either SPA 302 or SPA 303 or SPA 307 (which is a prerequisite for most other SPA courses).

The Department of Modern Languages & Literatures identifies as *heritage learners* of Spanish those students who begin their university studies of the language with little or no prior instruction in Spanish but who, because of family background or social experience, can already understand much casual spoken Spanish and have a passive knowledge of the language (though they may not usually speak the language themselves). In the great majority of cases, they have been born and fully educated in the United States, and may have grown up speaking principally English (or a 'mix' of Spanish and English, i.e. 'Spanglish') in the home with their grandparents, parents and siblings. Heritage learners may or may not consider themselves as "bilinguals" or "native speakers", since both of these terms carry very different connotations—linguistic, social, and psychological—for different individuals. Some state that they "do not really speak Spanish" even though they are able to comprehend much spoken language (i.e., they are "passive bilinguals"). In the great majority of cases, they self-identify as "Hispanic" or "Latino/a".

HERITAGE LEARNERS OF SPANISH MUST BE PLACED IN ONE OF THE FOLLOWING FOUR COURSES:

1. **SPA 107 Basic Spanish for Heritage Learners** is for those students with little or no prior instruction in Spanish who, because of family background or social experience, can understand casual spoken Spanish and have a passive knowledge of the language although they do not usually speak the language themselves. Generally, their abilities to read and write Spanish are at a beginning level. **CLOSED TO STUDENTS WHO GRADUATED HIGH SCHOOL IN A SPANISH-SPEAKING COUNTRY.**
2. **SPA 207 Intermediate Spanish for Heritage Learners** is for those students **WHO HAVE ALREADY TAKEN AND PASSED SPA 107** or who have studied Spanish for AT LEAST TWO YEARS IN HIGH SCHOOL. They can understand casual spoken Spanish and have some functional ability in speaking, reading and writing the language. **CLOSED TO STUDENTS WHO GRADUATED HIGH SCHOOL IN A SPANISH-SPEAKING COUNTRY.**
3. **SPA 208 Advanced Spanish for Heritage Learners** is for those students who have studied Spanish for four years in high school and who have developed functional abilities in speaking, reading and writing the language. Students who earned a score of 5 on the AP Spanish Language Exam or 4 in the AP Literature Exam should register for this course. **CLOSED TO STUDENTS WHO GRADUATED HIGH SCHOOL IN A SPANISH-SPEAKING COUNTRY.**
4. **SPA 307 Interpreting Literary And Cultural Texts In Spanish For Heritage/Native Speakers** is intended **for those students who have completed secondary and/or university studies in a Spanish-speaking country** and for those heritage learners who demonstrate an advanced level of productive competence (in the written and spoken modes) in Spanish because of prior formal study of the language. Heritage learners who place directly into 307 have taken AP Spanish literature in high school and earned a score of 5.

SPA 101, SPA 102, SPA 105, SPA 201, SPA 202 AND SPA 203 ARE NOT FOR HERITAGE LEARNERS. ANY HERITAGE LEARNER WHO ENROLLS IN ONE OF THESE COURSES WILL BE OBLIGATED TO SWITCH TO A HERITAGE LANGUAGE COURSE (SPA 107, SPA 207, SPA 208 OR SPA 307) DURING THE FIRST WEEK OF CLASS.

Arts and Sciences Language Requirement

The College of Arts and Sciences requires all B.A. and B.S. degree students to show competency in a language other than English by successfully completing an approved college language course at the 200-level or higher. Students wishing to fulfill the language requirement in a language not taught at UM, may request an equivalency evaluation for a course at the appropriate level offered at an accredited institution, complete the approved equivalent course, and transfer the credits. Students requesting such an equivalency evaluation must submit appropriate documentation to the MLL department for approval. For a native speaker of the language in question, a course that transfers at UM's 300-level will fulfill the language requirement. For a second language learner of the language in question, a course that transfers at UM's 200-level will fulfill the language requirement.

Writing Credits: Writing Across the Curriculum

All of the Department's 300- and 500-level courses and some 400-level courses offer writing credit. NOTE: Courses may simultaneously fulfill General Education requirements and Writing Credit, or the Foreign Language Requirement and Writing Credit.

Cognates

Most of the Department's courses are part of cognates in one of two Areas of Knowledge: Arts & Humanities, and People & Society. A course cannot simultaneously complete a cognate in an Area of Knowledge and the College of Arts & Sciences' Foreign Language Requirement.

Degree Programs

Students pursuing a single major in Arts and Sciences earn a BA.

Majors

The Department offers majors in French, German, and Spanish. Students majoring in any of these three languages must earn 24 credit hours in courses above 201 for French and above 202 for German and Spanish (30 credit hours for Departmental Honors). In consultation with their MLL advisor, students can have up to 1 course (3 credits) from among the MLL courses or the FRE, GER, and SPA courses taught in English (numbered 310-319) count toward their French, German, or Spanish major.

Minors

The Department offers minors in Arabic Studies, French, German, Italian, Portuguese, Spanish, and Modern Languages. You do not have to be a student of the College of Arts and Sciences to minor in a modern language; you need only the approval of your college or school advisor and to complete the departmental requirements. If you wish to complete a double degree, consult with an Arts and Sciences Advisor. Except for Arabic Studies, French and Italian, all courses in the German, Portuguese, Spanish minors must be taught in the target language. The two 300-level courses for the additional language in the Modern Languages minor must also be taught in the target language.

Students may also pursue a minor in Chinese Studies or Japanese Studies as an Independent Minor. Please consult the requirements here. (p. 114)

Study Abroad

Students completing a major or a minor in a modern language are encouraged to study abroad. The Department offers faculty-led summer study abroad programs in France, Japan, and Spain. The Department and Study Abroad sponsor a semester-long study abroad program in Paris (UParis) for students of all majors and minors and all levels of ability in the French language; French majors and minors are especially encouraged to apply. For more information, please click [here](#). Study Abroad (in Dooly Memorial Classroom, Building 1111, Memorial Drive, Suite 125) sponsors programs for Chinese, French, German, Italian, Japanese, Portuguese, and Spanish. It is also possible to fulfill some Arts and Sciences distribution requirements abroad. In order to take full advantage of study abroad, students should visit the Study Abroad office early in their university careers, discuss course equivalencies with the Study Abroad Advisor for their chosen languages (contact the Department office for names and office hours), and consult with their major advisors. Credit hour toward the major for courses taken abroad will be determined on an individual basis.

Departmental Honors

Departmental Honors in Modern Languages are possible in the three languages for which the major is offered: French, German and Spanish. In order to request admission to Departmental Honors, candidates must have completed at least twelve credit hours at the 300 level or above. They must have a GPA of 3.5 in all their major courses and a 3.5 overall average GPA. Both GPAs must be maintained in order to graduate with Departmental Honors.

During their junior year, candidates for honors will identify an honors thesis supervisor and a second reader and request admission to Departmental Honors. Admission to candidacy must also be approved by the Director of Undergraduate Studies for the appropriate language.

In addition to fulfilling the regular major requirements, students must register in their Senior year for FRE or GER or SPA 594-595, Senior Honors Thesis. This is a two-semester, six credit hour sequence: 594 for research and 595 for the actual writing of the honors thesis.

The honors thesis advisor and the second reader will determine whether the finished thesis merits Departmental Honors.

Majors in Modern Languages and Literatures

- B.A. in French (p. 262)
- B.A. in German (p. 267)
- B.A. in Spanish (p. 271)

Minors in Modern Languages and Literatures

- Arabic Studies (p. 276)
- French (p. 278)
- German (p. 279)
- Italian (p. 280)
- Portuguese (p. 281)
- Spanish (p. 282)
- Modern Languages (p. 280)

B.A. in French

Goals of the Major

A major in French consists of at least 24 credit hours beyond FRE 201 with a grade of C- or higher in every course counting toward the major, and with a cumulative GPA of at least 2.5 in the major (see curriculum for course distribution). The major is designed to allow students to gain advanced linguistic, cultural, and literary competence in the communities that speak this language. With each course students further develop the capacity to communicate with and to critically see and understand the linguistic communities being studied. Not only do students learn to understand, interpret, and analyze communication patterns and cultural products (new technologies, film, literature, etc.) from other geopolitical positions, but this process also fosters a greater appreciation of the learners' own language, culture, and society. As part of the development of analytical and critical skills, students learn to build coherent arguments orally and in writing# to develop tools for the interpretation of various texts# to perform research and write critical papers# to find and evaluate sources of information# to heighten their sensitivity to the contexts of language, and to appreciate language as art. Students will also acquire a broad, structured knowledge of the relevant history, literature and culture in the target language. Finally, they will learn to carry out cultural comparisons and to view their own culture with new eyes.

You do not have to be a student of the College of Arts and Sciences to major in a modern language; you need only the approval of your college or school advisor and to complete the departmental requirements. If you wish to complete a double degree, consult with an Arts and Sciences Advisor.

Students completing a major in a modern language are encouraged to study abroad. The Department and Study Abroad sponsor a semester-long study abroad program in Paris (UParis) for students of all majors and minors and all levels of ability in the French language; French majors and minors are especially encouraged to apply. For more information, please click here. The Study Abroad Office (in Dooly Memorial Classroom, Building 1111, Memorial Drive, Suite 125) sponsors programs for Chinese, French, German, Italian, Japanese, Portuguese, and Spanish. It is also possible to fulfill some Arts and Sciences distribution requirements abroad. In order to take full advantage of study abroad, students should visit Study Abroad early in their university careers, discuss course equivalencies with the Study Abroad Advisor for their chosen languages (contact the Department office for names and office hours), and consult with their major advisors. Credit hour toward the major for courses taken abroad will be determined on an individual basis.

Students with transfer credit hours must take at least 18 graded credit hours at or above the 300-level at the University of Miami; i.e., up to 6 credit hours may be transferred towards the French major from another institution or a study abroad program not administered by UM. Up to 12 credit hours taken abroad in a UM-administered program may count towards the major.

Capstone Courses

The final course in the major is the capstone course (501) which must be taken in residence. This course will:

- Integrate the various skills acquired during the course of study (linguistic, analytical, knowledge-based);
- Incorporate interpretive as well as presentational modes of communication;
- Contain an over-arching and cohesive theme;
- Include an element of collaboration among students.

It will constitute a moment of recapitulation of, synthesis, and reflection on a student's experience in the major as well as a bridge towards graduate-level studies, should s/he decide to pursue them.

Of the 24 credit hours required for the major, a minimum of 12 credit hours must be earned in courses taught by MLL faculty (whether on campus or in faculty-led study-abroad programs). Since we encourage students to study abroad in UM-sponsored programs, up to 12 credit hours from these programs may be applied toward the major. Up to 6 transfer credit hours from other institutions may count toward the major; whether these are credit hours transferred from another U.S. institution or from non-UM study abroad programs, transferred credit hours must be granted UM equivalency in

order to be eligible to count toward the major. Please note, however, that the total number of combined UM study-abroad (exclusive of MLL faculty-led programs) and transfer credit hours shall not exceed 12 credit hours.

For example:

- A student may use 3 transfer credit hours with UM equivalency and 9 credit hours from a UM-sponsored study abroad program toward fulfillment of the major; the remaining 12 credit hours must be earned in courses taught by MLL faculty.
- A student may use 6 transfer credit hours with UM equivalency and 6 credit hours from a UM-sponsored study abroad program toward fulfillment of the major; the remaining 12 credit hours must be earned in courses taught by MLL faculty.
- A student may use 12 credit hours from a UM-administered study-abroad program not led by MLL faculty and 12 credit hours in courses taught by MLL faculty to fulfill the major.

Exceptions to this 12 credit hours rule may be made in cases where a student will participate in a UM-administered study-abroad program for a full academic year.

Curriculum Requirements

Code	Title	Credit Hours
Core Requirements		
FRE 202	Intermediate French II	3
FRE 203	Advanced French	3
FRE 301	Introduction to French and Francophone Studies	3
300 or 400 Level Courses		
At least 15 credits must be at the 300 or 400 level. ¹		15
At least 3 credits of the 15 credits at the 300 or 400 level must focus on a pre- 20th century period. The following courses meet this requirement:		
FRE 363	Medieval and Renaissance Topics in French	
FRE 364	Early Modern Topics in French	
FRE 365	19th Century Topics in French	
Capstone Requirement		
FRE 501	Capstone	3
Additional Graduation Requirements		
ENG 105	English Composition I	3
ENG 106	English Composition II	3
MTH 101	Algebra for College Students ^{Not needed by students who place into MTH 113}	3
MTH 113	Finite Mathematics	3
Language Requirement (3-9 credits) ²		
Minor		15
People & Society Cognate ³		9
STEM Cognate ⁴		9
Natural Science Course ⁵		3
Advanced Writing & Communication ⁶		3
Electives ⁷		42
Total Credit Hours		120

¹ In consultation with their FRE advisor students can have up to 1 course (3 credits) from among the MLL courses or FRE courses taught in English (numbered 310-319) count toward their major.

² Students satisfy this requirement by the time they start the major with FRE 202

³ If the student has a minor (or second major) that counts as "People & Society", the student does not need to satisfy the requirement for a People & Society cognate.

⁴ If the student has a minor (or second major) that counts as "STEM", the student does not need to satisfy the requirement for a STEM cognate.

⁵ This requirement is waived if the STEM cognate includes a Natural Science course from the approved list.

⁶ Students satisfy this requirement by taking four writing courses, at least one of which must be in one of the student's major disciplines. Since all FRE courses above 203/208 are designated as writing (WRIT) courses, all French majors satisfy this requirement by completing their major.

⁷ A minimum of 120 credits is required for graduation. Sufficient credits must be earned in electives to enable the student to complete this minimum of 120 credits. The exact number of elective credits required will vary depending on the number of credits needed to complete all other graduation requirements.

Suggested Plan of Study

These Suggested Plans of Study are samples of four-year plans, but an individual student's actual plan is likely to vary from these sample plans in a number of ways, depending on such factors as (1) AP, dual-enrollment, and transfer credits that a student brings in; (2) the student's initial placement in composition, mathematics, and French; and (3) the minor chosen by the student, as well as any additional minor or major the student chooses to complete. For example, a student is not required to complete a cognate in People & Society if the student has a minor (or second major) that counts as "People & Society," and similarly, a student is not required to complete a cognate in STEM if the student has a minor (or second major) that counts as "STEM."

For students starting the major with FRE 101

Course	Title	Credit Hours
Year One		
Fall		
ENG 105	English Composition I	3
FRE 101	Elementary French I	3
People and Society Cognate Course		3
Elective		3
Elective		3
		Credit Hours
		15
Spring		
ENG 106	English Composition II	3
MTH 108	Precalculus Mathematics II	3
FRE 102	Elementary French II	3
People and Society Cognate Course		3
Elective		3
		Credit Hours
		15
Summer		
FRE 201	Intermediate French I ¹	3
		Credit Hours
		3
Year Two		
Fall		
FRE 202	Intermediate French II	3
STEM Cognate Course		3
People and Society Cognate Course		3
Minor Course		3
Elective		3
		Credit Hours
		15
Spring		
FRE 203	Advanced French	3
STEM Cognate Course		3
Minor Course		3
Elective		3
		Credit Hours
		12
Year Three		
Fall		
Choose one of the following: ²		3
FRE 301	Introduction to French and Francophone Studies	
FRE 302	The Cultures of France	
FRE 303	The Cultures of Francophone Africa, Canada, and/or the Caribbean	
STEM Cognate Course		3

Minor Course		3
Elective		3
Elective		3
	Credit Hours	15
Spring		
Choose one of the following: ²		3
FRE 301	Introduction to French and Francophone Studies	
FRE 302	The Cultures of France	
FRE 303	The Cultures of Francophone Africa, Canada, and/or the Caribbean	
300 Level FRE Course		3
Minor Course		3
Minor Course		3
Elective		3
	Credit Hours	15
Year Four		
Fall		
FRE 394	French Internship	3
	Or any other 300 level FRE course	
Pre- 20th Century Topic Course, choose one of the following:		3
FRE 363	Medieval and Renaissance Topics in French	
FRE 364	Early Modern Topics in French	
FRE 366	20th and 21st Century Topics in French	
Elective		3
Elective		3
Elective		3
	Credit Hours	15
Spring		
FRE 501	Capstone ²	3
Elective		3
Elective		3
Elective		3
FRE 446	Debating Cultures and Societies in French	3
	Credit Hours	15
	Total Credit Hours	120

For students starting the major with FRE 202

Course	Title	Credit Hours
Year One		
Fall		
FRE 202	Intermediate French II	3
People and Society Cognate Course		3
ENG 105	English Composition I	3
Elective		3
Elective		3
	Credit Hours	15
Spring		
FRE 203	Advanced French	3
MTH 108	Precalculus Mathematics II	3
ENG 106	English Composition II	3
People and Society Cognate Course		3
Elective		3
	Credit Hours	15

Year Two			
Fall			
FRE 301	Introduction to French and Francophone Studies		3
STEM Cognate Course			3
People and Society Cognate Course			3
Minor Course			3
Elective			3
		Credit Hours	15
Spring			
Study abroad participation in UParis recommended			
FRE 302 or 303	The Cultures of France or The Cultures of Francophone Africa, Canada, and/or the Caribbean		3
Or any other 300-or 400- level FRE course			
People and Society Cognate Course			3
STEM Cognate Course			3
Elective			3
Elective			3
		Credit Hours	15
Year Three			
Fall			
Pre-20th Century Topic Course, choose one of the following: ²			3
FRE 363	Medieval and Renaissance Topics in French		
FRE 364	Early Modern Topics in French		
FRE 365	19th Century Topics in French		
Or any other FRE course at the 300- or 400- level			
STEM Cognate Course			3
Minor Course			3
Elective			3
Elective			3
		Credit Hours	15
Spring			
Study abroad participation in UParis recommended			
FRE 446	Debating Cultures and Societies in French ²		3
Or any other 400 level FRE course ²			
Minor Course			3
Minor Course			3
Elective			3
Elective			3
		Credit Hours	15
Year Four			
Fall			
Choose one of the following: ²			3
FRE 394	French Internship		
Or any other 300 level FRE course			
Elective			3
Elective			3
Elective			3
Elective			3
		Credit Hours	15
Spring			
Study abroad participation in UParis recommended if not completed in year 2 or year 3			
FRE 501	Capstone ²		3

Elective	3
Elective	3
Elective	3
Elective	3
Credit Hours	15
Total Credit Hours	120

- ¹ Ideally through Faculty Led Study Abroad
² Also satisfies Advanced Writing Requirement

B.A. in German

Goals of the Major

A major in German consists of at least 24 credit hours beyond GER 202 with a grade of C- or higher in every course counting toward the major, and maintain a minimum overall average of 2.5 in the major (see curriculum for course distribution). The major is designed to allow students to gain advanced linguistic, cultural, and literary competence in the communities that speak this language. With each course students further develop the capacity to communicate with and to critically see and understand the linguistic communities being studied. Not only do students learn to understand, interpret, and analyze communication patterns and cultural products (new technologies, film, literature, etc.) from other geopolitical positions, but this process also fosters a greater appreciation of the learners' own language, culture, and society. As part of the development of analytical and critical skills, students learn to build coherent arguments orally and in writing# to develop tools for the interpretation of various texts# to perform research and write critical papers# to find and evaluate sources of information# to heighten their sensitivity to the contexts of language, and to appreciate language as art. Students will also acquire a broad, structured knowledge of the relevant history, literature and culture in the target language. Finally, they will learn to carry out cultural comparisons and to view their own culture with new eyes.

You do not have to be a student of the College of Arts and Sciences to major in a modern language; you need only the approval of your college or school advisor and to complete the departmental requirements. If you wish to complete a double degree, consult with an Arts and Sciences Advisor.

Students completing a major in a modern language are encouraged to study abroad. The Study Abroad Office (in Dooly Memorial Classroom, Building 1111, Memorial Drive, Suite 125) sponsors programs for Chinese, French, German, Italian, Japanese, Portuguese, and Spanish. It is also possible to fulfill some Arts and Sciences distribution requirements abroad. In order to take full advantage of study abroad, students should visit Study Abroad early in their university careers, discuss course equivalencies with the Study Abroad Advisor for their chosen languages (contact the Department office for names and office hours), and consult with their major advisors. Credit hour toward the major for courses taken abroad will be determined on an individual basis.

Students with transfer credit hours at the 300-level must take at least 18 graded credit hours at or above the 300-level at the University of Miami; i.e., up to 6 credit hours may be transferred towards the German major from another institution or a study abroad program not administered by UM. Up to 12 credit hours taken abroad in a UM-administered program may count towards the major.

Capstone Courses

The final course in the major is the capstone course (501) which must be taken in residence. This course will:

- Integrate the various skills acquired during the course of study (linguistic, analytical, knowledge-based);
- Incorporate interpretive as well as presentational modes of communication;
- Contain an over-arching and cohesive theme;
- Include an element of collaboration among students.

It will constitute a moment of recapitulation of, synthesis, and reflection on a student's experience in the major as well as a bridge towards graduate-level studies, should s/he decide to pursue them.

Of the 24 credit hours required for the major, a minimum of 12 credit hours must be earned in courses taught by MLL faculty (whether on campus or in faculty-led study-abroad programs). Since we encourage students to study abroad in UM-sponsored programs, up to 12 credit hours from these programs may be applied toward the major. Up to 6 transfer credit hours from other institutions may count toward the major; whether these are credit hours transferred from another U.S. institution or from non-UM study abroad programs, transferred credit hours must be granted UM equivalency in order to be eligible to count toward the major. Please note, however, that the total number of combined UM study-abroad (exclusive of MLL faculty-led programs) and transfer credit hours shall not exceed 12 credit hours.

For example:

- A student may use 3 transfer credit hours with UM equivalency and 9 credit hours from a UM-sponsored study abroad program toward fulfillment of the major; the remaining 12 credit hours must be earned in courses taught by MLL faculty.

- A student may use 6 transfer credit hours with UM equivalency and 6 credit hours from a UM-sponsored study abroad program toward fulfillment of the major; the remaining 12 credit hours must be earned in courses taught by MLL faculty.
- A student may use 12 credit hours from a UM-administered study-abroad program not led by MLL faculty and 12 credit hours in courses taught by MLL faculty to fulfill the major.

Exceptions to this 12 credit hours rule may be made in cases where a student will participate in a UM-administered study-abroad program for a full academic year.

Curriculum Requirements

Code	Title	Credit Hours
German Courses		
GER 101	Elementary German I	3
GER 102	Elementary German II	3
GER 201	Intermediate German I	3
GER 202	Intermediate German II	3
GER 301	Interpreting Literary and Cultural Texts in German	3
GER 302	The Cultures of the German-Speaking World	3
GER 310	German Studies in Translation	3
GER 321	Special Topics in German Studies	3
GER 365	Twentieth-Century German Studies	3
GER 370	The Holocaust in History, Film, and Memorial Culture	3
GER 592	Directed Readings	3
Additional Requirements		
ENG 105	English Composition I	3
ENG 106	English Composition II	3
MTH 108	Precalculus Mathematics II	3
Minor Requirement		15
People and Society Cognate		9
STEM Cognate		9
Electives		45
Total Credit Hours		120

Suggested Plan of Study

These Suggested Plans of Study are samples of four-year plans, but an individual student's actual plan is likely to vary from these sample plans in a number of ways, depending on such factors as (1) AP, dual-enrollment, and transfer credits that a student brings in; (2) the student's initial placement in composition, mathematics, and German; and (3) the minor chosen by the student, as well as any additional minor or major the student chooses to complete. For example, a student is not required to complete a cognate in People & Society if the student has a minor (or second major) that counts as "People & Society;" and similarly, a student is not required to complete a cognate in STEM if the student has a minor (or second major) that counts as "STEM."

For students starting the major with GER 101

Course	Title	Credit Hours
Year One		
Fall		
ENG 105	English Composition I	3
GER 101	Elementary German I	3
People and Society Cognate Course		3
Elective		3
Elective		3
	Credit Hours	15
Spring		
ENG 106	English Composition II	3
MTH 108	Precalculus Mathematics II	3
GER 102	Elementary German II	3

People and Society Cognate Course		3
Elective		3
	Credit Hours	15
Year Two		
Fall		
GER 201	Intermediate German I	3
STEM Cognate Course		3
People and Society Cognate Course		3
Minor Course		3
Elective		3
	Credit Hours	15
Spring		
GER 202	Intermediate German II	3
STEM Cognate Course		3
Minor Course		3
Elective		3
Elective		3
	Credit Hours	15
Year Three		
Fall		
GER 301	Interpreting Literary and Cultural Texts in German	3
	Or any other 300 level GER course ¹	
STEM Cognate Course		3
Minor Course		3
Elective		3
Elective		3
	Credit Hours	15
Spring		
Ideally through a Faculty Led Study Abroad		
GER 302	The Cultures of the German-Speaking World ²	3
GER 321	Special Topics in German Studies ²	3
GER 365	Twentieth-Century German Studies ²	3
Minor Course		3
Minor Course		3
	Credit Hours	15
Year Four		
Fall		
GER 310	German Studies in Translation ¹	3
GER 370	The Holocaust in History, Film, and Memorial Culture ²	3
Elective		3
Elective		3
Elective		3
	Credit Hours	15
Spring		
GER 592	Directed Readings ¹	3
Elective		3
Elective		3
Elective		3
Elective		3
	Credit Hours	15
	Total Credit Hours	120

For students starting the major with GER 201

Course	Title	Credit Hours
Year One		
Fall		
GER 201	Intermediate German I	3
ENG 105	English Composition I	3
People and Society Cognate Course		3
Elective		3
Elective		3
	Credit Hours	15
Spring		
GER 202	Intermediate German II	3
ENG 106	English Composition II	3
MTH 108	Precalculus Mathematics II	3
People and Society Cognate Course		3
Elective		3
	Credit Hours	15
Year Two		
Fall		
GER 301	Interpreting Literary and Cultural Texts in German ²	3
STEM Cognate Course		3
People and Society Cognate Course		3
Minor Course		3
Elective		3
	Credit Hours	15
Spring		
GER 302	The Cultures of the German-Speaking World ²	3
STEM Cognate Course		3
Minor Course		3
Elective		3
Elective		3
	Credit Hours	15
Year Three		
Fall		
GER 321	Special Topics in German Studies ¹	3
STEM Cognate Course		3
Minor Course		3
Elective		3
Elective		3
	Credit Hours	15
Spring		
Ideally through a Faculty Led Study Abroad		
GER 310	German Studies in Translation ²	3
GER 365	Twentieth-Century German Studies ²	3
Minor Course		3
Elective		3
Elective		3
	Credit Hours	15
Year Four		
Fall		
GER 370	The Holocaust in History, Film, and Memorial Culture ²	3
Elective		3

Elective		3
Elective		3
Elective		3
	Credit Hours	15
Spring		
GER 592	Directed Readings ¹	3
Elective		3
Elective		3
Elective		3
Elective		3
	Credit Hours	15
	Total Credit Hours	120

¹ Also satisfies Advanced Writing Requirement

² Or any other 300 level GER course-also satisfies Advanced Writing Requirement.

B.A. in Spanish

Goals of the Major

A major in Spanish consists of at least 24 credit hours beyond SPA 202 with a grade of C- or higher in every course counting toward the major, and with a cumulative GPA of at least 2.5 in the major (see curriculum for course distribution). The major is designed to allow students to gain advanced linguistic, cultural, and literary competence in the communities that speak this language. Students learn with each course to understand, interpret, and analyze communication patterns and cultural products (new technologies, film, literature, etc.) from the geopolitical positions of the linguistic communities they study. This learning process also fosters a greater appreciation of the students' own language, culture, and society. As part of the development of analytical and critical skills, students learn to build coherent arguments orally and in writing# to develop tools for the interpretation of various texts# to perform research and write critical papers# to find and evaluate sources of information# to heighten their sensitivity to the contexts of language, and to appreciate language as art. Students will also acquire a broad, structured knowledge of the relevant history, literature and culture in the target language. Finally, they will learn to carry out cultural comparisons and to view their own culture with new eyes.

You do not have to be a student of the College of Arts and Sciences to major in a modern language; you need only the approval of your college or school advisor and to complete the departmental requirements. If you wish to complete a double degree, consult with an Arts and Sciences Advisor.

Students with transfer credit hours must take at least 18 graded credit hours at or above the 300-level at the University of Miami, i.e., up to 6 credit hours may be transferred towards the Spanish major from another institution or non-UM study abroad program.

Spanish majors must take SPA 301 or SPA 307 (or equivalent), and they are advised to take this course as they start fulfilling their 300-level credit requirements. In consultation with their MLL advisor, students can have up to 1 course (3 credits) from among the MLL courses or SPA courses taught in English (numbered 310-319) count toward their Spanish major. Students must also take one pre-twentieth century course to fulfill their course requirements towards the major (SPA 353, SPA 354, SPA 363, or SPA 364). Only one professional Spanish course (SPA 432, SPA 433, SPA 434) will count towards the Spanish major, although students are free to take more than one.

Capstone Courses

The final course in the major is the capstone course (501) which must be taken in residence. This course will:

- Integrate the various skills acquired during the course of study (linguistic, analytical, knowledge-based);
- Incorporate interpretive as well as presentational modes of communication;
- Contain an over-arching and cohesive theme;
- Include an element of collaboration among students.

It will constitute a moment of recapitulation, synthesis, and reflection on a student's experience in the major as well as a bridge towards graduate-level studies, should s/he decide to pursue them.

Study Abroad

Students completing a major in a modern language are encouraged to study abroad. The Department offers a faculty-led study abroad summer program in Spain. The Study Abroad Office (in Dooly Memorial Classroom, Building 1111, Memorial Drive, Suite 125) sponsors programs for Chinese, French, German, Italian, Japanese, Portuguese, and Spanish. It is also possible to fulfill some Arts and Sciences distribution requirements abroad. In order to take full advantage of these opportunities, students should visit Study Abroad early in their university careers, discuss course equivalencies

with the Study Abroad Advisor for their chosen languages (contact the Department office for names and office hours), and consult with their major advisors. Credit hours toward the major for courses taken abroad will be determined on an individual basis.

Of the 24 credit hours required for the major, a minimum of 12 graded credit hours must be earned in courses taught by MLL faculty (whether on campus or in faculty-led study-abroad programs). Since we encourage students to study abroad in UM-sponsored programs, up to 12 graded credit hours from these programs may be applied toward the major. As stated above, up to 6 transfer credit hours from other institutions may count toward the major. Whether these are credit hours transferred from another U.S. institution or from non-UM study abroad programs, transferred credit hours must be granted UM equivalency in order to be eligible to count toward the major. Please note, however, that the total number of combined UM study-abroad (exclusive of MLL faculty-led programs) and transfer credit hours shall not exceed 12 credit hours.

For example:

- A student may use 3 transfer credit hours with UM equivalency and 9 graded credit hours from a UM-sponsored study abroad program toward fulfillment of the major; the remaining 12 graded credit hours must be earned in courses taught by MLL faculty.
- A student may use 6 transfer credit hours with UM equivalency and 6 graded credit hours from a UM-sponsored study abroad program toward fulfillment of the major; the remaining 12 graded credit hours must be earned in courses taught by MLL faculty.
- A student may use 12 graded credit hours from a UM-administered study-abroad program not led by MLL faculty and 12 graded credit hours in courses taught by MLL faculty to fulfill the major.

Exceptions to this 12 credit hours rule may be made in cases where a student will participate in a UM-administered study-abroad program for a full academic year.

Curriculum Requirements

Code	Title	Credit Hours
Core Requirements		
SPA 203 or SPA 208	Advanced Spanish Advanced Spanish for Heritage Learners	3
SPA 301 or SPA 307	Interpreting Literary and Cultural Texts in Spanish Interpreting Literary and Cultural Texts in Spanish for Heritage/Native Speakers	3
At least 9 credits must be at the 300-level. ¹		9
At least 3 credits in a course focused on a pre-20th Century period, choose one of the following:		
SPA 353	Colonial Spanish American Topics	
SPA 354	19th-Century Spanish American Topics	
SPA 363	Medieval and Early Modern Peninsular Topics	
SPA 364	18th and 19th Century Peninsular Topics	
At least 3 credits must be at the 400-level, choose one of the following:		3
SPA 401	Introduction to Hispanic Linguistics	
SPA 402	Spanish Second Language Acquisition.	
SPA 422	Topics in Hispanic Linguistics	
SPA 432	Business Ethics and Cultural Debates in Spanish ²	
SPA 433	Medical, Cultural and Bioethical Debates in Spanish ²	
SPA 434	Legal and Cultural Debates in the Spanish-Speaking World ²	
SPA 440	Phonetics	
SPA 442	Stylistics and Composition	
SPA 444	Introduction to Translation	
SPA 446	Medical, Cultural and Bioethical Debates in Spanish	
At least 3 credits must be at the 500-level.		
SPA 501	Capstone	3
Additional Graduation Requirements		
ENG 105	English Composition I	3
ENG 106	English Composition II	3
MTH 101	Algebra for College Students ¹¹³ <small>Not needed by students who place into MTH</small>	3
MTH 113	Finite Mathematics	3
Language Requirement (3-9 credits) ³		
Minor		15

People & Society Cognate ⁴	9
STEM Cognate ⁵	9
Natural Science Course ⁶	3
Advanced Writing & Communication ⁷	3
Electives ⁸	48
Total Credit Hours	120

- ¹ In consultation with their MLL advisor, students can have up to 1 course (3 credits) from among the MLL courses or the SPA courses taught in English (numbered 310-319) count toward their Spanish major.
- ² Only one professional Spanish course (SPA 432, 433, 434) will count towards the Spanish major, although students are free to take all three.
- ³ Students satisfy this requirement by the time they start the major with SPA 203.
- ⁴ If the student has a minor (or second major) that counts as "People & Society", the student does not need to satisfy the requirement for a People & Society cognate.
- ⁵ If the student has a minor (or second major) that counts as "STEM", the student does not need to satisfy the requirement for a STEM cognate.
- ⁶ This requirement is waived if the STEM cognate includes a Natural Science course from the approved list.
- ⁷ Students satisfy this requirement by taking four writing courses, at least one of which must be in one of the student's minor disciplines, since all SPA courses above 203/208 are designated as writing (WRIT) courses, all Spanish majors satisfy this requirement by completing their major.
- ⁸ A minimum of 120 credits is required for graduation. Sufficient credits must be earned in electives to enable the student to complete this minimum of 120 credits. The exact number of elective credits required will vary depending on the number of credits needed to complete all other graduation requirements.

These Suggested Plans of Study are samples of four-year plans, but an individual student's actual plan is likely to vary from these sample plans in a number of ways, depending on such factors as (1) AP, dual-enrollment, and transfer credits that a student brings in; (2) the student's initial placement in composition, mathematics, and Spanish; and (3) the minor chosen by the student, as well as any additional minor or major the student chooses to complete. For example, a student is not required to complete a cognate in People & Society if the student has a minor (or second major) that counts as "People & Society," and similarly, a student is not required to complete a cognate in STEM if the student has a minor (or second major) that counts as "STEM."

Suggested Plan - Starting the major with SPA 101

Course	Title	Credit Hours
Year One		
Fall		
SPA 101	Elementary Spanish I	3
ENG 105	English Composition I	3
People and Society Cognate Course		3
Elective		3
Elective		3
	Credit Hours	15
Spring		
SPA 102	Elementary Spanish II	3
ENG 106	English Composition II	3
MTH 108	Precalculus Mathematics II	3
People and Society Cognate Course		3
Elective		3
	Credit Hours	15
Summer		
SPA 201	Intermediate Spanish I ¹	3
	Credit Hours	3
Year Two		
Fall		
SPA 202	Intermediate Spanish II	3
STEM Cognate Course		3
People and Society Cognate Course		3

Minor Course		3
Elective		3
	Credit Hours	15
Spring		
SPA 203	Advanced Spanish ²	3
STEM Cognate Course		3
Minor Course		3
Elective		3
	Credit Hours	12
Year Three		
Fall		
SPA 301	Interpreting Literary and Cultural Texts in Spanish ²	3
STEM Cognate Course		3
Minor Course		3
Elective		3
Elective		3
	Credit Hours	15
Spring		
Ideally through Study Abroad		
SPA 302 or 303	The Culture of Spain ² or The Cultures of Spanish America	3
SPA 321	Introduction to Literary Themes ³	3
Minor Course		3
Minor Course		3
Elective		3
	Credit Hours	15
Year Four		
Fall		
Pre-20th Century Topic Course, choose one of the following: ²		3
SPA 353	Colonial Spanish American Topics	
SPA 354	19th-Century Spanish American Topics	
SPA 363	Medieval and Early Modern Peninsular Topics	
SPA 364	18th and 19th Century Peninsular Topics	
SPA 394	Spanish Internship	3
Elective		3
Elective		3
Elective		3
	Credit Hours	15
Spring		
SPA 446	Medical, Cultural and Bioethical Debates in Spanish	3
Or any other 400 level SPA course		
SPA 501	Capstone ²	3
Elective		3
Elective		3
Elective		3
	Credit Hours	15
	Total Credit Hours	120

Suggested Plan - Starting the major with SPA 203 or 208

Course	Title	Credit Hours
Year One		
Fall		
SPA 203 or 208	Advanced Spanish ² or Advanced Spanish for Heritage Learners	3
ENG 105	English Composition I	3
People and Society Cognate Course		3
Elective		3
Elective		3
		Credit Hours
		15
Spring		
Choose one of the following: ²		3
SPA 301 or 307	Interpreting Literary and Cultural Texts in Spanish or Interpreting Literary and Cultural Texts in Spanish for Heritage/Native Speakers	
SPA 302 or 303	The Culture of Spain ⁴ or The Cultures of Spanish America	
MTH 108	Precalculus Mathematics II	3
ENG 106	English Composition II	3
People and Society Cognate Course		3
Elective		3
		Credit Hours
		15
Year Two		
Fall		
Choose one of the following:		3
SPA 301 or 307	Interpreting Literary and Cultural Texts in Spanish or Interpreting Literary and Cultural Texts in Spanish for Heritage/Native Speakers	
SPA 302 or 303	The Culture of Spain or The Cultures of Spanish America	
STEM Cognate Course		3
People and Society Cognate Course		3
Minor		3
Elective		3
		Credit Hours
		15
Spring		
SPA 322	Cultural Topics ³	3
STEM Cognate Course		3
Elective		3
Elective		3
Elective		3
		Credit Hours
		15
Year Three		
Fall		
Ideally through Study Abroad		
Pre-20th Century Topic Course, choose one of the following: ²		3
SPA 353	Colonial Spanish American Topics	
SPA 354	19th-Century Spanish American Topics	
SPA 363	Medieval and Early Modern Peninsular Topics	
SPA 364	18th and 19th Century Peninsular Topics	
Minor Course		3

Elective		3
Elective		3
Elective		3
	Credit Hours	15
Spring		
SPA 401	Introduction to Hispanic Linguistics ²	3
	Or any other 400 SPA course ⁴	
STEM Cognate Course		3
Minor Course		3
Elective		3
Elective		3
	Credit Hours	15
Year Four		
Fall		
SPA 394	Spanish Internship ³	3
Elective		3
Elective		3
Elective		3
Elective		3
	Credit Hours	15
Spring		
SPA 501	Capstone ²	3
Elective		3
Elective		3
Elective		3
Elective		3
	Credit Hours	15
	Total Credit Hours	120

¹ Ideally through Faculty Led Study Abroad

² Also satisfies Writing Credit.

³ Or any other 300 level SPA course also satisfies Writing Credit.

⁴ Students can opt to take SPA 302 and SPA 442 in Santander, Spain during the summer.

Minor in Arabic Studies

Code	Title	Credit Hours
Select a minimum of three credit hours in a 200 level Arabic language course:		3
ARB 201	Intermediate Arabic I	
ARB 202	Intermediate Arabic II	
ARB 203 or ARB 207	Advanced Arabic Arabic for Heritage Learners	
ARB 204 or ARB 208	Arabic 204: Advanced Arabic II Arabic for Heritage Learners II	
Or the equivalent		
Select a minimum of three additional credit hours in any ARB course at the 200 level.		3
Select a minimum of three credit hours in one of the following: ¹		3
ARB 310	Topics in Arabic Literature and Culture in Translation	
ARB 312	Arab Cultures: A Cultural History of the Arab World	
ARB 315	Topics in Gender and Sexuality in Translation	
ARB 410	Language and Power in the Arab World	
Select a minimum of three credit hours, outside of ARB courses, in humanities or social science courses focused on the Middle East, North Africa, Islam, or the Arab world.		3

REL 271	Introduction to Islam	
ARH 260	Islamic Art	
INS 352	Panoramic View of the Middle East	
GEG 382	Political Geography of the Middle East	
POL 387	Politics of the Middle East	
Or another relevant course as approved by the program director		
Select a minimum of three additional credit hours from either an ARB course in the 200 level or above or any approved course focused on the Middle East, North Africa, Islam, or the Arab world		3
Total Credit Hours		15

- ¹ Arabic Studies courses are taught in English.
- * A minor in Arabic Studies consists of a minimum of 15 credit hours, passed with a "C" or higher.
- ** Up to 9 credit hours taken abroad in an Arabic-speaking country are eligible to fulfill the requirements for the minor. Up to 6 transfer credit hours from an accredited university or 4-year college in another region of the world are eligible to fulfill the requirements for the minor. In all cases, whether the credit hours are from a UM-affiliated study abroad program or transfer credit hours from any institution, the credit hours' UM equivalency, if any, will be determined by the UM Arabic Studies Program Director; ARB 310 must be taken within the Department of Modern Languages and Literatures at UM; and the student must fulfill the distribution of requirements and other criteria stipulated above.
- *** If a student has studied Modern Standard Arabic (fusha) in another setting (e.g., a high school foreign language program or schooling in an Arab country), she/he may request a proficiency evaluation from the Program Director. If the student's Modern Standard Arabic is equivalent to, or beyond, the Intermediate level, the student may be exempted from the requirement to earn 3 credit hours in a 200-level Arabic language course; however, the student will still be required to take at least 9 credit hours of ARB courses and a total of 15 credit hours, as stipulated above, to complete the minor.

MINOR IN FRENCH

Code	Title	Credit Hours
Minor in French		
FRE 202	Intermediate French II (or above) ¹	3
FRE 301	Introduction to French and Francophone Studies	3
At least 3 credit hours at 300 and/or 400 level ²		3
Minimum of 6 graded credit hours from UM faculty		
Maximum of 3 transfer credit hours ³		
Study abroad participation in UParis recommended		
Total Credit Hours		12

- * Students must earn a grade of C- or higher in every course counting toward the minor, and maintain a minimum overall average of 2.5 in the minor.
- ¹ Students who begin their minor in FRE 202 will do 6 credits at the 200-level. Students who begin their minor in FRE 203 will do 3 credits at the 200-level.
- ² Students who begin their French minor in FRE 301 will do 12 credits towards their minor at the 300-level. Students may count FRE 310 toward the minor no more than 1 time (3 credits).
- ³ 3 credit hours may be transferred from another institution or from a study-abroad program not administered by UM.

MINOR IN GERMAN

Code	Title	Credit Hours
Minor in German		
GER 202	Intermediate German II (or above)	3
At least 9 credit hours at 300 and/or 400 level		9
Minimum of 6 graded credit hours from UM faculty		
Maximum of 3 transfer credit hours		
Total Credit Hours		12

- * Students must earn a grade of C- or higher in every course counting toward the minor, and maintain a minimum overall average of 2.5 in the minor.
- * 3 credit hours may be transferred from another institution or from a study-abroad program not administered by UM.

MINOR IN ITALIAN

Code	Title	Credit Hours
Minor in Italian		
ITA 202	Intermediate Italian II (or above)	3
At least 9 credit hours at 300 and/or 400 level		9
Minimum of 6 graded credit hours from UM faculty		
Maximum of 3 transfer credit hours		
Total Credit Hours		12

- * Students must earn a grade of C- or higher in every course counting toward the minor, and maintain a minimum overall average of 2.5 in the minor.
- * 3 credit hours may be transferred from another institution or from a study-abroad program not administered by UM.
- * Only one course in English with a topic in Italian may count towards the minor.

Minor in Modern Languages

Code	Title	Credit Hours
First Language Any Level		12
Additional Language		6
Additional Language 300-level or above		6
Total Credit Hours		24

- * For example, ARB 101, ARB 102, ARB 201 and ARB 202 along with SPA 202, SPA 203, SPA 301 and SPA 322 would constitute a Minor in Modern Languages; so would FRE 202, FRE 203, FRE 301 and FRE 330 along with JPN 101, JPN 102, JPN 201 and JPN 202. Many other combinations are possible.
- ** This minor must include 6 graded credit hours per language from the University of Miami.
- *** Students must earn a grade of C- or higher in every course counting toward the minor, and maintain a minimum overall average of 2.5 in the minor.
- **** All courses toward the minor in Modern Languages must be taught in the two target languages.

MINOR IN PORTUGUESE

Code	Title	Credit Hours
Minor in Portuguese		
POR 202	Intermediate Portuguese II (or above)	3
At least 9 credit hours at 300 and/or 400 level		9
Minimum of 6 graded credit hours from UM faculty		
Maximum of 3 transfer credit hours		
Total Credit Hours		12

- * Students must earn a grade of C- or higher in every course counting toward the minor, and maintain a minimum overall average of 2.5 in the minor.
- * All courses towards the minor in Portuguese must be taught in the target language.
- * 3 credit hours may be transferred from another institution or from a study-abroad program not administered by UM.

MINOR IN SPANISH

Code	Title	Credit Hours
SPA 203	Advanced Spanish (or above)	3
At least 9 credit hours of SPA at 300 and/or 400 level		9
Minimum of 6 graded credit hours from UM faculty		
Maximum of 3 transfer credit hours		
Total Credit Hours		12

- * Students must earn a grade of C- or higher in every course counting toward the minor, and maintain a minimum overall average of 2.5 in the minor.
- * All courses towards the minor in Spanish must be taught in the target language.
- * 3 credit hours may be transferred from another institution or from a study-abroad program not administered by UM.

Neuroscience

<https://www.as.miami.edu/neuroscience/>

Dept. Code (NEUR)

Introduction

Neuroscience is the study of the nervous system (i.e., the brain, spinal cord, and peripheral nerves), the mechanisms of behavior, and the nature of mind and consciousness. The Neuroscience Program is a rigorous, interdisciplinary program between the Department of Psychology (<http://www.psy.miami.edu>), the Department of Biology, and the Miller School of Medicine. The neuroscience major provides a broad-based liberal arts background that can be applied to a variety of career fields. It is also excellent preparation for medical school or graduate study in neuroscience, psychology, biology or behavioral medicine.

Educational Objectives

The neuroscience major seeks to provide students with exposure to and a fundamental understanding of the neural and bio behavioral sciences by delivering an integrative educational experience and promoting interactions among faculty, graduate students, and undergraduate students in basic scientific inquiry, advising, and mentoring.

Degree Programs

All neuroscience majors are required to pursue a Bachelor of Science (B.S.) degree.

Departmental Honors

Students can earn Departmental Honors in Neuroscience by demonstrating excellence in their coursework and completing a Senior Honors Thesis in Neuroscience.

1. **Excellence in Coursework** – A minimum 3.3 combined GPA and a minimum 3.5 neuroscience GPA is required.
2. **Senior Honors Thesis in Neuroscience** – This is an independent empirical research project that is completed across two semesters (i.e., NEU 580 and NEU 581) under the supervision of a faculty mentor in the Neuroscience Program. At least one year of prior research experience with the faculty mentor is highly recommended. Written approval from the faculty mentor and the Director of Undergraduate Academic Services in the Department of Psychology is also required.

Additional Information

The office of Undergraduate Academic Services for Psychology (UASP) provides comprehensive advising services to all students on a walk-in basis from 9:00 a.m. to 4:30 p.m., Monday through Friday, in Flipse 508. Appointments are only necessary during the official advising period for registration.

Freshmen and Transfer Students

All freshmen psychology majors in the College of Arts and Sciences are required to participate in the Department of Psychology's year-long orientation, advising, and mentoring program, FACT FORUM (Freshmen Advising Contact Term and Faculty Overview of Research and Undergraduate Mentoring).

These courses are one credit hour general electives designed to enable students to take ownership of their education by familiarizing them with the academic rules and regulations of the University of Miami, helping them think critically about their curriculum, providing them with in-depth exposure to research, and preparing them to enter the professional world.

New transfer students are highly encouraged to participate in a similar one semester program called TUMS (Transfer to the University of Miami). This course is specifically designed to ease the transition for new transfer students to the University of Miami.

Students who declare a psychology major after matriculation may be required to take part in an advising seminar prior to declaring the psychology major.

Prerequisites

Students must adhere to all prerequisites. They are also required to earn a minimum grade of C- in any PSY course that is to serve as a prerequisite for another course in the psychology major. Students who enroll in PSY courses without the specified prerequisites may be dropped.

Advanced Writing and Communication Requirement

To satisfy the College of Arts and Sciences Advanced Writing and Communication requirement, psychology majors must take 4 writing-designated courses, including 1 writing-designated course in the PSY area. Writing courses are already built into the required courses of the B.S. track of the psychology major; however, students who follow the B.A. track of the psychology major will need to plan accordingly to incorporate a writing-designated PSY course into their graduation plans.

Research Experience for Course Credit

Research experience is considered an integral part of the psychology major. Students may earn course credit (i.e., PSY 280, PSY 380, and/or PSY 480) by working in the laboratory of a Department of Psychology faculty mentor. Students can repeat PSY 280, PSY 380, and PSY 480 without penalty. A minimum 2.8 combined and psychology GPA is required to earn research credit. Written permission from a faculty mentor and UASP is also required.

Note: Students may volunteer in a research laboratory by completing the appropriate volunteer paperwork with UASP if they are unable to register for research credit.

Research Participation in PSY 110

As an introduction to behavioral science, all students enrolled in PSY 110 may be required to participate as subjects in research studies conducted by faculty and/or graduate students, or by reading selected research reports and writing article critiques. Refer to the course syllabus for more details.

Note: This introductory research participation requirement is not sufficient for students interested in attending graduate school in psychology.

Senior Assessment

As part of the Department of Psychology's accreditation plan, all senior psychology majors will be required to take part in a senior assessment that may last up to four hours. Assessment scores will not affect the students' graduation status; however, failure to complete the assessment may delay or prevent graduation.

Transfer Courses

Courses from other colleges or universities may be assigned PSY credit at UM with written approval by UASP.

Cognates

Neuroscience majors may not use a cognate with a Responsible Academic Unit (RAU) of Psychology to fulfill their People and Society (P & S) area of knowledge.

Major in Neuroscience

- B.S. in Neuroscience (p. 283)

B.S. in Neuroscience

<http://neuroscience.med.miami.edu/undergraduate-program>

Overview

- Students must earn a minimum grade of C- in any course that is to count toward the neuroscience major.
- Students may repeat no more than two courses for the neuroscience major in which they received a D or an F.
- New freshmen and current students must have a minimum 1360 SAT, 30 ACT, or 3.5 combined, UM, and neuroscience GPA after 24 completed credit hours at UM to declare the neuroscience major. Note: At least 7 of these 24 credit hours must be in the BIL, CHM, or MTH courses required of the major and/or the degree.
- New transfer students must have a minimum 3.8 combined GPA to declare the neuroscience major, and at least 7 completed credit hours in the required BIL or CHM courses.
- Students are strongly advised not to continue with the neuroscience major if they have less than a 2.8 neuroscience GPA after 15 completed credit hours in the neuroscience major.
- Students must earn a minimum 2.6 neuroscience GPA and a minimum of 130 credits to graduate with the neuroscience major.

Notes

- There are limited seats in the neuroscience major so students may be required to join a waitlist before they are able to declare.
- Neuroscience majors are required to complete 130 total credit hours to complete their B.S. degree.
- The neuroscience major can only be declared as a first major for students who are enrolled in the College of Arts and Sciences.
- AP Credit for Statistics (i.e., PSY 292) cannot count toward the neuroscience major.
- Students who declare the neuroscience major after they transfer credit for PSY 292 or complete PSY 292 at UM can use PSY 292 as a substitute for PSY 291.

Curriculum Requirements

Code	Title	Credit Hours
Core Courses		
BIL 150	General Biology	4
BIL 160	Evolution and Biodiversity	4
Select one of the following:		1
BIL 151	General Biology Laboratory	
BIL 152	HHMI General Biology Laboratory.	
Select one of the following:		1
BIL 161	Evolution and Biodiversity Laboratory	
BIL 162	HHMI Evolution and Biodiversity Laboratory.	
BIL 250	Genetics	3
BIL 255	Cellular and Molecular Biology	3
BIL 268	Neurobiology	3
NEU 342	Neural Mechanisms of Disease	3
NEU 403	Neuroscience laboratory	4
Select one of the following:		3
NEU 400	Neurogenetics	
NEU 440	Neural Mechanisms of Psychiatric Disorders	
NEU 465	Cellular and Molecular Neuroscience	
NEU 468	Developmental Neuroscience.	
PSY 110	Introduction to Psychology	3
PSY 290	Introduction to Research Methods	3
PSY 291	Introduction to Biobehavioral Statistics	3
PSY 390	Intermediate Research Methods and Biobehavioral Statistics	3
PSY 425	Psychobiology	3
Select one additional BIL elective of the following: ¹		3
BIL 330	Ecology	
BIL 360	Comparative Physiology	
BIL 365	Endocrinology	
BIL 441	Animal Behavior	
BIL 455	Developmental Biology	
BIL 511	Advanced Biostatistics	
BIL 520	Evolution	
BIL 568	Evolution and development of Nervous Systems	
BMB 401	Biochemistry for the Biomedical Sciences	
MIC 301	Introduction to Microbes and the Immune System	
or MIC 304	Introduction to Microbes and the Immune System (Lab)	
NEU 342	Neural Mechanisms of Disease	
NEU 400	Neurogenetics	
NEU 440	Neural Mechanisms of Psychiatric Disorders	
NEU 465	Cellular and Molecular Neuroscience	
NEU 468	Developmental Neuroscience.	
Select one additional BIL elective or PSY elective of the following: ¹		3

BIL 330	Ecology
BIL 360	Comparative Physiology
BIL 365	Endocrinology
BIL 441	Animal Behavior
BIL 455	Developmental Biology
BIL 511	Advanced Biostatistics
BIL 520	Evolution
BIL 568	Evolution and development of Nervous Systems
BMB 401	Biochemistry for the Biomedical Sciences
MIC 301	Introduction to Microbes and the Immune System
or MIC 304	Introduction to Microbes and the Immune System (Lab)
NEU 342	Neural Mechanisms of Disease
NEU 400	Neurogenetics
NEU 440	Neural Mechanisms of Psychiatric Disorders
NEU 465	Cellular and Molecular Neuroscience
NEU 468	Developmental Neuroscience.
PSY 240	Abnormal Psychology
PSY 320	Psychology of Drugs and Behavior
PSY 345	Abnormal Child Psychology
PSY 391	Tests and Measurements
PSY 426	Health Psychology
PSY 491	Advanced Biobehavioral Statistics
Auxiliary Courses	
Select one of the following CHM sequences:	16
Traditional Chemistry:	
CHM 111 & CHM 113	Principles of Chemistry I and Chemistry Laboratory I
CHM 112 & CHM 114	Principles of Chemistry II and Chemistry Laboratory II
CHM 201 & CHM 205	Organic Chemistry I (Lecture) and Organic Chemistry Laboratory I
CHM 202 & CHM 206	Organic Chemistry II (Lecture) and Organic Chemistry Laboratory II
Chemistry for the Biosciences:	
CHM 121 & CHM 113	Chemistry for the Biosciences I and Chemistry Laboratory I
CHM 221 & CHM 114	CHM211 Chemistry for the Biosciences II and Chemistry Laboratory II
CHM 222 & CHM 205	CHM212 Chemistry for the Biosciences III and Organic Chemistry Laboratory I
CHM 206	Organic Chemistry Laboratory II
Select one of the following PHY sequences:	10-11
College Physics:	
PHY 101 & PHY 106	College Physics I and College Physics Laboratory I
PHY 102 & PHY 108	College Physics II and College Physics Laboratory II
University Physics:	
PHY 205	University Physics I
PHY 206 & PHY 208	University Physics II and University Physics II Lab
PHY 207 & PHY 209	University Physics III and University Physics III Lab
PRISM Physics:	

PHY 201 & PHY 106	University Physics I for the Sciences and College Physics Laboratory I	
PHY 202 & PHY 108	University Physics II for the Sciences and College Physics Laboratory II	
ENG 105	English Composition I	3
ENG 106	English Composition II	3
Arts & Humanities Cognate		9
People & Society Cognate		9
Minor ²		15-18
Mathematics		3
Foreign Language in 200 level or above		3
Electives		6-9
Total Credit Hours		127-134

¹ Note: NEU courses cannot double count for a BIL elective and another required course within the neuroscience major.

² All neuroscience majors must complete a minor in Biochemistry, Chemistry, Computer Science, Engineering, Geological Sciences, Marine Science, Mathematics, Microbiology and Immunology, or Physics.

Neuroscience majors may not earn majors or minors in Biology or Psychology. Neuroscience majors will fulfill a Chemistry minor automatically if taken in residence.

Suggested Plan of Study

Course	Title	Credit Hours
First Year		
Fall		
PSY 106	Freshman Advising Contact Term (Fact)	1
ENG 105	English Composition I	3
MTH 161	Calculus I	4
BIL 150	General Biology	4
BIL 151 (Lab)		1
Foreign Language		3
	Credit Hours	16
Spring		
NEU 190	Faculty Overview of Research and Undergraduate Mentoring (FORUM)	1
ENG 106	English Composition II	3
MTH 162	Calculus II	4
BIL 160	Evolution and Biodiversity	4
BIL 161 (Lab)		1
Foreign Language		3
	Credit Hours	16
Second Year		
Fall		
CHM 121	Chemistry for the Biosciences I	4
CHM 113 (Lab)		1
PSY 110	Introduction to Psychology	3
Foreign Language		3
NEU 280	Introduction to Research Projects I	3
A&H Cognate		3
	Credit Hours	17
Spring		
CHM 221	CHM211 Chemistry for the Biosciences II	4
CHM 114 (Lab)		1
PSY 290	Introduction to Research Methods	3
PSY 291	Introduction to Biobehavioral Statistics	3

NEU 380	Introduction to Research Projects II	3
A&H Cognate		3
	Credit Hours	17
Third Year		
Fall		
CHM 222	CHM212 Chemistry for the Biosciences III	4
CHM 205 (Lab)		1
PHY 101	College Physics I	4
PHY 106 (Lab)		1
PSY 390 (W)		3
A&H Cognate		3
	Credit Hours	16
Spring		
CHM 206 (Lab)		1
BIL Elective		3
PHY 102	College Physics II	4
PHY 108 (Lab)		1
BIL 268	Neurobiology	3
P&S Cognate		3
	Credit Hours	15
Fourth Year		
Fall		
BIL 255	Cellular and Molecular Biology	3
NEU 342	Neural Mechanisms of Disease	3
NEU 580	Senior Honors in Neuroscience I	3
PSY 425	Psychobiology	3
PSY Elective		3
P&S Cognate		3
	Credit Hours	18
Spring		
NEU Elective		3
NEU 403 (W)		3
BIL 250	Genetics	3
NEU 581	Senior Honors in Neuroscience II	3
P&S Cognate		3
	Credit Hours	15
	Total Credit Hours	130

Philosophy

<http://www.as.miami.edu/phi>

Dept. Code: PHI

Introduction

The Philosophy Department offers a wide range of courses at the undergraduate level which cover every major area of philosophy as well as its history. Students can major or minor in the subject. In addition, the department sponsors two undergraduate philosophy organizations:

- the Philosophy Club, which is open to all UM undergraduates, and
- Phi Sigma Tau, a chapter of the National Honor Society in Philosophy.

Both groups afford students regular opportunities to meet, eat, and talk philosophy with each other and with graduate students and faculty in the department. All undergraduates who are interested in philosophy are welcome to participate in these philosophical events.

Educational Objectives

Philosophy is the study of the most basic moral, scientific, legal, aesthetic, religious, and metaphysical concepts and theories by which we understand ourselves and our universe. It is a reasoned pursuit of fundamental truths, a quest for understanding, a study of principles of conduct. It analyzes the basic assumptions and concepts of other disciplines and the norms that govern interpersonal relations and the acquisition of knowledge. It seeks to establish standards of evidence, to provide rational methods of resolving conflicts, and to create techniques for evaluating ideas and arguments. Philosophers are dedicated to developing the following abilities: reasoning clearly, distinguishing between good and bad arguments, thinking through complicated questions, and using reason in situations that are often governed by emotions. Studies have shown that philosophy majors do extremely well on standardized tests, and in careers that require analytical abilities such as the practice of law and software development. But irrespective of career choice, philosophy deepens one's sense of the meaning and varieties of human experience, and enhances self-knowledge, foresight, and sense of direction in life.

Degree Programs

The major in Philosophy leads to the degree of Bachelor of Arts. To satisfy the College of Arts and Sciences writing requirement in the discipline, students majoring in philosophy should take at least two (2) (properly approved writing and communication) philosophy courses.

Pre-Law Major and Minor Tracks

The Department offers major and minor tracks for students wishing to enhance their Pre-Law studies with relevant Philosophy coursework.

Pre-Med Major and Minor Tracks

The Department also offers major and minor tracks for students wishing to supplement their Pre-Med work with relevant Philosophy coursework.

Departmental Honors

A program of work toward graduation with Honors in Philosophy is available for qualified students. Interested students should consult the Departmental Director of Undergraduate Studies during their sophomore or junior years. Further information may be found under the section entitled HONORS PROGRAM.

Advance Writing and Communication Requirement

Philosophy degree candidates in the College of Arts and Sciences who matriculate under Bulletin 2015/2016 and forward must complete at least four writing courses, and at least one such course must have a course code starting with PHI.

Transfer students may use a maximum of two transfer courses towards the requirement. The following links to a table listing the courses that have approval as writing courses:

<http://www.as.miami.edu/academics/undergraduate-studies/writing-courses/>

These courses, and only these courses, can be used to fulfill the Writing & Communication proficiency requirement. This table will be updated regularly with further courses, as they are approved.

For requirements leading to the Master of Arts and Ph.D. degree (p. 976), see the Bulletin of the Graduate School.

Major in Philosophy

- B.A. in Philosophy (p. 288)
- Philosophy Major- Pre-Law Track (p. 290)
- Philosophy Major - Pre-Med Track (p. 292)

Minor in Philosophy

- Minor in (p. 294)Philosophy (p. 294)
- Philosophy Minor - Pre-Law Track (p. 294)
- Philosophy Minor - Pre-Med Track (p. 295)

B.A. in Philosophy

Curriculum Requirements

Code	Title	Credit Hours
Required Courses		
PHI 210 or PHI 215	Symbolic Logic Logic and Law	3

PHI 271	Ancient Philosophy	3
or PHI 272	Modern Philosophy	
Select one course at the 300 level		3
Select one of the following 300 level courses:		3
PHI 330	Ethics	
PHI 331	Social and Political Philosophy	
PHI 332	Philosophy of Law	
Select two of the following:		6
PHI 340	Theory of Knowledge	
PHI 341	Philosophy of Language	
PHI 343	Philosophy of Science	
PHI 344	Philosophy of Mind	
PHI 345	Metaphysics	
Select six credit hours at the 500 level		6
Select two additional philosophy courses		6
Additional Requirements		
ENG 105	English Composition I	3
ENG 106	English Composition II	3
MTH 113	Finite Mathematics	3
Language Requirement		3-9
People and Society Cognate		9
STEM Cognate		9
Minor		15
Electives		39
Total Credit Hours		120

* A grade of C- or higher and an overall GPA of 2.0 are required.

** Elective courses may be chosen to fit individual needs.

Suggested Plan of Study

Course	Title	Credit Hours
Year One		
Fall		
ENG 105	English Composition I	3
PHI 100 Level Course or PHI 210		3
MTH 113	Finite Mathematics	3
UMX 100	The University of Miami Experience	0
Language Course		3
Natural Science Course		3
		Credit Hours
		15
Spring		
ENG 106	English Composition II	3
PHI 100 Level Course or PHI 210		3
Language Course		3
Elective		3
Elective		3
		Credit Hours
		15
Year Two		
Fall		
PHI 200 Level Course (History of Philosophy)		3
PHI 300 Level Course (Ethics)		3
Language Course		3

People and Society Cognate Course	3
Elective	3
Credit Hours	15
Spring	
PHI 300 Level Course	3
PHI 300 Level Course	3
People and Society Cognate Course	3
STEM Cognate Course	3
Elective	3
Credit Hours	15
Year Three	
Fall	
PHI 300 Level Course	3
Minor Course (Non-Philosophy)	3
People and Society Cognate Course	3
STEM Cognate Course	3
Elective	3
Credit Hours	15
Spring	
PHI 300 Level Course	3
Minor Course (Non-Philosophy)	3
People and Society Cognate Course	3
STEM Cognate Course	3
Elective	3
Credit Hours	15
Year Four	
Fall	
PHI 500 Level Course	3
Minor Course (Non-Philosophy)	3
Elective	3
Elective	3
Elective	3
Credit Hours	15
Spring	
PHI 500 Level Course	3
Minor Course (Non-Philosophy)	3
Minor Course (Non-Philosophy)	3
Elective	3
Elective	3
Credit Hours	15
Total Credit Hours	120

Philosophy Major - Pre-Law Track

Curriculum Requirements

Code	Title	Credit Hours
Required Courses		
PHI 210 or PHI 215	Symbolic Logic Logic and Law	3
PHI 271 or PHI 272	Ancient Philosophy Modern Philosophy	3
PHI 330	Ethics	3

or PHI 331	Social and Political Philosophy	
PHI 332	Philosophy of Law	3
or PHI 333	Philosophical foundations of criminal law	
Select two of the following:		6
PHI 340	Theory of Knowledge	
PHI 341	Philosophy of Language	
PHI 343	Philosophy of Science	
Select two 500-level courses		6
Select two additional PHI courses		6
Additional Requirements		
ENG 105	English Composition I	3
ENG 106	English Composition II	3
MTH 113	Finite Mathematics	3
Language Requirement		3-9
People and Society Cognate		9
STEM Cognate		9
Minor		15
Electives		39
Total Credit Hours		120

* A grade of C- or higher and an overall GPA of 2.0 are required.

Suggested Plan of Study

Course	Title	Credit Hours
Year One		
Fall		
ENG 105	English Composition I	3
Natural Science Course		3
PHI 100 Level Course or PHI 215 or 210		3
MTH 113	Finite Mathematics	3
UMX 100	The University of Miami Experience	0
Language Course		3
	Credit Hours	15
Spring		
ENG 106	English Composition II	3
PHI 100 Level Course or PHI 215 or 210		3
Language Course		3
Elective		3
Elective		3
	Credit Hours	15
Year Two		
Fall		
PHI 200 Level Course (History of Philosophy)		3
PHI 300 Level Course (Ethics or Social/Political)		3
Language Course		3
People and Society Cognate Course		3
Elective		3
	Credit Hours	15
Spring		
PHI 332 or PHI 333		3
PHI 300 Level Course		3
People and Society Cognate Course		3

STEM Cognate Course	3
Elective	3
Credit Hours	15
Year Three	
Fall	
PHI 300 Level Course	3
Minor Course (Non-Philosophy)	3
People and Society Cognate Course	3
STEM Cognate Course	3
Elective	3
Credit Hours	15
Spring	
PHI 300 Level Course	3
Minor Course (Non-Philosophy)	3
People and Society Cognate Course	3
STEM Cognate Course	3
Elective	3
Credit Hours	15
Year Four	
Fall	
PHI 500 Level Course	3
Minor Course (Non-Philosophy)	3
Elective	3
Elective	3
Credit Hours	12
Spring	
PHI 500 Level Course	3
Minor Course (Non-Philosophy)	3
Minor Course (Non-Philosophy)	3
Elective	3
Elective	3
Elective	3
Credit Hours	18
Total Credit Hours	120

Philosophy Major - Pre-Med Track

Curriculum Requirements

Code	Title	Credit Hours
Required Courses		
PHI 210	Symbolic Logic	3
PHI 271 or PHI 272	Ancient Philosophy Modern Philosophy	3
PHI 330	Ethics	3
PHI 334	Biomedical Ethics	3
PHI 343	Philosophy of Science	3
PHI 340 or PHI 344	Theory of Knowledge Philosophy of Mind	3
PHI 546	Evidence and Knowledge in Medicine	3
Select one 500-level courses		3
Select two additional PHI courses		6
Additional Requirements		

ENG 105	English Composition I	3
ENG 106	English Composition II	3
MTH 113	Finite Mathematics	3
Language Requirement		3-9
People and Society Cognate		9
STEM Cognate		9
Minor		15
Electives		39
Total Credit Hours		120

* A grade of C- or higher and an overall GPA of 2.0 are required.

Suggested Plan of Study

Course	Title	Credit Hours
Year One		
Fall		
ENG 105	English Composition I	3
PHI 100 Level or PHI 210		3
MTH 113	Finite Mathematics	3
UMX 100	The University of Miami Experience	0
Language Course		3
Natural Science		3
	Credit Hours	15
Spring		
ENG 106	English Composition II	3
PHI 100 Level Course or PHI 210		3
Language Course		3
Elective		3
Elective		3
	Credit Hours	15
Year Two		
Fall		
PHI 200 Level Course (History of Philosophy)		3
PHI 300 Level Course (Ethics)		3
Language Course		3
People and Society Cognate Course		3
Elective		3
	Credit Hours	15
Spring		
PHI 334	Biomedical Ethics	3
PHI 343	Philosophy of Science	3
People and Society Cognate Course		3
STEM Cognate Course		3
Elective		3
	Credit Hours	15
Year Three		
Fall		
PHI 300 Level Course		3
Minor Course (Non-Philosophy)		3
People and Society Cognate Course		3
STEM Cognate Course		3

Elective		3
	Credit Hours	15
Spring		
PHI 300 Level Course		3
Minor Course (Non Philosophy)		3
People and Society Cognate Course		3
STEM Cognate Course		3
Elective		3
	Credit Hours	15
Year Four		
Fall		
PHI 546	Evidence and Knowledge in Medicine	3
Minor Course (Non-Philosophy)		
Elective		3
Elective		3
Elective		3
	Credit Hours	12
Spring		
PHI 500 Level Course		3
Minor Course (Non-Philosophy)		3
Minor Course (Non-Philosophy)		3
Elective		3
Elective		3
Elective		3
	Credit Hours	18
	Total Credit Hours	120

Minor in Philosophy

Code	Title	Credit Hours
PHI 100 level or higher courses		3
PHI 200 level or higher courses		9
PHI 300 level or higher course		3
Total Credit Hours		15

* A grade of C- or higher and an overall GPA of 2.0.

** At least three of the courses must be at the 200 level or above, and at least one of these three courses must be at the 300 level or above.

*** The major and the minor should be planned with the advice of the department.

Philosophy Minor - Pre-Law Track

Code	Title	Credit Hours
Required Courses		
PHI 210 or PHI 215	Symbolic Logic Logic and Law	3
PHI 330 or PHI 331	Ethics Social and Political Philosophy	3
PHI 332 or PHI 333	Philosophy of Law Philosophical foundations of criminal law	3
Select one of the following:		3
PHI 340	Theory of Knowledge	
PHI 341	Philosophy of Language	
PHI 343	Philosophy of Science	

Select one other PHI course	3
Total Credit Hours	15

* A minimum grade of C- or higher and an overall GPA of 2.0 are required.

Philosophy Minor - Pre-Med Track

Code	Title	Credit Hours
Required Courses		
PHI 210	Symbolic Logic	3
PHI 334	Biomedical Ethics	3
PHI 343	Philosophy of Science	3
PHI 340 or PHI 344	Theory of Knowledge Philosophy of Mind	3
PHI 546	Evidence and Knowledge in Medicine	3
Total Credit Hours		15

* A minimum grade of C- or higher and an overall GPA of 2.0 are required.

Physical Sciences

Dept. Code: PSC

Introduction

PSC 101 is an interdisciplinary physical science course designed primarily for the non-science major. It may be used to satisfy a physical science requirement in some degree programs. Students should consult the degree requirements listed elsewhere in the Bulletin as well as their advisors for the appropriateness of this course for their programs. See also under PHY 110.

Physics

<http://www.physics.miami.edu>

Dept. Code: PHY

Introduction

The requirements for a major or minor in the Department of Physics are flexible and may be adapted to the needs of the individual student.

A grade of C- or better is required in all courses counted toward the major or minor with an overall GPA of 2.0. Any lecture course in the Physics department may be passed by means of a proficiency examination.

Note that more mathematics beyond two semesters of calculus is typically required for most of the physics courses at the 300 level or higher. In order to complete any Physics major sequence in four years, the student should begin elementary calculus as soon as possible. Students are encouraged to discuss an appropriate math sequence with the physics advisor. The minimum math requirement for physics major typically is as follow:

Code	Title	Credit Hours
MTH 151 or MTH 161 or MTH 171	Calculus I for Engineers Calculus I Calculus I	4-5
MTH 162 or MTH 172	Calculus II Calculus II	4
MTH 210 or PHY 315	Introduction to Linear Algebra Mathematical Tools for Physics	3
MTH 211 or MTH 310 or PHY 315	Calculus III Multivariable Calculus Mathematical Tools for Physics	3
MTH 311	Introduction to Ordinary Differential Equations	3

or PHY 315	Mathematical Tools for Physics	
Total Credit Hours		17-18

Requirements for the Master of Science and Doctor of Philosophy (p. 978) degrees will be found in the Bulletin of the Graduate School.

Majors in Physics

- B.S. in Pure Physics (p. 311)
- B.S. in Applied Physics (p. 296)
- B.S. Dual Major in Chemistry and Physics (p. 304)
- B.S. Dual Major in Engineering and Physics (p. 307)
- B.S. Dual Major in Marine Science and Physics (p. 308)

Minor in Physics

- Physics (p. 313)

B.S. in Applied Physics

<http://www.physics.miami.edu>

This sequence is available for those intending careers in applied physics. The major is divided into tracks, depending on the student's field of interest. The Physics for the Life Sciences track is designed for premedical students.

Students must complete the core set of courses AND one track in their field of interest. Multiple tracks are allowed with prior authorization from the Department of Physics.

To satisfy the College of Arts and Sciences writing requirement in the discipline, students majoring in Applied Physics should pass at least one writing intensive course within the Physics Department. These are PHY 306, PHY 362, and PHY 506. The requirement can also be fulfilled by passing ENG 233 with a grade of C- or higher.

Core Courses

The core set of courses is required for all tracks and it includes one of the University Physics sequences with two labs (see table below), plus PHY 350, and PHY 360.

Engineering Physics Track

Additional 5 credits in physics at the 300 level or higher, including PHY 340 and one lab, plus 9 credits in Engineering with prior authorization from the Department of Physics.

Computational Physics Track

Additional 5 credits in physics at the 300 level or higher, including PHY 340 and one lab, plus 2 courses from the Computer Science BS core (p. 178) and a third course in Computer Science with prior authorization from the Department of Physics.

Medical Physics Track

Additional 5 credits in physics at the 300 level or higher, including PHY 351 and one lab, plus BME 265, BME 310, and BME 330 (Note: BIL 150, BIL 151, CHM 111, and CHM 112 are prerequisites for the BME courses).

Physics for the Life Sciences Track

Additional 6 credits in physics at the 300 level or higher, including PHY 321, plus required biology and chemistry courses. In biology, the required courses are BIL 150, BIL 151, BIL 160, BIL 161, BIL 255, and either BIL 360 or BME 265. In chemistry, the students are required to take one year of inorganic chemistry (CHM 111-CHM 112) with laboratory (CHM 113-CHM 114) and one semester of organic chemistry with laboratory (CHM 201/CHM 205) OR the three-semester sequence of Chemistry for the Life Sciences (CHM 121, CHM 221, CHM 222) with laboratory (CHM 113, CHM 114, CHM 205).

Chemical Physics Track

Additional 6 credits in physics at the 300 level or higher, including PHY 321, plus CHM 360, CHM 364, CHM 365, CHM 464, and one among CHM 530, CHM 553, or CHM 575.

Curriculum Requirements

Code	Title	Credit Hours
University Physics Sequence		
Choose one of the following options:		10-11
Option 1		
PHY 205	University Physics I	
PHY 206	University Physics II	
PHY 207	University Physics III	
PHY 208	University Physics II Lab	
PHY 209	University Physics III Lab	
Option 2		
PHY 205	University Physics I	
PHY 210	Honors University Physics II-III	
PHY 208	University Physics II Lab	
PHY 209	University Physics III Lab	
Option 3		
PHY 201	University Physics I for the Sciences	
PHY 202	University Physics II for the Sciences	
PHY 106 or PHY 208	College Physics Laboratory I University Physics II Lab	
PHY 108 or PHY 209	College Physics Laboratory II University Physics III Lab	
Core Courses		
PHY 350	Intermediate Electricity and Magnetism	3
PHY 360	Introduction to Modern Physics	3
Track Options		
Choose one of the following tracks:		14-34
Engineering Physics Track		
PHY 340	Classical Mechanics I	
PHY 306 or PHY 506	Intermediate Laboratory Advanced Laboratory	
PHY elective		
9 credits in Engineering		
Computational Physics Track		
PHY 340	Classical Mechanics I	
PHY 306 or PHY 506	Intermediate Laboratory Advanced Laboratory	
PHY elective		
2 course from the Computer Science BS core		
1 additional Computer Science Course		
Medical Physics Track		
PHY 351	Intermediate Electricity and Magnetism II	
PHY 306 or PHY 506	Intermediate Laboratory Advanced Laboratory	
PHY elective		
BME 265	Medical Systems Physiology	
BME 310	Mathematical Analysis in Biomedical Engineering	
BME 330	Foundations of Medical Imaging	
BIL 150	General Biology	
BIL 151	General Biology Laboratory	
CHM 111	Principles of Chemistry I	
CHM 112	Principles of Chemistry II	

Physics for the Life Sciences Track		
PHY 321	Thermodynamics and Kinetic Theory	
3 PHY credits at the 300 level or higher		
BIL 150	General Biology	
BIL 151	General Biology Laboratory	
BIL 160	Evolution and Biodiversity	
BIL 161	Evolution and Biodiversity Laboratory	
BIL 255	Cellular and Molecular Biology	
BIL 360 or BME 265	Comparative Physiology Medical Systems Physiology	
CHM 111 or CHM 121	Principles of Chemistry I Chemistry for the Biosciences I	
CHM 112 or CHM 221	Principles of Chemistry II CHM211 Chemistry for the Biosciences II	
CHM 201 or CHM 222	Organic Chemistry I (Lecture) CHM212 Chemistry for the Biosciences III	
CHM 113	Chemistry Laboratory I	
CHM 114	Chemistry Laboratory II	
CHM 205	Organic Chemistry Laboratory I	
Chemical Physics Track		
PHY 321	Thermodynamics and Kinetic Theory	
3 more credits in Physics at the 300 level or higher		
CHM 360	Physical Chemistry I (Lecture)	
CHM 364	Physical Chemistry (Laboratory I)	
CHM 365	Physical Chemistry II (Lecture)	
CHM 464	Physical Chemistry (Laboratory II)	
CHM 530 or CHM 553 or CHM 575	Fluorescence Spectroscopy and Microscopy Modern Quantum Chemistry Principles of Nuclear Magnetic Resonance and Multidimensional Spectroscopy	
Math Requirement		
MTH 151 or MTH 161 or MTH 171	Calculus I for Engineers Calculus I Calculus I	5
MTH 162 or MTH 172	Calculus II Calculus II	4
MTH 210	Introduction to Linear Algebra	3
MTH 211 or MTH 310	Calculus III Multivariable Calculus	3
MTH 311	Introduction to Ordinary Differential Equations	3
General Education		
ENG 105	English Composition I	3
ENG 106	English Composition II	3
CSC 120	Computer Programming I	4
UMX 100	The University of Miami Experience	0
Second Language Proficiency		3-9
Arts and Humanities Cognate		9
People and Society Cognate		9
Electives		41
Total Credit Hours		120-147

Sample Plan of Study

Engineering Physics Major

Code	Title	Credit Hours
Year 1		
Fall		
PHY 205	University Physics I	3
MTH 151	Calculus I for Engineers	5
ENG 105	English Composition I	3
CSC 120	Computer Programming I	4
Spring		
PHY 206	University Physics II	3
PHY 208	University Physics II Lab	1
PHY 315	Mathematical Tools for Physics	3
MTH 162	Calculus II	4
ENG 106	English Composition II	3
Year 2		
Fall		
PHY 207	University Physics III	3
PHY 209	University Physics III Lab	1
MTH 210	Introduction to Linear Algebra	3
Engineering course		3
Language 101		3
Cognate		3
Spring		
PHY 340	Classical Mechanics I	3
MTH 211	Calculus III	3
Engineering Course		3
Language 102		3
Cognate		3
Year 3		
Fall		
PHY 360	Introduction to Modern Physics	3
MTH 311	Introduction to Ordinary Differential Equations	3
Engineering Course		3
Language 201		3
Cognate		3
Spring		
PHY 306	Intermediate Laboratory	1
PHY elective		2-3
Cognate		3
Electives		9
Year 4		
Fall		
PHY 350	Intermediate Electricity and Magnetism	3
Cognate		3
Electives		9
Spring		
Cognate		3
Electives		12
Total Credit Hours		120-121

Sample Plan of Study

Computational Physics Track

Code	Title	Credit Hours
Year 1		
Fall		
PHY 205	University Physics I	3
MTH 151	Calculus I for Engineers	5
ENG 105	English Composition I	3
CSC 120	Computer Programming I	4
Spring		
PHY 206	University Physics II	3
PHY 208	University Physics II Lab	1
PHY 315	Mathematical Tools for Physics	3
MTH 162	Calculus II	4
ENG 106	English Composition II	3
Year 2		
Fall		
PHY 207	University Physics III	3
PHY 209	University Physics III Lab	1
MTH 210	Introduction to Linear Algebra	3
CSC 220	Computer Programming II	4
Language 101		3
Cognate		3
Spring		
PHY 340	Classical Mechanics I	3
MTH 211	Calculus III	3
CSC Course		3
Language 102		3
Cognate		3
Year 3		
Fall		
PHY 360	Introduction to Modern Physics	3
MTH 311	Introduction to Ordinary Differential Equations	3
Language 201		3
Cognate		3
Electives		3
Spring		
PHY 306	Intermediate Laboratory	1
PHY elective		1-3
Cognate		3
Electives		9
Year 4		
Fall		
PHY 350	Intermediate Electricity and Magnetism	3
Cognate		3
Electives		9
Spring		
Cognate		3
Electives		12
Total Credit Hours		120-122

Sample Plan of Study

Medical Physics Track

Code	Title	Credit Hours
Year 1		
Fall		
PHY 205	University Physics I	3
MTH 151	Calculus I for Engineers	5
ENG 105	English Composition I	3
BIL 150	General Biology	4
BIL 151	General Biology Laboratory	1
Spring		
PHY 206	University Physics II	3
PHY 208	University Physics II Lab	1
MTH 162	Calculus II	4
ENG 106	English Composition II	3
CSC 120	Computer Programming I	4
Year 2		
Fall		
PHY 207	University Physics III	3
PHY 209	University Physics III Lab	1
MTH 210	Introduction to Linear Algebra	3
CHM 111	Principles of Chemistry I	3
Language 101		3
Cognate		3
Spring		
MTH 211	Calculus III	3
CHM 112	Principles of Chemistry II	3
Language 102		3
Cognate		3
Elective		3
Year 3		
Fall		
PHY 360	Introduction to Modern Physics	3
MTH 311	Introduction to Ordinary Differential Equations	3
BME 265	Medical Systems Physiology	3
Language 201		3
Cognate		3
Spring		
PHY 306	Intermediate Laboratory	1
BME 310	Mathematical Analysis in Biomedical Engineering	3
PHY elective		2-3
Cognate		3
Elective		3
Year 4		
Fall		
PHY 350	Intermediate Electricity and Magnetism	3
BME 330	Foundations of Medical Imaging	3
Cognate		3
Electives		6
Spring		
PHY 351	Intermediate Electricity and Magnetism II	3

Cognate	3
Electives	10
Total Credit Hours	120-121

Sample Plan of Study

Physics for the Life Sciences Track

Code	Title	Credit Hours
Year 1		
Fall		
ENG 105	English Composition I	3
MTH 161	Calculus I	4
CHM 111 or CHM 121	Principles of Chemistry I Chemistry for the Biosciences I	3-4
CHM 113	Chemistry Laboratory I	1
BIL 150	General Biology	4
BIL 151	General Biology Laboratory	1
Spring		
ENG 106	English Composition II	3
MTH 162	Calculus II	4
CHM 112	Principles of Chemistry II	3
CHM 114	Chemistry Laboratory II	1
BIL 160	Evolution and Biodiversity	4
BIL 161	Evolution and Biodiversity Laboratory	1
Year 2		
Fall		
PHY 201	University Physics I for the Sciences	4
PHY 106	College Physics Laboratory I	1
MTH 210	Introduction to Linear Algebra	3
CHM 201 or CHM 222	Organic Chemistry I (Lecture) CHM212 Chemistry for the Biosciences III	3
CHM 205	Organic Chemistry Laboratory I	1
Cognate		3
Spring		
PHY 202	University Physics II for the Sciences	4
PHY 106	College Physics Laboratory I	1
MTH 211	Calculus III	3
BIL 255	Cellular and Molecular Biology	3
CSC 120	Computer Programming I	4
Year 3		
Fall		
PHY 360	Introduction to Modern Physics	3
MTH 311	Introduction to Ordinary Differential Equations	3
BIL 360 or BME 265	Comparative Physiology Medical Systems Physiology	3
Language 101		3
Cognate		3
Spring		
PHY 321	Thermodynamics and Kinetic Theory	3
Language 102		3
Cognate x2		6
Electives		3
Year 4		

Fall		
PHY 350	Intermediate Electricity and Magnetism	3
BME 330	Foundations of Medical Imaging	3
Language 201		3
Cognate		3
Electives		3
Spring		
PHY elective		3
Cognate		3
Electives		7
Total Credit Hours		120-121

Sample Plan of Study

Chemical Physics

Code	Title	Credit Hours
Year 1		
Fall		
ENG 105	English Composition I	3
MTH 161	Calculus I	4
CHM 111	Principles of Chemistry I	3-4
or CHM 121	Chemistry for the Biosciences I	
CHM 113	Chemistry Laboratory I	1
Cognate		3
Spring		
ENG 106	English Composition II	3
MTH 162	Calculus II	4
CHM 112	Principles of Chemistry II	3
CHM 114	Chemistry Laboratory II	1
Cognate		3
Year 2		
Fall		
PHY 201	University Physics I for the Sciences	4
PHY 106	College Physics Laboratory I	1
MTH 210	Introduction to Linear Algebra	3
CHM 360	Physical Chemistry I (Lecture)	3
CHM 364	Physical Chemistry (Laboratory I)	1
Cognate		3
Spring		
PHY 202	University Physics II for the Sciences	4
PHY 106	College Physics Laboratory I	1
MTH 211	Calculus III	3
CHM 365	Physical Chemistry II (Lecture)	3
CHM 464	Physical Chemistry (Laboratory II)	1
Language 101		3
Year 3		
Fall		
PHY 360	Introduction to Modern Physics	3
MTH 311	Introduction to Ordinary Differential Equations	3
CHM 553	Modern Quantum Chemistry	3
or CHM 530	Fluorescence Spectroscopy and Microscopy	
or CHM 575	Principles of Nuclear Magnetic Resonance and Multidimensional Spectroscopy	
Language 102		3

Cognate		3
Spring		
PHY 321	Thermodynamics and Kinetic Theory	3
Language 201		3
Cognate		3
Electives		6
Year 4		
Fall		
PHY 350	Intermediate Electricity and Magnetism	3
Cognate		3
Electives		10
Spring		
PHY elective		3
Electives		13
Total Credit Hours		120-121

B.S. Dual Major in Chemistry and Physics

The dual major in Chemistry and Physics is designed for students who are pursuing a regular B.S. degree in Chemistry (p.) and want to pursue a second major in Physics.

In addition to the major in Chemistry (p. 158), the dual major requires 22 credit hours in physics and specific courses in Chemistry. The physics courses must include one of the University Physics sequences with two labs, plus PHY 350 and PHY 360. The remaining courses must receive advanced permission from the physics advisor. The specific Chemistry courses include CHM 360, CHM 364, CHM 365, CHM 464, and one among CHM 530, CHM 553, or CHM 575.

Students pursuing this dual major will have to satisfy the College of Arts and Sciences writing requirement for the Chemistry major.

Curriculum Requirements

Code	Title	Credit Hours
Physics Requirements		
University Physics Sequence		10-11
Option 1:		
PHY 205	University Physics I	
PHY 206	University Physics II	
PHY 207	University Physics III	
PHY 208	University Physics II Lab	
PHY 209	University Physics III Lab	
Option 2:		
PHY 205	University Physics I	
PHY 210	Honors University Physics II-III	
PHY 208	University Physics II Lab	
PHY 209	University Physics III Lab	
Option 3:		
PHY 201	University Physics I for the Sciences	
PHY 202	University Physics II for the Sciences	
PHY 106 or PHY 208	College Physics Laboratory I University Physics II Lab	
PHY 108 or PHY 209	College Physics Laboratory II University Physics III Lab	
PHY 350	Intermediate Electricity and Magnetism	3
PHY 360	Introduction to Modern Physics	3
PHY 321 or PHY 340	Thermodynamics and Kinetic Theory Classical Mechanics I	3

or PHY 560	Quantum Mechanics and Modern Physics I	
One 300 level (or higher) physics courses, excluding PHY 315		2-3
Chemistry Requirements		
CHM 111	Principles of Chemistry I	3
CHM 112	Principles of Chemistry II	3
CHM 113	Chemistry Laboratory I	1
CHM 114	Chemistry Laboratory II	1
CHM 201	Organic Chemistry I (Lecture)	3
CHM 202	Organic Chemistry II (Lecture)	3
CHM 205	Organic Chemistry Laboratory I	1
CHM 206	Organic Chemistry Laboratory II	1
CHM 214	Quantitative Analytical Chemistry	3
CHM 316	Instrumental Analytical Chemistry	3
CHM 320	Instrumental Methods in Chemistry and Biochemistry	2
CHM 360	Physical Chemistry I (Lecture)	3
CHM 364	Physical Chemistry (Laboratory I)	1
CHM 365	Physical Chemistry II (Lecture)	3
CHM 441	Inorganic Chemistry (Lecture)	3
CHM 464	Physical Chemistry (Laboratory II)	1
CHM 530	Fluorescence Spectroscopy and Microscopy	3
or CHM 553	Modern Quantum Chemistry	
or CHM 575	Principles of Nuclear Magnetic Resonance and Multidimensional Spectroscopy	
BMB 401	Biochemistry for the Biomedical Sciences	4
Math Requirements		
MTH 161	Calculus I	4
or MTH 151	Calculus I for Engineers	
or MTH 171	Calculus I	
MTH 162	Calculus II	4
or MTH 172	Calculus II	
MTH 210	Introduction to Linear Algebra	3
or PHY 315	Mathematical Tools for Physics	
MTH 211	Calculus III	3
or MTH 310	Multivariable Calculus	
or PHY 315	Mathematical Tools for Physics	
MTH 311	Introduction to Ordinary Differential Equations	3
or PHY 315	Mathematical Tools for Physics	
General Education Requirements		
CSC 120	Computer Programming I	4
ENG 105	English Composition I	3
ENG 106	English Composition II	3
Second Language Proficiency		3-9
Arts and Humanities Cognate		9
People and Society Cognate		9
Electives		10
Total Credit Hours		121-129

* Other courses may be approved after consultation with a Physics/Chemistry faculty advisor.

Suggested Plan of Study

Code	Title	Credit Hours
Year 1		
Fall		

CHM 111	Principles of Chemistry I	3
CHM 113	Chemistry Laboratory I	1
MTH 161 or MTH 171	Calculus I Calculus I	4
ENG 105	English Composition I	3
CSC 120	Computer Programming I	4
Spring		
CHM 112	Principles of Chemistry II	3
CHM 114	Chemistry Laboratory II	1
MTH 162 or MTH 172	Calculus II Calculus II	4
ENG 106	English Composition II	3
Cognate		3
Year 2		
Fall		
CHM 201	Organic Chemistry I (Lecture)	3
CHM 205	Organic Chemistry Laboratory I	1
PHY 201	University Physics I for the Sciences	4
PHY 106	College Physics Laboratory I	1
MTH 210	Introduction to Linear Algebra	3
Language 101		3
Spring		
CHM 202	Organic Chemistry II (Lecture)	3
CHM 205	Organic Chemistry Laboratory I	1
PHY 201	University Physics I for the Sciences	4
PHY 108	College Physics Laboratory II	1
MTH 211 or MTH 310	Calculus III Multivariable Calculus	3
Language 102		3
Year 3		
Fall		
CHM 214	Quantitative Analytical Chemistry	3
CHM 360	Physical Chemistry I (Lecture)	3
CHM 364	Physical Chemistry (Laboratory I)	1
PHY 360	Introduction to Modern Physics	3
MTH 311	Introduction to Ordinary Differential Equations	3
Language 201		3
Spring		
CHM 316	Instrumental Analytical Chemistry	3
CHM 320	Instrumental Methods in Chemistry and Biochemistry	2
CHM 365	Physical Chemistry II (Lecture)	3
CHM 464	Physical Chemistry (Laboratory II)	1
PHY 321	Thermodynamics and Kinetic Theory	3
Cognate		3
Year 4		
Fall		
BMB 401	Biochemistry for the Biomedical Sciences	4
CHM 530 or CHM 553 or CHM 575	Fluorescence Spectroscopy and Microscopy Modern Quantum Chemistry Principles of Nuclear Magnetic Resonance and Multidimensional Spectroscopy	3
PHY 350	Intermediate Electricity and Magnetism	3
Cognate x2		6

Spring		
CHM 441	Inorganic Chemistry (Lecture)	3
PHY elective		3
Cognate x2		6
Elective		3
Total Credit Hours		121

B.S. Dual Major in Engineering and Physics

Students in the College of Engineering (p. 592) can pursue a dual major in Engineering and Physics, which consists of a regular major in Engineering, plus selected courses in physics. The physics courses required are the complete University Physics sequence for Engineers, plus 11 additional credits in physics at the 300 level or higher, including PHY 350, PHY 360, and one between PHY 321, PHY 340, and PHY 560.

Students pursuing this dual major will take courses designed to provide them with the skills required for effective communication, both written and oral, within their discipline in the College of Engineering.

Curriculum Requirements

Code	Title	Credit Hours
Engineering Major		128
Physics Courses Included in the Engineering Major		
Option 1:		
PHY 205	University Physics I	
PHY 206	University Physics II	
PHY 207	University Physics III	
PHY 208	University Physics II Lab	
PHY 209	University Physics III Lab	
Option 2:		
PHY 205	University Physics I	
PHY 210	Honors University Physics II-III	
PHY 208	University Physics II Lab	
PHY 209	University Physics III Lab	
Additional Physics Requirements		
PHY 350	Intermediate Electricity and Magnetism	3
PHY 360	Introduction to Modern Physics	3
PHY 340	Classical Mechanics I	3
or PHY 321	Thermodynamics and Kinetic Theory	
or PHY 560	Quantum Mechanics and Modern Physics I	
One physics course at the 300 level or higher		2-3
Total Credit Hours		139-140

Sample Plan of Study

This plan of study includes only the Physics portion of the Dual major. Please refer to the corresponding Engineering major (p. 592) for the Engineering portion (including general education requirements).

Course	Title	Credit Hours
Year One		
Fall		
PHY 205	University Physics I	3
	Credit Hours	3
Spring		
PHY 206	University Physics II	3
PHY 208	University Physics II Lab	1
	Credit Hours	4

Year Two		
Fall		
PHY 207	University Physics III	3
PHY 209	University Physics III Lab	1
	Credit Hours	4
Spring		
PHY 340 or 321	Classical Mechanics I or Thermodynamics and Kinetic Theory	3
	Credit Hours	3
Year Three		
Fall		
PHY 360	Introduction to Modern Physics	3
	Credit Hours	3
Spring		
Electives		2-3
	Credit Hours	2-3
Year Four		
Fall		
PHY 350	Intermediate Electricity and Magnetism	3
	Credit Hours	3
	Total Credit Hours	22-23

B.S. Dual Major in Marine Science and Physics

This is an interdisciplinary major offered by the Rosenstiel School of Marine and Atmospheric Science (RSMAS) in conjunction with the Physics Department.

Code	Title	Credit Hours
Marine Science		
MSC 111	Introduction to Marine Science	3
MSC 112	Introduction to Marine Science Lab	1
MSC 215	Chemical Oceanography	3
MSC 230	Introduction to Marine Biology	3
MSC 301	Introduction to Physical Oceanography	3
MSC 302	Introduction to Physical Oceanography Lab	1
MSC 216	Chemical Oceanography Laboratory	1
or MSC 232	Introduction to Marine Biology Laboratory	
Select 12 credit hours of approved electives in Marine Science ¹		12
Other Required Courses		
Select one of the following:		5
BIL 150 & BIL 151	General Biology and General Biology Laboratory	
BIL 160 & BIL 161	Evolution and Biodiversity and Evolution and Biodiversity Laboratory	
CHM 111	Principles of Chemistry I ²	3
CHM 112	Principles of Chemistry II	3
CHM 113	Chemistry Laboratory I	1
CHM 114	Chemistry Laboratory II	1
ENG 105	English Composition I	3
ENG 107	English Composition II: Science and Technology	3
or ENG 106	English Composition II	
Select one of the following:		3-5
GSC 110 & GSC 114	The Earth System and Earth Processes Lab	

GSC 111	Earth System History	
MSC 424	Origin and Geology of the Galapagos Islands.	
MTH 161 or MTH 171	Calculus I ³ Calculus I	4
MTH 162 or MTH 172	Calculus II ³ Calculus II	4
MTH 210	Introduction to Linear Algebra	3
MTH 211 or MTH 310	Calculus III Multivariable Calculus	3
MTH 311	Introduction to Ordinary Differential Equations	3
Select one of the following:		3-4
MSC 204	Environmental Statistics	
CSC 120	Computer Programming I	
MTH 224	Introduction to Probability and Statistics	
PHY 205	University Physics I	3
PHY 206	University Physics II	3
PHY 207	University Physics III	3
PHY 208	University Physics II Lab	1
PHY 209	University Physics III Lab	1
PHY 321	Thermodynamics and Kinetic Theory	3
PHY 340	Classical Mechanics I	3
PHY 350	Intermediate Electricity and Magnetism	3
PHY 351	Intermediate Electricity and Magnetism II	3
PHY 360	Introduction to Modern Physics	3
PHY 362	Modern Physics Honors Seminar	1
PHY 540	Classical Mechanics II	3
PHY 560	Quantum Mechanics and Modern Physics I	3
Electives		
Arts and Humanities Cognate Courses		9
People and Society Cognate Courses		9
300+ Level Elective		3
Additional Elective		3
Total Credit Hours		126-129

¹ At least 6 of which must be at the 300-level or higher. MSC 204 does not satisfy the MSC elective requirement but does satisfy the Statistics requirement.

² Principles of Chemistry I must be passed with a grade of "C-" or higher.

³ Calculus I and II must be passed with a grade of "C-" or higher.

Freshman Year		
Fall		Credit Hours
MSC 111	Introduction to Marine Science	3
MSC 112	Introduction to Marine Science Lab	1
CHM 111	Principles of Chemistry I	3
CHM 113	Chemistry Laboratory I	1
ENG 105	English Composition I	3
MTH 161	Calculus I	4
Credit Hours		15
Spring		
PHY 205	University Physics I	3
CHM 112	Principles of Chemistry II	3
CHM 114	Chemistry Laboratory II	1
ENG 107	English Composition II: Science and Technology	3

MTH 162	Calculus II	4
Elective #1		3
	Credit Hours	17
Sophomore Year		
Fall		
MSC 301	Introduction to Physical Oceanography	3
PHY 206	University Physics II	3
PHY 208	University Physics II Lab	1
MTH 210	Introduction to Linear Algebra	3
MTH 211	Calculus III	3
Elective #2		3
	Credit Hours	16
Spring		
MSC 302	Introduction to Physical Oceanography Lab	1
PHY 207	University Physics III	3
PHY 209	University Physics III Lab	1
BIL 160	Evolution and Biodiversity	4
BIL 161	Evolution and Biodiversity Laboratory	1
MTH 311	Introduction to Ordinary Differential Equations	3
Elective #3		3
	Credit Hours	16
Junior Year		
Fall		
MSC 230	Introduction to Marine Biology	3
PHY 340	Classical Mechanics I	3
PHY 350	Intermediate Electricity and Magnetism	3
GSC 111	Earth System History	4
Elective #4		3
	Credit Hours	16
Spring		
MSC 215	Chemical Oceanography	3
MSC 216	Chemical Oceanography Laboratory	1
PHY 321	Thermodynamics and Kinetic Theory	3
PHY 360	Introduction to Modern Physics	3
MSC 204	Environmental Statistics	3
Elective #5		3
	Credit Hours	16
Senior Year		
Fall		
MSC Course		3
MSC Course		3
PHY 362	Modern Physics Honors Seminar	1
PHY 540	Classical Mechanics II	3
PHY 560	Quantum Mechanics and Modern Physics I	3
Elective #6		3
	Credit Hours	16
Spring		
MSC Course		3
MSC Course		3
PHY 351	Intermediate Electricity and Magnetism II	3
Elective #7		3

Elective #8	3
Credit Hours	15
Total Credit Hours	127

- * 8 elective courses must include:
- 3 Arts and Humanities Cognate courses
 - 3 People and Society Cognate courses
 - 1 Course (3 credits) at the 300+ level

B.S. in Pure Physics

The pure physics major is recommended for students intending to enter graduate school in Physics, or that want a deeper understanding of fundamental physics.

It consists of one of the University Physics sequences with two labs, plus PHY 306 (lab), PHY 321, PHY 340, PHY 350, PHY 351, PHY 360, PHY 362, PHY 506 (lab), PHY 540, and PHY 560.

Students interested in a Ph.D. program in physics are strongly encouraged to also take PHY 561.

To satisfy the College of Arts and Sciences writing requirement in the discipline, students majoring in Pure Physics are required to pass at least one writing intensive course within the Physics Department. These are PHY 306, PHY 362, and PHY 506. The requirement can also be fulfilled by passing ENG 233 with a grade of C- or higher.

Curriculum Requirements

Code	Title	Credit Hours
University Physics Sequence		10-11
Option 1:		
PHY 205	University Physics I	
PHY 206	University Physics II	
PHY 207	University Physics III	
PHY 208	University Physics II Lab	
PHY 209	University Physics III Lab	
Option 2:		
PHY 205	University Physics I	
PHY 210	Honors University Physics II-III	
PHY 208	University Physics II Lab	
PHY 209	University Physics III Lab	
Option 3:		
PHY 201	University Physics I for the Sciences	
PHY 202	University Physics II for the Sciences	
PHY 106 or PHY 208	College Physics Laboratory I University Physics II Lab	
PHY 108 or PHY 209	College Physics Laboratory II University Physics III Lab	
Upper Level Courses		
PHY 306	Intermediate Laboratory	1
PHY 321	Thermodynamics and Kinetic Theory	3
PHY 340	Classical Mechanics I	3
PHY 350	Intermediate Electricity and Magnetism	3
PHY 351	Intermediate Electricity and Magnetism II	3
PHY 360	Introduction to Modern Physics	3
PHY 362	Modern Physics Honors Seminar	1
PHY 506	Advanced Laboratory	1-2
PHY 540	Classical Mechanics II	3
PHY 560	Quantum Mechanics and Modern Physics I	3

Math Requirements		
MTH 151 or MTH 161 or MTH 171	Calculus I for Engineers Calculus I Calculus I	5
MTH 162 or MTH 172	Calculus II Calculus II	4
MTH 210	Introduction to Linear Algebra	3
MTH 211 or MTH 310	Calculus III Multivariable Calculus	3
MTH 311	Introduction to Ordinary Differential Equations	3
General Education		
ENG 105	English Composition I	3
ENG 106	English Composition II	3
CSC 120	Computer Programming I	4
Second Language Proficiency		3-9
Arts and Humanities Cognate		9
People and Society Cognate		9
Electives		37
Total Credit Hours		120-128

Course	Title	Credit Hours
Year One		
Fall		
PHY 205	University Physics I	3
MTH 151	Calculus I for Engineers	5
ENG 105	English Composition I	3
CSC 120	Computer Programming I	4
	Credit Hours	15
Spring		
PHY 206	University Physics II	3
PHY 208	University Physics II Lab	1
PHY 315	Mathematical Tools for Physics	3
MTH 162	Calculus II	4
ENG 106	English Composition II	3
Cognate		3
	Credit Hours	17
Year Two		
Fall		
PHY 207	University Physics III	3
PHY 209	University Physics III Lab	1
PHY 360	Introduction to Modern Physics	3
PHY 362	Modern Physics Honors Seminar	1
MTH 210	Introduction to Linear Algebra	3
Language 101		3
Cognate		3
	Credit Hours	17
Spring		
PHY 340	Classical Mechanics I	3
PHY 306	Intermediate Laboratory	1
MTH 211	Calculus III	3
Language 102		3
Cognate		3

Elective		3
	Credit Hours	16
Year Three		
Fall		
PHY 350	Intermediate Electricity and Magnetism	3
MTH 311	Introduction to Ordinary Differential Equations	3
Language 201		3
Cognate		3
Elective		3
	Credit Hours	15
Spring		
PHY 321	Thermodynamics and Kinetic Theory	3
PHY 351	Intermediate Electricity and Magnetism II	3
MTH 224	Introduction to Probability and Statistics	3
Cognate		3
Elective		3
	Credit Hours	15
Year Four		
Fall		
PHY 540	Classical Mechanics II	3
PHY 560	Quantum Mechanics and Modern Physics I	3
Cognate		3
Elective		3
	Credit Hours	12
Spring		
PHY 506	Advanced Laboratory	1-2
PHY 561	Quantum Mechanics and Modern Physics II	3
Electives		9
	Credit Hours	13-14
	Total Credit Hours	120-121

Minor in Physics

A minor in physics consists of a University Physics Sequence (3 options), plus Modern Physics (PHY 360) and an additional 3-credit physics course at the 300-level or higher (other than PHY 315).

Code	Title	Credit Hours
University Physics Sequence		
Choose one of the following options:		10-11
Option 1		
PHY 205	University Physics I	
PHY 206	University Physics II	
PHY 207	University Physics III	
PHY 208	University Physics II Lab	
PHY 209	University Physics III Lab	
Option 2		
PHY 205	University Physics I	
PHY 210	Honors University Physics II-III	
PHY 208	University Physics II Lab	
PHY 209	University Physics III Lab	
Option 3		
PHY 201	University Physics I for the Sciences	
PHY 202	University Physics II for the Sciences	

PHY 106 or PHY 208	College Physics Laboratory I University Physics II Lab	
PHY 108 or PHY 209	College Physics Laboratory II University Physics III Lab	
PHY 360	Introduction to Modern Physics	3
Physics lecture course (other than PHY 315) at the 300-level or above		3
Total Credit Hours		16-17

Political Science

<http://www.as.miami.edu/politicalscience>

Dept. Code: POL

Introduction

A political science major prepares students for work in a number of fields including law, politics, public policy, public administration, and international affairs, as well as employment in business and the non-profit sector.

Educational Objectives

Political science majors gain an understanding of American political and legal life, the workings of other countries' political and economic systems, the relations among countries in the international arena, and key concepts in both political philosophy and social science methodology.

Advanced Writing & Communication Requirements

Details of the Advanced Writing and Communication Proficiency:

Degree candidates must complete at least four writing courses, and at least one writing course must be in one of the student's major disciplines (not applicable to BLA students who do not select a major). Students should consult the bulletin section of their major to find out which writing-intensive courses are acceptable to the discipline.

Individual writing course offerings may make the writing component independent of the rest of the course. As such the writing component might be optional, the writing component might not contribute to the overall grade, and writing credit might be awarded even if the overall grade is a fail.

Transfer students may use a maximum of two courses towards the writing requirement.

Degree Programs

- Bachelor of Arts in Political Science
- Five year program: Bachelor of Arts in Political Science and Masters of Public Administration (A special curriculum for students specializing in public administration enables them to complete the requirements for both a Bachelor's and Master's degree in five years.)

Departmental Honors

To earn Departmental Honors a political science major must:

1. Graduate with an overall GPA of 3.500.
2. Graduate with a political science GPA of at least 3.700. All political science course grades on a student's transcript are counted in the calculation of the major GPA. This includes all grades from courses that were completed more than once (e.g. to obtain a high enough grade to count towards the major).

Major in Political Science

- B.A. in Political Science (p. 314)
- B.A. in Public Administration (p. 321)

Minors

- Political Science (p. 322)
- Public Administration (p. 323)

B.A. in Political Science

Curriculum Requirements

Code	Title	Credit Hours
Departmental Core Courses ¹		
POL 201	Introduction to American National Government	
POL 202	Introduction to Comparative Politics	
POL 203	Introduction to International Relations	
Select a minimum of six credit hours of 500-level seminar courses offered by the University of Miami ²		6
Select a minimum of one course above the 200-level in three of the following five principal sub-fields of political science ³		9
American Politics:		
POL 309	American Political Thought	
POL 311	Conspiracy Theories and the Public	
POL 313	The Constitution	
POL 314	Legislative Processes	
POL 315	American Presidency	
POL 332	Mass Media and Politics	
POL 334	Campaigns	
POL 335	Democracy in Action: Local Government Simulation	
POL 342	State Government and Politics	
POL 343	Government in Metropolitan Areas	
POL 349	U.S. Defense Policy	
POL 351	Public Opinion	
POL 352	Political Parties	
POL 353	Interest Groups and Lobbying	
POL 360	Congressional Representation	
POL 390	Special Topics in American Politics	
POL 401	The Election	
POL 402	Latino Politics	
POL 502	Politics of Civil Rights	
POL 504	Biology and Politics	
POL 515	Media Content Analysis	
POL 528	Advanced Seminar on Electoral Behavior	
POL 529	Conducting U.S. Elections	
POL 530	Intelligence and National Security Decision Making	
POL 536	U.S. Health Care Crisis: Politics and Policies	
POL 547	Congressional Representation	
POL 548	Civic Participation and Democracy	
POL 550	Advanced Seminar on American Politics	
POL 553	The Environmental Movement: Groups, Beliefs and Values	
POL 569	LGBTI Politics	
POL 599	Special Topics in American Politics (American Politics)	
Comparative Politics		
POL 303	Refugees and Migrants	
POL 323	Global Warming, Politics and the European Union	
POL 344	Gender and Politics	
POL 362	Social Movements	
POL 370	Global Energy Politics	
POL 378	African Politics	
POL 379	South East Asian Politics	
POL 381	West European Politics (Previous Title: European Politics and Government)	
POL 382	Government and Politics of the Federal Republic of Germany	
POL 383	Politics in China	

POL 384	Postcommunist Russian Politics
POL 385	Politics and Society in Latin America
POL 386	Democratic Consolidation
POL 387	Politics of the Middle East
POL 388	Politics of Israel
POL 389	Special Topics in Comparative Politics
POL 398	Transfer Credit in Comparative Politics
POL 525	Comparative Public Policy and Administration
POL 527	Comparative Political Institutions
POL 531	Global Environmental Politics
POL 532	Art and Politics in Paris
POL 566	Activism
POL 569	LGBTI Politics
POL 571	Sex, Babies, and the State
POL 575	The Politics of Civil- Military Relations
POL 579	The politics of post-communist transactions
POL 580	Ethnicity, Nationalism and Secession
POL 581	Comparative Political Economy of Post-Industrial Democracies
POL 582	Political Economy of Development
POL 584	Contemporary Latin American Politics
POL 588	Politics in China
POL 598	Special Topics in Comparative Politics (Comparative Politics)
International Relations	
POL 323	Global Warming, Politics and the European Union
POL 337	International Law and Organizations
POL 340	Civil Wars
POL 341	Nationalism, Ethnicity, and Political Conflict
POL 345	The United States and Asia
POL 346	U.S.-Latin American Relations
POL 347	American Foreign Policy
POL 348	United States Relations with the Middle East
POL 349	U.S. Defense Policy
POL 359	International Organizations
POL 361	Ending Wars and Building Peace
POL 367	The Historical Roots of American Imperialism
POL 370	Global Energy Politics
POL 391	Special Topics in International Relations
POL 392	International Terrorism
POL 397	Transfer Credits in International Relations
POL 402	Latino Politics
POL 511	Security in the Arabian Peninsula
POL 530	Intelligence and National Security Decision Making
POL 531	Global Environmental Politics
POL 544	Chinese Foreign Policy
POL 559	International Organizations
POL 561	Ending Wars and Building Peace
POL 565	The World Before European Domination
POL 570	Uniting States in International Perspective
POL 575	The Politics of Civil- Military Relations
POL 576	On Violence: The Politics of Extremes
POL 577	Security in South Asia: The Conflicts of Afghanistan, Pakistan, and India

POL 578	Energy and Security in Eurasia
POL 579	The politics of post-communist transactions
POL 585	Post-Communist Russian Foreign Policy
POL 586	Conflict in the Middle East and Africa
POL 591	International Security
POL 592	International Political Economy
POL 593	International Relations of the Middle East
POL 594	European Security
POL 597	Special Topics in International Relations
Public Administration, Policy, and Law	
POL 319	Politics of the Administrative Process
POL 320	Politics of Growth Management
POL 321	Introduction to Public Policy
POL 322	Environmental Politics and Policy
POL 337	International Law and Organizations
POL 372	Introduction to Criminal Justice
POL 373	Constitutional Law I
POL 374	Constitutional Law II
POL 393	Special Topics in Public Administration, Policy, and Law
POL 396	Transfer Credit in Public Administration, Policy, and Law
POL 402	Latino Politics
POL 501	Budget and Financial Management and Administration
POL 503	Organizational Dynamics and Management
POL 508	Equity and Diversity in Public Administration
POL 509	Issues in Judicial Pol.
POL 522	Introduction to Graduate Public Administration
POL 523	Problems in Public and Non-Profit Management
POL 524	Non-Profit Organizations: Law, Policy, and Management
POL 525	Comparative Public Policy and Administration
POL 526	Administrative Law
POL 533	Courts and Controversy
POL 534	Applied Policy Analysis
POL 536	U.S. Health Care Crisis: Politics and Policies
POL 540	Human Resource Management in Public Service
POL 541	Philosophy of Law
POL 545	Environmental Policy Making
POL 551	Productivity in the Public and Non-Profit Sectors
POL 555	Total Quality Public Service Management: Achieving High Performance Government
POL 556	Politics and Ethics
POL 557	Ethical and Managerial Issues in Government, Business and Non-Profit Organization.
POL 558	From Electronic Government to Digital Governance
POL 572	Government and Business
POL 596	Special Topics in Public Administration, Policy, and Law
Political Theory and Methods	
POL 250	Scope and Methods of Political Science
POL 301	The Science and Practice of Political Research
POL 302	Political Fiction and Film
POL 305	Introduction to Political Theory
POL 306	Positive Political Theory
POL 307	Political Ideologies

POL 309	American Political Thought	
POL 310	God, Science, and Politics	
POL 311	Conspiracy Theories and the Public	
POL 312	Politics, Society and Art	
POL 394	Special Topics in Political Theory and Methods	
POL 395	Transfer Credit in Political Theory and Methods	
POL 506	From Plato Through Rawls	
POL 510	Statistics for Politics and Public Administration	
POL 512	Advanced Political Analysis	
POL 513	Models of Politics	
POL 514	Art and Politics	
POL 515	Media Content Analysis	
POL 516	Experiments in Political Science	
POL 517	Introductory Statistical Methods in Political Science	
POL 518	Advanced Statistical Methods in Political Science	
POL 519	Introduction to Game Theory for Political Science	
POL 541	Philosophy of Law	
POL 595	Special Topics in Political Theory and Methods	
Additional Requirements		
POL Electives (300-level or higher)		15
ENG 105	English Composition I	3
ENG 106	English Composition II	3
MTH 108	Precalculus Mathematics II	3
Language Requirement		3-9
STEM Cognate ⁴		9
Arts and Humanities Cognate		9
Minor Requirement		15
Electives		39
Total Credit Hours		120

- ¹ **Students who complete INS 101 with a grade of C- or better will be given credit for POL 203.**
- ² This includes any 500-level seminar offered by the Department of Political Science or cross-listed with Political Science. The following 500 level courses are **not** seminars and do **not** fulfill this requirement: POL 520, POL 521, POL 563, POL 564, POL 589, POL 590.
- ³ Please note that some courses cover more than one sub-field. Students may not, however, use a single class to fulfill multiple sub-field requirements.
- ⁴ Please note that for the Natural Science Area of Knowledge Requirement degree candidates must earn at least 3 credit hours in the Natural Sciences. Departments offering these courses include Anthropology (only APY 203), Biology, Chemistry, Ecosystem Science and Policy (only ECS 111, ECS 112, ECS 202), Geography (only GEG 120), Geological Sciences, Marine Sciences (except MSC 313, MSC 314), Physical Sciences, and Physics. These credit hours may double count with any other requirement.
- * All majors must complete a quiz for graduating seniors (to be used for assessment purposes) during their last semester of coursework.
- ** To satisfy the Advanced Writing & Communication proficiency requirement, students majoring in political science must complete at least one of the four required writing-intensive courses in the Department of Political Science.
- *** A student may only share (i.e., "double count") maximally 6 credits between majors and minors offered by the Department of Political Science.
- **** To count toward the major, each course must be completed with a grade of C- or above, with an overall GPA of 2.0 or above.

Suggested Plan of Study

Course	Title	Credit Hours
First Year		
Fall		
POL 201	Introduction to American National Government	3
POL 202	Introduction to Comparative Politics	3
MTH 108	Precalculus Mathematics II	3
ENG 105	English Composition I	3

Arts and Humanities Cognate		3
	Credit Hours	15
Spring		
POL 203	Introduction to International Relations	3
ENG 106	English Composition II	3
Arts and Humanities Cognate		3
Elective		3
STEM Cognate		3
	Credit Hours	15
Second Year		
Fall		
American Politics Course		3
Language Course		3
Arts and Humanities Cognate		3
STEM Cognate		3
Elective		3
	Credit Hours	15
Spring		
Comparative Politics Course		3
Language Course		3
STEM Cognate		3
Elective		3
Elective		3
	Credit Hours	15
Third Year		
Fall		
500 Level POL Seminar Course ¹		3
International Relations Course		3
Language Course		3
Minor Course		3
Elective		3
	Credit Hours	15
Spring		
500 Level POL Seminar Course ¹		3
POL Elective (300 Level or Higher)		3
Minor Course		3
Minor Course		3
Elective		3
	Credit Hours	15
Fourth Year		
Fall		
POL Elective (300 Level or Higher)		3
Minor Course		3
Elective		3
Elective		3
Elective		3
	Credit Hours	15
Spring		
Elective		3
Elective		3
Elective		3
Elective		3

Elective	3
Credit Hours	15
Total Credit Hours	120

¹ This includes any 500-level seminar offered by the Department of Political Science or cross-listed with Political Science. The following 500 level courses are **not** seminars and do **not** fulfill this requirement: POL 520, POL 521, POL 563, POL 564, POL 590.

B.A. IN PUBLIC ADMINISTRATION

Curriculum Requirements

Code	Title	Credit Hours
Core Required Courses		9
POL 201	Introduction to American National Government	
POL 319	Politics of the Administrative Process	
POL 321	Introduction to Public Policy	
Politics, Social, Economic, and Legal		
Choose 2 courses from the following:		6
Place Holder for Economics of Politics and Public Administration		
POL 315	American Presidency	
POL 320	Politics of Growth Management	
POL 335	Democracy in Action: Local Government Simulation	
POL 342	State Government and Politics	
POL 343	Government in Metropolitan Areas	
POL 531	Global Environmental Politics	
POL 526	Administrative Law	
POL 536	U.S. Health Care Crisis: Politics and Policies	
POL 548	Civic Participation and Democracy	
POL 545	Environmental Policy Making	
POL 572	Government and Business	
POL 596	Special Topics in Public Administration, Policy, and Law	
Analytical Tools and Communication Skills		
Choose 2 courses from the following:		6
POL 351	Public Opinion	
POL 510	Statistics for Politics and Public Administration	
POL 517	Introductory Statistical Methods in Political Science	
POL 518	Advanced Statistical Methods in Political Science	
POL 519	Introduction to Game Theory for Political Science	
POL 534	Applied Policy Analysis	
POL 546	Public Policy Process and Implementation	
Management of Public Organizations		
Choose 2 courses from the following:		6
POL 501	Budget and Financial Management and Administration	
POL 503	Organizational Dynamics and Management	
POL 521	Public Affairs Internship	
POL 523	Problems in Public and Non-Profit Management	
POL 524	Non-Profit Organizations: Law, Policy, and Management	
POL 540	Human Resource Management in Public Service	
POL 551	Productivity in the Public and Non-Profit Sectors	
POL 555	Total Quality Public Service Management: Achieving High Performance Government	
POL 556	Politics and Ethics	
POL 557	Ethical and Managerial Issues in Government, Business and Non-Profit Organization.	
POL 558	From Electronic Government to Digital Governance	
POL 596	Special Topics in Public Administration, Policy, and Law	
Comparative Governance		
Choose 1 course from the following:		3
POL 202	Introduction to Comparative Politics	
POL 385	Politics and Society in Latin America	

POL 525	Comparative Public Policy and Administration	
POL 569	LGBTI Politics	
POL 571	Sex, Babies, and the State	
POL 581	Comparative Political Economy of Post-Industrial Democracies	
POL 582	Political Economy of Development	
POL 596	Special Topics in Public Administration, Policy, and Law	
Additional Requirements		9
ENG 105	English Composition I	
ENG 106	English Composition II	
MTH 108	Precalculus Mathematics II	
Language Requirement		3-9
Arts and Humanities Cognate		9
STEM Cognate		9
Minor Requirement		15
Electives		39
Total Credit Hours		120

* A minimum grade of C- in all courses offered by the department is required.

** A minimum cumulative GPA of 2.0 in all courses offered by the department is required.

*** A minimum of 21 credits must be earned in residency in the Department, thus a maximum of 9 credits can be transferred from other institutions as eligible credit for the Public Administration major.

Minor in Political Science

Code	Title	Credit Hours
Select one of the following:		3
POL 201	Introduction to American National Government	
POL 202	Introduction to Comparative Politics	
POL 203	Introduction to International Relations	
Additional POL Courses ¹		12
Total Credit Hours		15

¹ To qualify for the minor at least 9 credit hours must be earned in residence.

* To count toward a minor, each course must be completed with a grade of C- or higher, with an overall GPA of 2.0 or higher.

** Students who complete INS 101 with a grade of C- or better will be given credit for POL 203.

*** A student may only share (i.e., "double count") maximally 6 credits between majors and minors offered by the Department of Political Science.

MINOR IN PUBLIC ADMINISTRATION

<http://www.as.miami.edu/politicalscience/>

Code	Title	Credit Hours
POL 201	Introduction to American National Government	3
POL 321	Introduction to Public Policy	3
POL 3XX Place Holder		3
Select two of the following Elective:		6
POL 320	Politics of Growth Management	
POL 342	State Government and Politics	
POL 343	Government in Metropolitan Areas	
POL 351	Public Opinion	
POL 501	Budget and Financial Management and Administration	
POL 506	From Plato Through Rawls	
POL 510	Statistics for Politics and Public Administration	
POL 517	Introductory Statistical Methods in Political Science	
POL 518	Advanced Statistical Methods in Political Science	
POL 519	Introduction to Game Theory for Political Science	
POL 521	Public Affairs Internship	
POL 522	Introduction to Graduate Public Administration	
POL 523	Problems in Public and Non-Profit Management	
POL 524	Non-Profit Organizations: Law, Policy, and Management	
POL 525	Comparative Public Policy and Administration	
POL 526	Administrative Law	
POL 531	Global Environmental Politics	
POL 548	Civic Participation and Democracy	
POL 551	Productivity in the Public and Non-Profit Sectors	
POL 555	Total Quality Public Service Management: Achieving High Performance Government	
POL 556	Politics and Ethics	
POL 557	Ethical and Managerial Issues in Government, Business and Non-Profit Organization.	
POL 558	From Electronic Government to Digital Governance	
POL 596	Special Topics in Public Administration, Policy, and Law	
Place Holder for Economics for Politics and Public Administration		
Place Holder for Applied Policy Analysis		
Total Credit Hours		15

¹ A minimum grade of C- or better and a 2.0 gpa are required for all courses within the department.

² A minimum of 9 credits must be earned in residence, thus a maximum of 6 credits can be transferred in.

³ One of the two elective courses must be a 500 level course

Psychology

<http://www.psy.miami.edu>

Dept. Code: PSY

Introduction

Psychology is the study of how individuals think, behave, feel, and relate to others. Because of its broad and fundamental nature, the psychology major prepares students for graduate study and/or careers in a wide range of people-oriented professions (e.g., psychology, medicine, law, business, communication, etc.). Psychology majors learn about human behavior and gain the analytical and critical thinking skills that are highly-valued in the workforce.

Educational Objectives

The Department of Psychology seeks to provide students with exposure to and a fundamental understanding of psychological science by delivering an integrative educational experience and promoting interactions among faculty, graduate students, and undergraduate students in basic and applied psychological inquiry, advising, mentoring, and community outreach.

Degree Programs

The Department of Psychology offers a Bachelor of Arts (B.A.) and a Bachelor of Science (B.S.) degree.

Departmental Honors

Students can earn Departmental Honors in Psychology by demonstrating excellence in their course work and completing a Senior Honors Thesis in Psychology.

1. **Excellence in Coursework** – A minimum 3.3 combined GPA and a minimum 3.5 psychology GPA is required.
2. **Senior Honors Thesis in Psychology** – This is an independent empirical research project that is completed across two semesters (i.e., PSY 580 and PSY 581) under the supervision of a faculty mentor in the Department of Psychology. At least one year of prior research experience with the faculty mentor is highly recommended. Written approval from the faculty mentor and the Director of Undergraduate Academic Services is also required.

Additional Information

The office of Undergraduate Academic Services for Psychology (UASP) provides comprehensive advising services to all students on a walk-in basis from 9:00 a.m. to 4:30 p.m., Monday through Friday, in Flipse 508. Appointments are only necessary during the official advising period for registration.

Freshmen and Transfer Students

All freshmen psychology majors in the College of Arts and Sciences are required to participate in the Department of Psychology's year-long orientation, advising, and mentoring program, FACT FORUM (Freshmen Advising Contact Term and Faculty Overview of Research and Undergraduate Mentoring).

These courses are one credit hour general electives designed to enable students to take ownership of their education by familiarizing them with the academic rules and regulations of the University of Miami, helping them think critically about their curriculum, providing them with in-depth exposure to research, and preparing them to enter the professional world.

New transfer students are highly encouraged to participate in a similar one semester program called TUMS (Transfer to the University of Miami). This course is specifically designed to ease the transition for new transfer students to the University of Miami.

Students who declare a psychology major after matriculation may be required to take part in an advising seminar prior to declaring the psychology major.

Prerequisites

Students must adhere to all prerequisites. They are also required to earn a minimum grade of C- in any PSY course that is to serve as a prerequisite for another course in the psychology major. Students who enroll in PSY courses without the specified prerequisites may be dropped.

Advanced Writing and Communication Requirement

To satisfy the College of Arts and Sciences Advanced Writing and Communication requirement, psychology majors must take 4 writing-designated courses, including 1 writing-designated course in the PSY area. Writing courses are already built into the required courses of the B.S. track of the psychology major; however, students who follow the B.A. track of the psychology major will need to plan accordingly to incorporate a writing-designated PSY course into their graduation plans.

Research Experience for Course Credit

Research experience is considered an integral part of the psychology major. Students may earn course credit (i.e., PSY 280, PSY 380, and/or PSY 480) by working in the laboratory of a Department of Psychology faculty mentor. Students can repeat PSY 280, PSY 380, and PSY 480 without penalty. A minimum 2.8 combined and psychology GPA is required to earn research credit. Written permission from a faculty mentor and UASP is also required.

Note: Students may volunteer in a research laboratory by completing the appropriate volunteer paperwork with UASP if they are unable to register for research credit.

Research Participation in PSY 110

As an introduction to behavioral science, all students enrolled in PSY 110 may be required to participate as subjects in research studies conducted by faculty and/or graduate students, or by reading selected research reports and writing article critiques. Refer to the course syllabus for more details.

Note: This introductory research participation requirement is not sufficient for students interested in attending graduate school in psychology.

Senior Assessment

As part of the Department of Psychology's accreditation plan, all senior psychology majors will be required to take part in a senior assessment that may last up to four hours. Assessment scores will not affect the students' graduation status; however, failure to complete the assessment may delay or prevent graduation.

Transfer Courses

Courses from other colleges or universities may be assigned PSY credit at UM with written approval by UASP.

Cognates

Neuroscience majors may not use a cognate with a Responsible Academic Unit (RAU) of Psychology to fulfill their People and Society (P & S) area of knowledge.

Major in Psychology

- B.A. or B.S. in Psychology (p. 325)

Minor in Psychology

- Psychology (p. 329)

B.A. or B.S. in Psychology

The major in psychology requires 33 credit hours in PSY courses. AP Credit for Statistics (i.e., PSY 292) cannot count toward the psychology major. Students who declare the psychology major after they transfer credit for PSY 292 or complete PSY 292 can use PSY 292 as a substitute for PSY 291.

Only 6 credit hours of the following may count toward the psychology major:

Code	Title	Credit Hours
PSY 280	Introduction to Research Projects I	1-3
PSY 380	Introduction to Research Projects II	1-3
PSY 480	Research with Writing Credit	1-3
PSY 581	Senior Honors in Psychology II	3

The following courses do not count toward the psychology major:

Code	Title	Credit Hours
PSY 106	Freshman Advising Contact Term (Fact)	1
PSY 190	Faculty Overview of Research and Undergraduate Mentoring (FORUM)	1
PSY 206	Transfer to the University of Miami (TUMS)	1
PSY 305	Introduction to Research and Graduate School	1
PSY 580	Senior Honors in Psychology I	3

All psychology majors who pursue a B.A. degree in the College of Arts and Sciences must complete a minor from the list of acceptable minors published by the College.

All psychology majors who pursue a B.S. degree in the College of Arts and Sciences must complete a minor in Biochemistry, Biology, Chemistry, Computer Science, Engineering, Geological Sciences, Marine Science, Mathematics, Microbiology and Immunology, or Physics.

Curriculum Requirements - BA

Code	Title	Credit Hours
PSY 110	Introduction to Psychology	3
PSY 290	Introduction to Research Methods	3
PSY 291	Introduction to Biobehavioral Statistics	3
Select nine additional credit hours in 200 level PSY courses		9
Select nine credit hours in 300 level PSY courses		9
Select six credit hours in 400 or 500 level PSY courses		6
Additional Requirements		
ENG 105	English Composition I	3

ENG 106	English Composition II	3
Arts and Humanities Cognate		9
STEM Cognate		9
Minor		15-18
Mathematics		3
Foreign language in 200 level or above		3
Natural Science		3
Electives		39-42
Total Credit Hours		120-126

Curriculum Requirements - BS

Code	Title	Credit Hours
PSY 110	Introduction to Psychology	3
PSY 290	Introduction to Research Methods	3
PSY 291	Introduction to Biobehavioral Statistics	3
PSY 390	Intermediate Research Methods and Biobehavioral Statistics	3
PSY 490	Advanced Research Methods	3
Select nine additional credit hours in 200 level PSY courses		9
Select three additional credit hours in 300 level PSY courses		3
Select six additional credit hours in 400 or 500 level PSY courses ¹		6
Additional Requirements		
ENG 105	English Composition I	3
ENG 106	English Composition II	3
Arts & Humanities Cognate		9
Minor		15-18
Mathematics		11-15
Foreign Language in 200 level or above		3
Natural Science		3
Electives		40-47
Total Credit Hours		120-134

¹ Note: At least 3 of these credit hours must be in a 400 level PSY writing course.

Other Requirements

- Students must earn a minimum grade of C- in a PSY course to count it toward the psychology major.
- Students must have a minimum 2.8 combined, UM, and psychology GPA to declare the psychology major.
- Students are strongly advised not to continue with the psychology major if they have less than a 2.5 psychology GPA after 15 completed credit hours in psychology.
- Students must earn a minimum 2.3 psychology GPA and a minimum of 120 credit hours to graduate with the psychology major.
- Students must complete at least half of their psychology major in residence, including all 300, 400, and 500 level PSY courses.
- Only 6 PSY credit hours at the 300, 400, and 500 level may be taken through a UM Study Abroad Program with prior written approval.
- Students completing a B.S. in Psychology must complete a minor in one of the following programs: Biochemistry, Biology, Chemistry, Computer Science, Engineering, Geological Sciences, Marine Sciences, Mathematics, Microbiology & Immunology, or Physics. Students who complete a second major in one of the mentioned fields are not required to complete a minor.

Suggested Plan of Study - BA

Course	Title	Credit Hours
First Year		
Fall		
PSY 106	Freshman Advising Contact Term (Fact)	1
PSY 110	Introduction to Psychology	3
ENG 105	English Composition I	3
MTH 108	Precalculus Mathematics II	3

Foreign Language		3
Minor Course		3
	Credit Hours	16
Spring		
PSY 190	Faculty Overview of Research and Undergraduate Mentoring (FORUM)	1
PSY 200 Level		3
PSY 200 Level		3
ENG 106	English Composition II	3
Foreign Language		3
Minor Course		3
	Credit Hours	16
Second Year		
Fall		
PSY 290	Introduction to Research Methods	3
PSY 291	Introduction to Biobehavioral Statistics	3
Minor Course		3
Foreign Language		3
A&H Cognate		3
	Credit Hours	15
Spring		
PSY 200 Level		3
PSY 280	Introduction to Research Projects I	3
PSY 300 Level		3
Minor course		3
A&H Cognate		3
	Credit Hours	15
Third Year		
Fall		
PSY 300 Level		3
PSY 300 Level		3
Minor Course		3
A&H Cognate		3
Natural Science		3
	Credit Hours	15
Spring		
PSY 380	Introduction to Research Projects II	3
PSY 390	Intermediate Research Methods and Biobehavioral Statistics	3
PSY 400 Level		3
STEM Cognate		3
Elective		3
	Credit Hours	15
Fourth Year		
Fall		
PSY 580	Senior Honors in Psychology I	3
STEM Cognate		3
Elective		3
Elective		3
Elective		3
	Credit Hours	15
Spring		
PSY 581	Senior Honors in Psychology II	3
STEM Cognate		3

Elective	3
Elective	3
Elective	3
Credit Hours	15
Total Credit Hours	122

Suggested Plan of Study - BS

Course	Title	Credit Hours
First Year		
Fall		
PSY 106	Freshman Advising Contact Term (Fact)	1
PSY 110	Introduction to Psychology	3
ENG 105	English Composition I	3
MTH 161	Calculus I	4
Foreign Language		3
Credit Hours		14
Spring		
PSY 190	Faculty Overview of Research and Undergraduate Mentoring (FORUM)	1
PSY 200 Level		3
PSY 200 Level		3
ENG 106	English Composition II	3
MTH 162	Calculus II	4
Foreign Language		3
Credit Hours		17
Second Year		
Fall		
PSY 290	Introduction to Research Methods	3
PSY 291	Introduction to Biobehavioral Statistics	3
Minor Course		3
Foreign Language		3
A&H Cognate		3
Credit Hours		15
Spring		
PSY 200 Level		3
PSY 280	Introduction to Research Projects I	3
PSY 300 Level		3
Minor Course		3
Elective		3
Credit Hours		15
Third Year		
Fall		
PSY 390	Intermediate Research Methods and Biobehavioral Statistics	3
PSY 400 Level		3
Minor Course		3
A&H Cognate		3
Natural Science		3
Credit Hours		15
Spring		
PSY 380	Introduction to Research Projects II	3
PSY 400 Level (Writing)		3
PSY 490	Advanced Research Methods	3
Minor Course		3

Elective		3
	Credit Hours	15
Fourth Year		
Fall		
PSY 580	Senior Honors in Psychology I	3
Minor Course		3
A&H Cognate		3
Elective		3
Elective		3
	Credit Hours	15
Spring		
PSY 581	Senior Honors in Psychology II	3
Minor Course		3
Elective		3
Elective		3
Elective		3
	Credit Hours	15
	Total Credit Hours	121

Minor in Psychology

Code	Title	Credit Hours
Departmental Requirements		
PSY 110	Introduction to Psychology	3
PSY 291 or PSY 292	Introduction to Biobehavioral Statistics Introduction to Biobehavioral Statistics for Non-Majors	3
Additional PSY Courses ¹		9
Total Credit Hours		15

¹

- Only 3 credit hours of PSY 280, PSY 380, and/or PSY 480 may count toward the minor.
- PSY 106, PSY 190, PSY 206, PSY 305 do not count toward the minor.

* Students must earn a minimum grade of C- in a PSY course to count it toward the minor.

** Students must earn a minimum 2.0 psychology GPA to graduate with the minor.

*** Students must complete at least 9 of the 15 minor credit hours in residence, and only 3 of these credit hours may be taken through a UM Study Abroad Program with prior written approval.

Religious Studies

<http://www.as.miami.edu/religion>

Dept. Code: REL

Introduction

Religion is one fundamental way humans order and discern meaning and frame identity, both collective and individual. In the study of religion, students learn what religion is; how religion both shapes and reflects culture, society, politics, and individual experience; and the multiple ways religion matters and has mattered locally and globally, from antiquity to the present. Through the examination of varied disciplinary approaches and exposure to concrete diverse cultural expressions of religion, the department fosters students' broad and deep apprehension of religion's place(s) in human experience. The department's educational work aims to strengthen students' capacities to read carefully, question critically, communicate knowledge effectively, and apply their learning in civic engagement.

The University regards the academic study of religion as an integral part of liberal, humane learning and seeks to assist students in understanding the role religion plays in human existence and culture. Instruction in the Department of Religious Studies is non-sectarian and seeks an open analysis of all points of view. Courses are designed to provide a general orientation to the academic study of religion for the undergraduate student, as well as more advanced exposure for those who wish to pursue professional careers where a study of religious ideas and institutions would be helpful, such as in psychology, sociology, history, journalism, teaching, law, medicine, the fine arts, religious education, the ministry, and the rabbinate.

The Department sponsors a wide variety of speakers and events each year, including a Religious Studies Colloquium series and a Forum on Religion and Public Life. The Forum has enriched the existing curriculum by bringing to the campus outstanding scholars and public intellectuals.

Educational Objectives

The general educational objectives of the Department are

1. to explore texts, histories, and ways in which humans from various cultures have understood their world including the beliefs, ethics, rituals, artifacts, and organizations of religions;
2. to understand the changing relationship between religion and elements of the wider culture including the dynamics of politics, art, economics, literature, and society and their relationship to religions;
3. to become familiar with the theories and methods used in the study of religion.

Degree Programs

The Department offers two tracks by which students may earn a major or a minor. The first track is Religious Studies, which is designed for students who are seeking a broad and comprehensive understanding of the world's major religions and the cultures in which they are practiced. The second track is Religion and Health Care, which is designed for students who are interested in any aspect of health care or who wish to supplement their pre-med concentration with coursework in the field of Religious Studies.

Departmental Honors

The Department of Religious Studies encourages its majors and minors to intensify and deepen their knowledge of religious texts, traditions, and issues through its Departmental Honors Program. The program is designed to give our students the opportunity to explore various topics and problems in religion that are of particular interest to them, to work more closely with faculty in the department, to develop skills in research and thesis preparation, and in some cases to prepare for graduate work in religious studies or other disciplines.

Minimum requirements for the program are as follows:

1. A cumulative grade point average of at least 3.30;
2. A cumulative grade point average in religious studies of at least 3.50; and
3. A thesis that is approved by departmental faculty.

For the determination of honors, cumulative grade point average means either the average of all grades earned at the University of Miami or the combined average of all graded work taken at the University of Miami and elsewhere (whether or not the transfer work is accepted toward a degree at the University of Miami), whichever is lower.

Theta Alpha Kappa

Majors, minors, and other students who meet certain academic criteria are eligible for membership in Theta Alpha Kappa, the National Honor Society for Religious Studies and Theology. Theta Alpha Kappa sponsors events that enhance the academic and social life of the department.

URome

In keeping with its emphasis on a global approach to the study of religion and society, the Department sponsors a study abroad program known as URome. This semester-on-location program, which is open to all qualified University of Miami undergraduate students, is offered each spring semester in collaboration with the American University of Rome. A limited amount of scholarship support for the URome program is available for qualified Religious Studies majors and minors.

B.A. in Religion and Health Care

Curriculum Requirements

Code	Title	Credit Hours
Core Courses		
Select one of the following:		3
REL 101	Introduction to Religion	
REL 102	Problem of God	
REL 103	One God: Judaism, Christianity, Islam	
REL 105	One Goal: Transforming the Self in Asian Religions	
Religion and Health Care Courses		
Choose 4 of the following: ¹		12
REL 151	Religion and Moral Choices	

REL 161	Religion and Medicine: Health Care as Spiritual Practice	
REL 252	Religion and Human Sexuality	
REL 351	Death and Dying	
REL 352	Religion and Science	
REL 354	Religion and the Problem of Evil	
REL 360	Religion and Bioethics	
REL 364	Spiritual Healing in the Americas from Controversy to Cure	
REL 451	Ethics and Genetics	
CLA 233	Ancient Medicine	
HIS 223	Medicine and Society: From the Ancient World to the 21st Century	
Select 6 REL Elective Credits		6
REL 499	Method and Theory in the Study of Religion	3
Additional Required Courses		
ENG 105	English Composition I	3
ENG 106	English Composition II	3
MTH 108	Precalculus Mathematics II	3
Language Requirement		3-9
Arts and Humanities Cognate		9
STEM Cognate		9
Minor		15
Electives		51
Total Credit Hours		120-126

- * • A major in Religion and Health Care leading toward the B.A. degree requires 24 credit hours in Religious Studies, passed with a grade of C- or higher, and a GPA in the major of 2.0.
 • A minimum of 12 credit hours in courses numbered 300 or above is required.
 • Transfer students who major in Religion and Health Care must complete at least 12 credit hours in department offered courses numbered 300 or above in residence at the Coral Gables campus.

** Writing credit (W) in at least one course in the department

*** To ensure that majors devise a coherent plan of study, the department requires consultation with the department undergraduate advisor.

Suggested Plan of Study

This plan of study includes:

- A minor in Chemistry
- Spanish language requirement
- Cognates: People and Society: Living on a Finite Planet, STEM: Data Structures, Algorithms and Techniques
- Pre-Med Track

Course	Title	Credit Hours
Year One		
Fall		
REL 105	One Goal: Transforming the Self in Asian Religions	3
ENG 105	English Composition I	3
BIL 150	General Biology	4
BIL 151	General Biology Laboratory	1
SPA 201	Intermediate Spanish I	3
UMX 100	The University of Miami Experience	0
	Credit Hours	14
Spring		
REL 151	Religion and Moral Choices	3
ENG 106	English Composition II	3
BIL 160	Evolution and Biodiversity	4
BIL 161	Evolution and Biodiversity Laboratory	1

SPA 202	Intermediate Spanish II	3
MTH 161	Calculus I	4
	Credit Hours	18
Year Two		
Fall		
REL 161	Religion and Medicine: Health Care as Spiritual Practice	3
CHM 111	Principles of Chemistry I	3
CHM 113	Chemistry Laboratory I	1
MTH 162	Calculus II	4
CSC 120	Computer Programming I	4
SPA 203	Advanced Spanish	3
	Credit Hours	18
Spring		
REL 354	Religion and the Problem of Evil	3
CHM 112	Principles of Chemistry II	3
CHM 114	Chemistry Laboratory II	1
ECS 111	Introduction to the Earth's Ecosystem	3
CSC 220	Computer Programming II	4
SPA 310	Topics in Spanish and Spanish American Studies in Translation	3
	Credit Hours	17
Year Three		
Fall		
REL 360	Religion and Bioethics	3
CHM 201	Organic Chemistry I (Lecture)	3
CHM 205	Organic Chemistry Laboratory I	1
POL 322	Environmental Politics and Policy	3
PHY 101	College Physics I	4
PHY 106	College Physics Laboratory I	1
	Credit Hours	15
Spring		
BIL 250	Genetics	3
CHM 202	Organic Chemistry II (Lecture)	3
CHM 206	Organic Chemistry Laboratory II	1
CSC 322	System Programming	3
PHY 102	College Physics II	4
PHY 108	College Physics Laboratory II	1
	Credit Hours	15
Year Four		
Fall		
REL 451	Ethics and Genetics	3
REL 499	Method and Theory in the Study of Religion	3
BMB 401	Biochemistry for the Biomedical Sciences	4
SOC 101	Introduction to Sociology	3
	Credit Hours	13
Spring		
REL 351	Death and Dying	3
ECS 310	Sustainable Living	3
SOC 384	Medical Sociology	3
SPA 322	Cultural Topics	3
	Credit Hours	12
	Total Credit Hours	122

B.A. in Religious Studies

Curriculum Requirements

Code	Title	Credit Hours
Core Courses		
Select one of the following:		3
REL 101	Introduction to Religion	
REL 102	Problem of God	
REL 103	One God: Judaism, Christianity, Islam	
REL 105	One Goal: Transforming the Self in Asian Religions	
Select a minimum of 18 elective credit hours in REL courses ¹		18
REL 499	Method and Theory in the Study of Religion	3
Additional Required Courses		
ENG 105	English Composition I	3
ENG 106	English Composition II	3
MTH 108	Precalculus Mathematics II	3
UMX 100	The University of Miami Experience	0
Arts and Humanities Cognate		9
STEM Cognate		9
Language Requirement		3-9
Minor or Additional Major Requirement		15
Electives		51
Total Credit Hours		120-126

- ¹
- A major in Religious Studies leading toward the B.A. degree requires 24 credit hours in Religious Studies, passed with a grade of C- or higher, and a GPA in the major of 2.0.
 - For a list of Religious Studies courses see this page (p. 2258).
 - Minimum of 12 credit hours in courses numbered 300 or above
 - Writing credit (W) in at least one course in the department

* To ensure that majors devise a coherent plan of study, the department requires consultation with the department undergraduate advisor.

** Transfer students who major in Religious Studies must complete at least 12 credits in department offered courses numbered 300 or above in residence at the Coral Gables Campus.

Suggested Plan of Study

This plan of study includes

- A Secondary Major in Public Health
- Cognates in Understanding Business and Earth Stars Wind and Water

Course	Title	Credit Hours
First Year		
Fall		
ENG 105	English Composition I	3
MTH 108	Precalculus Mathematics II	3
REL 101	Introduction to Religion	3
UMX 100	The University of Miami Experience	0
Elective		3
Language Course		3
		Credit Hours
		15
Spring		
APY 101	Introduction to Anthropology	3
ENG 106	English Composition II	3
REL 121	Introduction to the New Testament	3

REL 151	Religion and Moral Choices	3
Language Course		3
Credit Hours		15
Second Year		
Fall		
BIL 150	General Biology	4
BIL 151	General Biology Laboratory	1
BUS 200	Introduction to Business	3
BPH 206	Introduction to Public Health	3
POL 200 (EXP) course		3
Language Course		3
Credit Hours		17
Spring		
BPH 208	Introductory Epidemiology	3
BPH 310	Global Health	3
BUS 206	Principles of International Business	3
CHM 111	Principles of Chemistry I	3
CHM 113	Chemistry Laboratory I	1
GSC 106	Geological Influences on Society	3
Credit Hours		16
Third Year		
Fall		
BPH 309	Health and Environment	3
FIN 300	Fundamentals of Finance for Non-Finance Majors	3
PHY 110	Descriptive Astronomy	3
REL 335	American Religion in Modern Film	3
Credit Hours		12
Spring		
BPH 321	Health Promotion and Disease Prevention	3
MSC 220	Climate and Global Change	3
PSY 110	Introduction to Psychology	3
REL 371	Women, Gender, and Islam	3
REL 384	Karma	3
Credit Hours		15
Fourth Year		
Fall		
BPH 352	Biological Principles of Public Health	3
BPH 322	Introduction to Health Policy	3
PSY 260	Personality Psychology	3
REL 351	Death and Dying	3
REL 499	Method and Theory in the Study of Religion	3
Credit Hours		15
Spring		
BPH 465	Public Health Statistics and Data Management	3
BPH 490	Field Practicum in Community Health	3
GEG 241	Health and Medical Geography	3
PSY 240	Abnormal Psychology	3
Elective		3
Elective		3
Credit Hours		18
Total Credit Hours		123

Minor in Medical Humanities

Code	Title	Credit Hours
Core Courses		6-9
Select at least two of the following:		
REL 161	Religion and Medicine: Health Care as Spiritual Practice	
HIS 223	Medicine and Society: From the Ancient World to the 21st Century	
PHI 334	Biomedical Ethics	
Elective Courses ¹		6-9
Select up to three electives:		
CLA 222	Sexuality and Gender in the Ancient World	
CLA 225	Magic and the Occult in Antiquity	
CLA 231	Sciences in Ancient Greece and Rome	
CLA 233	Ancient Medicine	
HIS 330	The Scientific Revolution	
HIS 351	Science and Society	
PHI 546	Evidence and Knowledge in Medicine	
REL 252	Religion and Human Sexuality	
REL 351	Death and Dying	
REL 352	Religion and Science	
REL 360	Religion and Bioethics	
REL 451	Ethics and Genetics	
THA 108	Introduction to Standardized Patient Simulation	
WGS 315	Gender, Race, and Class	
WGS 347	Issues in Reproductive Medicine	
WGS 420	Interpreting Bodies	
Total Credit Hours		15

- ¹
- Courses offered as Special Topics or Independent Study may be applied toward the minor with approval by the program advisor.
 - No more than 6 credit hours may be applied to the minor from a single department.
 - At least 6 credit hours must be taken at the 300 level or higher.

- *
- Students must earn a grade of C- or better in each course and maintain a cumulative GPA of at least 2.0 in all courses counting toward the minor.

Minor in Religion and Healthcare

FOR STUDENTS FIRST ENROLLED IN OR AFTER FALL SEMESTER 2015

Code	Title	Credit Hours
Select one of the following:		3
REL 101	Introduction to Religion	
REL 102	Problem of God	
REL 103	One God: Judaism, Christianity, Islam	
REL 105	One Goal: Transforming the Self in Asian Religions	
Select two Religion and Health Care courses		6
Select one elective course		3
Select a minimum of 6 credit hours in courses numbered 300 or above		
Total Credit Hours		12

- *
- An undergraduate minor in Religion and Health Care requires 12 credit hours, passed with a grade of C- or higher, and a GPA in the minor of 2.0.
- **
- To ensure that minors devise a coherent plan of study, the department requires consultation with the department undergraduate advisor.
- ***
- Transfer students who minor in Religion and Health Care must complete at least 6 credits in department offered courses numbered 300 or above in residence at the Coral Gables campus.

Minor in Religious Studies

Code	Title	Credit Hours
Select one of the following:		3
REL 101	Introduction to Religion	
REL 102	Problem of God	
REL 103	One God: Judaism, Christianity, Islam	
REL 105	One Goal: Transforming the Self in Asian Religions	
Select a minimum of 6 credit hours in courses numbered 300 or above		6
Select an additional 3 elective credits		3
Total Credit Hours		12

- * An undergraduate minor requires 12 credit hours, passed with a grade of C- or higher, and a GPA in the minor of 2.0.
- ** To ensure that minors devise a coherent plan of study, the department requires consultation with the department undergraduate advisor. Minors are strongly encouraged to enroll in REL 499: Method and Theory in the Study of Religion
- *** Transfer students who minor in Religious Studies must complete at least 6 credits in department offered courses numbered 300 or above in residence at the Coral Gables campus.

Sociology

<http://www.as.miami.edu/sociology>

Dept. Code: SOC

Overview

The Major in Sociology provides scientific training for understanding the organization and fluid nature of contemporary society, patterns of social change, and the mutual influence between macro structures and processes (society and culture) on one hand, and the micro level (individuals and groups) on the other. Increasingly, sociologists are also focused on understanding the processes of globalization that are currently transforming contemporary societies.

Courses for both majors are designated SOC; see course list below. For information on Criminology please see the Criminology (p. 187) section of the Bulletin.

Educational Objectives

The undergraduate program in Sociology has as its main objective to provide students with:

1. A strong component of a social science education, training in analytical and statistical skills that are highly valued by potential employers;
2. A valuable undergraduate preparation for pursuing careers in such fields as environmental studies, public health, law, journalism, politics, public relations, business or public administration and in other fields that involve investigative or analytical skills or working with diverse groups;
3. An excellent and comprehensive training program for students wishing to pursue graduate work in programs leading to academic positions, research expertise, or work in the field of applied sociology.

Degree Programs

Students may earn a Bachelor of Arts degree in Sociology. The Department of Sociology also offers graduate programs leading to a PhD. degree in the areas of:

- Criminology
- Medical Sociology
- Race, Ethnic Relations, and Immigration

Departmental Honors

Graduation with Departmental Honors is available to eligible students who fulfill the following:

1. Students desiring Departmental Honors in Sociology or Criminology must maintain an overall GPA of 3.3 and a GPA of 3.5 in Sociology or Criminology. They must also achieve a minimum of B in all Sociology/Criminology courses. For transfer students, the Department uses the cumulative, combined GPA calculated by the Office of the Registrar.

2. A student seeking Departmental Honors is required to write an independent research paper which is submitted to the Undergraduate Committee. The nature of the independent research project is determined by the faculty member(s) with whom the student works. This project is done in SOC 498 & SOC 499. The student should have the same professor(s) for all six credit hours.
3. Recruitment of eligible students is by department invitation during a student's junior year.

Advanced Writing and Communication Requirement

To satisfy the College of Arts and Sciences Advanced Writing and Communication requirement, all Sociology majors must take 4 writing-designated courses, including 1 writing-designated course in the SOC area. Writing courses are regularly offered within the department; however, it is the student's responsibility to plan accordingly to incorporate a designated SOC writing-designated course into their graduation plans.

Alpha Kappa Delta

Majors, minors, and other students who meet certain academic criteria are eligible for membership in Alpha Kappa Delta, the International Sociology Honor Society. Alpha Kappa Delta sponsors events that enhance the academic and social life of the department.

Major in Sociology

- B.A. in Sociology (p. 337)
- Sociology & Criminology Double Major; Combined Minor (p. 339)

Minor in Sociology

- Sociology (p. 340)
- Sociology & Criminology Double Major; Combined Minor (p. 339)

B.A. in Sociology

Curriculum Requirements

Code	Title	Credit Hours
Required Courses		
SOC 101	Introduction to Sociology	3
SOC 210	Introduction to Social Research	3
SOC 211	Quantitative Methods for Sociologists	3
SOC 212	Quantitative Methods Lab	1
SOC 401	Sociological Theory	3
Select two of the following:		6
SOC 301	Social Organization	
SOC 302	Social Psychology: Sociological Perspective	
SOC 303	Social Inequalities	
Departmental Electives		12
Additional Required Courses		
ENG 105	English Composition I	3
ENG 106	English Composition II	3
MTH 113	Finite Mathematics	3
Arts and Humanities Cognate		9
STEM Cognate		9
Additional Major/Minor		15-30
Science Course		3
Foreign Language		3-9
Electives		41
Total Credit Hours		120-126

* EPS 452 can be substituted for SOC 210 only by students who are also enrolled in the School of Education
 PSY 291 or PSY 292 can be substituted for SOC 211 only by students who are Psychology majors or minors and also majoring in Sociology or Criminology; they will be required to take SOC 212, unless a Psychology major. PSY 390 can be substituted for SOC 212 only by students who are Psychology majors.

** A minimum final grade of C- in all courses offered by the Department

*** A minimum cumulative GPA of 2.0 in all courses offered by the Department

**** A minimum of 16 credit hours must be earned in residency in the Department; thus, only a maximum of 15 credit hours can be transferred from other institutions as eligible credit hours for the SOCIOLOGY major

Suggested Plan of Study

Course	Title	Credit Hours
Freshman Year		
Fall		
ENG 105	English Composition I	3
MTH 113	Finite Mathematics	3
Language (first course)		3
Arts and Humanities Cognate (first course)		3
SOC 101	Introduction to Sociology	3
Credit Hours		15
Spring		
ENG 106	English Composition II	3
Language (second course)		3
STEM Cognate (first course)		3
SOC 210	Introduction to Social Research	3
Elective		3
Credit Hours		15
Sophomore Year		
Fall		
SOC 211	Quantitative Methods for Sociologists	3
SOC 212	Quantitative Methods Lab	1
Arts and Humanities Cognate (second course)		3
Minor (first course)		3
Elective		3
Credit Hours		13
Spring		
SOC 301, 302, or 303	Social Organization or Social Psychology: Sociological Perspective or Social Inequalities	3
Minor (second course)		3
STEM Cognate (second course)		3
Elective		3
Elective		3
Credit Hours		15
Junior Year		
Fall		
SOC 371	Criminology	3
Minor (third course)		3
STEM Cognate (third course)		3
Elective		3
Elective		3
Elective		3
Credit Hours		18
Spring		
Minor (fourth course)		3
Natural Science Course		3
Elective		3
Elective		3

Elective		3
	Credit Hours	15
Senior Year		
Fall		
SOC 401	Sociological Theory	3
Minor (fifth course)		
Arts and Humanities Cognate (third course)		
Elective		3
Elective		3
Elective		3
	Credit Hours	15
Spring		
Elective		3
Elective		3
Elective		3
Elective		3
Elective		3
	Credit Hours	15
Total Credit Hours		121

Sociology & Criminology Double Major

Students may choose to double major in both Sociology and Criminology, or major in either Sociology or Criminology while minoring in the other.

Sociology and Criminology Double Major

Students wishing to complete a double major must complete the Declaration of Major form for the College of Arts and Sciences and fill in *both* majors. Students completing a double major are not required to complete a minor as well.

Curriculum Requirements

Code	Title	Credit Hours
Core Courses		
SOC 101	Introduction to Sociology	3
SOC 210	Introduction to Social Research	3
SOC 211	Quantitative Methods for Sociologists	3
SOC 212	Quantitative Methods Lab	1
Sociology Courses		
SOC 401	Sociological Theory	3
Select two of the following:		6
SOC 301	Social Organization	
SOC 302	Social Psychology: Sociological Perspective	
SOC 303	Social Inequalities	
Criminology Courses		
SOC 371	Criminology	3
SOC 470	Theories of Deviant Behavior	3
Select one of the following:		3
SOC 271	Criminal Justice	
SOC 370	Juvenile Delinquency	
Departmental Electives		30
Additional Required Courses		
ENG 105	English Composition I	3
ENG 106	English Composition II	3
MTH 113	Finite Mathematics	3
Arts and Humanities Cognate		9

STEM Cognate	9
Minor	15
Science Course	3
Foreign Language	3-9
Electives	14
Total Credit Hours	120-126

Other Requirements

- * A minimum final grade of C- and a GPA of 2.0 are required in all courses offered by the Department
- ** A minimum of 31 credits must be earned in residency in the Department; thus, only a maximum of 27 credits can be transferred from other institutions as eligible credits for the SOCIOLOGY/CRIMINOLOGY DOUBLE major

Sociology and Criminology Major-Minor Program

A minor in either Sociology or Criminology while majoring in the other program requires 12 additional credits offered by the Department to the major program requirements, totaling 43 credit hours.

- 6 of these credits must be 300-level or higher.
- Sociology majors must take SOC 371 Criminology.

Minor in Sociology

Code	Title	Credit Hours
Required Courses		
SOC 101	Introduction to Sociology	3
Elective Courses		
Four additional courses offered by the Department of Sociology ¹		12
Total Credit Hours		15

- ¹ Two of the four courses must be 300 level or higher.
- * A minimum final grade of C- in all courses offered by the Department.
- ** A minimum cumulative GPA of 2.0 in all courses offered by the Department.
- *** A minimum of 9 credit hours must be earned in residency in the Department; thus, only a maximum of 6 credit hours can be transferred from other institutions as eligible credit hours for the sociology minor.

Theatre Arts

<http://www.as.miami.edu/theatrearts>

Dept. Code: **THA**

Introduction

The University of Miami Department of Theatre Arts offers two distinct undergraduate degrees:

- a liberal arts program leading to a Bachelor of Arts degree in Theatre Arts and
- a pre-professional conservatory-based theatre training program leading to a Bachelor of Fine Arts degree in either
 - Acting,
 - Musical Theatre,
 - Stage Management,
 - Theatre Management, or
 - Design/Production.

The Department produces a season of plays and musicals at the Jerry Herman Ring Theatre as well as smaller-scale works in the Studio Theatre located in Hecht Residential College.

Educational Objectives

BA degree students are empowered to engage with and explore their world using the tools of theatre and performance. As an interdisciplinary degree program pursued in conjunction with a second major or as a minor, the BA program fosters a sound knowledge of theatre practice along with a deep

understanding of its history and diversity of applications. By emphasizing creative and critical approaches to both the study and practice of the theatre arts, the BA program aspires to produce skilled artists, educators, and leaders in the field of theatre and beyond.

The objective of the BFA programming is to prepare gifted creative artists with the experience, training and craft necessary for entry into the world of professional theatre, television and film. Intensive training is complemented by a liberal arts curriculum and access to the vibrant international community of South Florida.

Degree Programs

- THE BACHELOR OF FINE ARTS DEGREE
- THE BACHELOR OF ARTS DEGREE

The Bachelor of Fine Arts Degree in Theatre Arts

In addition to meeting the requirements for admission to the University of Miami, students seeking admission to the Department of Theatre Arts BFA program must:

1. Submit the Supplemental Application to the Department of Theatre Arts. This application may be found here <http://www.as.miami.edu/theatrearts/prospective/supplemental-application/>, as well as on the "Undergraduate Admissions" page on the University website;
2. Schedule an audition or portfolio review. These auditions and reviews are held on the University of Miami campus as well as in major cities throughout the United States at the National Unified Auditions. Auditions schedules can be found on the Department of Theatre Arts website on the "Prospective Students" page.

BFA transfer applicants must follow the Admission procedures described above and should note that if accepted, class standing in the program (freshman, sophomore, etc.) is determined by the BFA Theatre Arts Faculty and the Director of Undergraduate Studies.

Musical Theatre and Acting Majors are typically admitted to the Bachelor of Fine Arts degree program in the fall semester of each academic year.

The candidates for the degree of Bachelor of Fine Arts must satisfy the academic requirements established by the College of Arts and Sciences, including, but not limited to the demonstration of:

- Advanced Writing and Communication Proficiency: Degree candidates must complete at least four writing courses, and at least one writing course must be in the student's major discipline,
- Mathematics Proficiency: Degree candidates must earn at least 3 credit hours in a Mathematics course numbered MTH 108 or higher.

To remain in the program, BFA students in the Department of Theatre Arts must maintain a cumulative 2.7 (B-) grade point average in all theatre courses (and any other courses required in a student's area of specialization) and a cumulative GPA of 2.0 (C) in all courses. Failure to maintain satisfactory academic standing will result in the student being placed on academic probation by the Department and may lead to dismissal from the BFA program.

BFA Theatre Arts courses are progressive in nature and students must successfully complete each course in sequence. Failure to pass the requirements of any particular class in the program may result in the student's dismissal.

All BFA students are evaluated by the faculty on commitment to training, production work, growth, discipline, talent and professional potential at the end of each semester.

Departmental production requirements, student responsibilities, and disciplinary policies are detailed in the Student Handbook, available here <http://www.as.miami.edu/media/college-of-arts-and-sciences/content-assets/theatre-arts/docs/pdfs/Student%20Handbook%202017.pdf> and on the "Current Students" page on the Department's website.

Majors in Theatre Arts

- B.A. in Theatre Arts (p. 342)
- B.F.A. in Theatre Arts - Design/Technical Production (p. 348)
- B.F.A. in Theatre Arts - Musical Theatre (p. 350)
- B.F.A. in Theatre Arts - Acting (p. 345)
- B.F.A. in Theatre Arts - Stage Management (p. 353)
- B.F.A. in Theatre Arts - Theatre Management (p. 356)

Minor in Theatre Arts

- Theatre Arts (p. 358)

B.A. in Theatre Arts

<http://www.as.miami.edu/theatrearts>

Curriculum Requirements

Code	Title	Credit Hours
Core Classes		
THA 101	Introduction to Theatre	3
THA 143	Backstage Crew Lab	1
THA 453	Theatre Arts Capstone	3
ENG 105	English Composition I	3
ENG 106	English Composition II	3
MTH 113	Finite Mathematics	3
Language		3-9
Minor* Or second major		15-36
Elective		39
People & Society Cognate		9
STEM Cognate		9
Focus-Area Courses		
Performance		6
History, Literature, & Playwriting		6
Design, Management, & Technology		5
Electives		6
Total Credit Hours		120

* A grade of C- or higher in all Theatre Arts courses and a cumulative GPA of 2.0 in all courses are required.

** To satisfy the College of Arts and Sciences writing requirement in the discipline, students majoring in Theatre Arts are encourage to complete THA 481 and/or THA 482.

*** Transfer students have a residency requirement of 18 Theatre Arts credit hours on campus.

**** The State of Florida recognizes the Bachelor of Arts and Bachelor of Fine Arts Degrees as meeting the Theatre Arts subject area requirements for teaching at the secondary level. In addition to earning the BA or BFA degree in Theatre, students desiring to teach in the field of Theatre Arts should complete the required education credit hours in order to be certified by the state.

Suggested Plan of Study

Course	Title	Credit Hours
Freshman Year		
Fall I		
ENG 105	English Composition I	3
MTH 113	Finite Mathematics	3
Language		3
THA 101	Introduction to Theatre	3
THA 143	Backstage Crew Lab	1
Select credit hours from the Performance Focus-Area Course List		3
	Credit Hours	16
Spring I		
ENG 106	English Composition II	3
STEM Cognate		3
Language		3
Select credit hours from the Performance Focus-Area Course List		3
Select credit hours from the Design Management & Technology		2
	Credit Hours	14

Sophomore Year		
Fall I		
STEM Cognate		3
Language		3
Elective		3
Select credit hours from the History, Literature and Playwriting Focus-Area Course List		3
Select credit hours from the Design Management & Technology Focus-Area Course List		3
	Credit Hours	15
Spring I		
STEM Cognate		3
Minor		3
Elective		9
	Credit Hours	15
Junior Year		
Fall I		
Select credit hours from the History, Literature and Playwriting Focus-Area Course List		6
People & Society Cognate		3
Minor		3
Elective		3
	Credit Hours	15
Spring I		
Elective Credit Hours from the Focus-Area Course List		3
Minor		3
People & Society Cognate		3
Elective		6
	Credit Hours	15
Senior Year		
Fall I		
Elective credit hours from the Focus-Area Course List		3
People & Society Cognate		3
Elective		9
	Credit Hours	15
Spring I		
THA 453	Theatre Arts Capstone	3
Minor		6
Elective		6
	Credit Hours	15
	Total Credit Hours	120

Performance Focus Area

Code	Title	Credit Hours
Focus-Area Course List: Performance		
THA 105	Introduction to Acting	3
THA 106	Introduction to Acting for the Musical Theatre	3
THA 108	Introduction to Standardized Patient Simulation	3
THA 140	Introduction to Dance	3
THA 160	Dance Styles	3
THA 161	Beginning/ Intermediate Tap	3
THA 162	Intermediate Advanced Tap	3
THA 206	Acting for Musical Theatre	3
THA 208	Intermediate Standardized Patient Training	3

THA 240	Introduction to Dance II	3
THA 251	Intermediate Acting I	3
THA 252	Intermediate Acting II	3
THA 253	Special Topics in Voice for the Stage	3
THA 254	Movement for Actors	3
THA 351	Auditioning and Preparing for the Profession	3
THA 352	Singing for the Musical Theater	3
THA 356	Improvisational Acting	3
THA 413	Movement III-A	3
THA 414	Movement III-B	3
THA 451	Advanced Acting: Classical Poetic Text	3
THA 452	Advanced Acting: Contemporary Poetic Text	3
THA 461	Play Direction I	3
THA 462	Play Direction II	3
THA 471	Directing the Actor for Film	3

History, Literature, and Playwriting Focus Area

Code	Title	Credit Hours
Focus-Area Course List: History, Literature, & Playwriting		
THA 281	History of Western Theatre Architecture	3
THA 301	Theater and the Holocaust	3
THA 302	People, Places and Play: Theatre that Changed the World	3
THA 370	Popular Culture and Entertainment: Performance, Spectacle, and Audience Experience	3
THA 375	Introduction to Playwriting	3
THA 376	Beg, Borrow and Steal: Adapting for the Stage	3
THA 377	Make Them Laugh: How to Write Comedy	3
THA 381	Play Analysis I	3
THA 382	Play Analysis II	3
THA 383	Queer Theatre: Body Politics/Staging Sexuality	3
THA 384	Music in the American Theatre: Its Dramaturgy, Music, and Cultural	3
THA 385	History of Interior Design and Furniture	3
THA 386	History of Fashion	3
THA 472	Where Stage and Film Meet	3
THA 475	Lyric Writing for Musical Theatre	3
THA 481	Theatre History I	3
THA 482	Theatre History II	3
THA 485	Playwriting II	3

Design, Management, and Technology Electives

Code	Title	Credit Hours
Theatre Electives: Design, Management, & Technology (5 credit hours required)		
THA 141	Introduction to Scenic, Costume, and Light Design in Theatre and Film	2
THA 142	Introduction to Theatre Technology	2
THA 144	Production Crew Lab	1
THA 241	Basic Costume Sewing and Scenic Painting	3
THA 242	Drafting for the Theatre	3
THA 243	Beginning Theatre Design How to Sketch Your Idea	3
THA 244	Theatre Design and Collaboration - Three Dimensional Creativity for Scenery and Costumes.	3
THA 245	Technical Planning for Theatrical Productions	3

THA 246	Survey of Design for Theater and Live Entertainment.	3
THA 247	Master Electrician for the Stage	3
THA 248	Introduction to Design for Film	3
THA 341	Sound for the Theatre	3
THA 342	Scenic Design	3
THA 343	Costume Design	3
THA 344	Lighting Design	3
THA 345	Scenic Materials and Structures	3
THA 347	Stage Make-Up	3
THA 364	The Theatre Industry	3
THA 365	Principles of Stage Management	3
THA 369	Producing New Plays and Musicals	3
THA 441	Design Studio I	3
THA 442	Design Studio II	3
THA 463	Advanced Stage Management I	3
THA 464	Advanced Stage Management II	3
THA 465	Broadway and the Road	3
THA 466	Theatrical Unions	3
THA 467	Producing for Regional Theatre	3
THA 468	Professions of the American Theatre	3
THA 469	Producing Musical Theatre II	3

B.F.A. in Theatre Arts - Acting

Curriculum Requirements

Code	Title	Credit Hours
Required Courses		
THA 111	Acting I-A	2
THA 112	Acting I-B (Script Analysis)	2
THA 113	Movement I-A	2
THA 114	Movement I-B	2
THA 116	Dance I-A	2
THA 117	Dance I-B	2
THA 120	Freshman Studio I	1-2
THA 121	Freshman Studio II	1-2
THA 141	Introduction to Scenic, Costume, and Light Design in Theatre and Film	2
THA 142	Introduction to Theatre Technology	2
THA 143	Backstage Crew Lab	1
THA 144	Production Crew Lab	1
THA 198	Voice and Speech I-A	2
THA 199	Voice and Speech I-B	2
THA 211	Acting II-A	2
THA 212	Acting II-B	2
THA 294	Singing for Actors II-A	2
THA 298	Voice and Speech II-A	1
THA 299	Voice and Speech II-B	2
THA 311	Acting III-A	2
THA 312	Acting III-B	2
THA 313	Movement II-A	1
THA 314	Movement II-B	1
THA 315	Auditioning I	2

THA 356	Improvational Acting	3
THA 364	The Theatre Industry	3
THA 381	Play Analysis I	3
THA 382	Play Analysis II	3
THA 398	Voice and Speech III-A	1
THA 399	Voice and Speech III-B	1
THA 411	Acting IV-A	2
THA 412	Acting IV-B	2
THA 413	Movement III-A	3
THA 414	Movement III-B	3
THA 416	Auditioning-II	2
THA 420	Senior Studio	3
THA 455	Acting for the Camera	3
THA 461	Play Direction I	3
THA 481	Theatre History I	3
THA 482	Theatre History II	3
Elective Courses		
Select six Elective Courses:		14-18
THA 116	Dance I-A (and/or Another approved dance class) ¹	
Other approved singing class		
THA 251	Intermediate Acting I ¹	
THA 252	Intermediate Acting II ¹	
THA 352	Singing for the Musical Theater ¹	
or THA 431	Musical Theatre Styles I	
THA 432	Musical Theatre Styles II	
THA 455	Acting for the Camera	
THA 462	Play Direction II ¹	
THA 466	Theatrical Unions	
THA 375	Introduction to Playwriting ¹	
THA 365	Principles of Stage Management	
OR Other approved courses		
Additional Requirements		
ENG 105	English Composition I	3
ENG 106	English Composition II	3
UMX 100	The University of Miami Experience	0
MTH Requirement		3
People and Society Cognate		9
STEM Cognate		9
Total Credit Hours		123-129

¹ indicates recommended

Suggested Plan of Study

Course	Title	Credit Hours
Freshman Year		
First Semester		
THA 111	Acting I-A	2
THA 113	Movement I-A	2
THA 116	Dance I-A	2
THA 120	Freshman Studio I	2
THA 141	Introduction to Scenic, Costume, and Light Design in Theatre and Film	2
THA 143	Backstage Crew Lab	1

THA 198	Voice and Speech I-A	2
THA 294	Singing for Actors II-A	2
ENG 105	English Composition I	3
	Credit Hours	18
Second Semester		
THA 112	Acting I-B (Script Analysis)	2
THA 114	Movement I-B	2
THA 117	Dance I-B	2
THA 121	Freshman Studio II	2
THA 142	Introduction to Theatre Technology	2
THA 144	Production Crew Lab	1
THA 199	Voice and Speech I-B	2
ENG 106	English Composition II	3
	Credit Hours	16
Sophomore Year		
First Semester		
THA 211	Acting II-A	2
THA 298	Voice and Speech II-A	1
THA 381	Play Analysis I	3
Theatre Elective		2-3
People and Society COGNATE		3
MTH Math requirement		3
	Credit Hours	14-15
Second Semester		
THA 212	Acting II-B	2
THA 299	Voice and Speech II-B	2
THA 382	Play Analysis II	3
THA 356	Improvisational Acting	3
Theatre Elective		2-3
People and Society COGNATE		3
	Credit Hours	15-16
Junior Year		
First Semester		
THA 311	Acting III-A	2
THA 313	Movement II-A	1
THA 398	Voice and Speech III-A	1
THA 481	Theatre History I	3
Theatre Elective		2-3
STEM Cognate		3
People and Society COGNATE		3
	Credit Hours	15-16
Second Semester		
THA 312	Acting III-B	2
THA 314	Movement II-B	1
THA 399	Voice and Speech III-B	1
THA 315	Auditioning I	2
THA 482	Theatre History II	3
Theatre Elective		2-3
STEM Cognate		3
	Credit Hours	14-15

Senior Year		
First Semester		
THA 364	The Theatre Industry	3
THA 411	Acting IV-A	2
THA 413	Movement III-A	3
THA 416	Auditioning-II	2
THA 455	Acting for the Camera	3
THA 461	Play Direction I	3
STEM Cognate		3
	Credit Hours	19
Second Semester		
THA 412	Acting IV-B	2
THA 414	Movement III-B	3
THA 420	Senior Studio	3
Theatre Elective		2-3
Theatre Elective		2-3
	Credit Hours	12-14
	Total Credit Hours	123-129

B.F.A. in Theatre Arts - Design/Technical Production

<http://www.as.miami.edu/theatrearts/>

Curriculum Requirements

Code	Title	Credit Hours
Theater Courses		
THA 105	Introduction to Acting	3
THA 141 & THA 143	Introduction to Scenic, Costume, and Light Design in Theatre and Film and Backstage Crew Lab	3
THA 142 & THA 144	Introduction to Theatre Technology and Production Crew Lab	3
THA 241	Basic Costume Sewing and Scenic Painting	3
THA 242	Drafting for the Theatre	3
THA 243	Beginning Theatre Design How to Sketch Your Idea	3
THA 244	Theatre Design and Collaboration - Three Dimensional Creativity for Scenery and Costumes.	3
THA 342	Scenic Design	3
THA 343	Costume Design	3
THA 344	Lighting Design	3
THA 364	The Theatre Industry	3
THA 365	Principles of Stage Management	3
THA 381	Play Analysis I	3
THA 382	Play Analysis II	3
THA 385	History of Interior Design and Furniture	3
THA 386	History of Fashion	3
THA 401	Internship	3
THA 402	Internship	3
THA 441	Design Studio I ³	3
THA 442	Design Studio II ¹	6
THA 461	Play Direction I	3
THA 481	Theatre History I	3
THA 482	Theatre History II	3

Other Required Courses		
ART 101	Introduction to Drawing I	3
ART 105	Figure Drawing	3
ART 109	Introduction to Electronic Media	3
BUS 150	Business Analytics	3
COS 211	Public Speaking	3
ENG 105	English Composition I	3
ENG 106	English Composition II	3
Liberal Arts/ Math		6
Liberal Arts Elective		15
Theatre Elective ²		18
Total Credit Hours		132

¹ THA 442 can be taken twice for a maximum of 6 credit hours.

² Theatre Elective – must be a 200 level or above course.

³ THA 441 can be taken twice for a maximum of 6 credit hours.

Suggested Plan of Study

Course	Title	Credit Hours
Freshman Year		
First Semester		
ART 101	Introduction to Drawing I	3
BUS 150	Business Analytics	3
ENG 105	English Composition I	3
THA 141 & THA 143	Introduction to Scenic, Costume, and Light Design in Theatre and Film and Backstage Crew Lab	3
THA 365	Principles of Stage Management	3
	Credit Hours	15
Second Semester		
ART 105	Figure Drawing	3
ENG 106	English Composition II	3
THA 105	Introduction to Acting	3
THA 142 & THA 144	Introduction to Theatre Technology and Production Crew Lab	3
Math		3
THA 364	The Theatre Industry	3
	Credit Hours	18
Sophomore Year		
First Semester		
COS 211	Public Speaking	3
THA 241	Basic Costume Sewing and Scenic Painting	3
THA 243	Beginning Theatre Design How to Sketch Your Idea	3
THA 381	Play Analysis I	3
People in Society Cognate		3
	Credit Hours	15
Second Semester		
THA 242	Drafting for the Theatre	3
THA 244	Theatre Design and Collaboration - Three Dimensional Creativity for Scenery and Costumes.	3
THA 382	Play Analysis II	3
THA 386	History of Fashion	3
People in Society Cognate		3
	Credit Hours	15

Junior Year		
First Semester		
THA 343	Costume Design	3
THA 344	Lighting Design	3
THA 385	History of Interior Design and Furniture	3
THA 481	Theatre History I	3
People in Society Cognate		3
STEM Cognate		3
Credit Hours		18
Second Semester		
ART 109	Introduction to Electronic Media	3
THA 342	Scenic Design	3
THA 442	Design Studio II ¹	3
THA 482	Theatre History II	3
STEM Cognate		3
Theatre Elective ²		3
Credit Hours		18
Senior Year		
First Semester		
THA 401	Internship	3
THA 441	Design Studio I ³	3
THA 461	Play Direction I	3
STEM Cognate		3
Theatre Elective ²		3
Theatre Elective ²		3
Credit Hours		18
Second Semester		
THA 402	Internship	3
THA 442	Design Studio II ²	3
Theatre Elective ²		3
Theatre Elective ²		3
Theatre Elective ²		3
Credit Hours		15
Total Credit Hours		132

¹ THA 442 can be taken twice for a maximum of 6 credit hours.

² Theatre Elective – must be a 200 level or above course.

³ THA 441 can be taken twice for a maximum of 6 credit hours.

* ART 107 is highly recommended.

B.F.A. in Theatre Arts - Musical Theatre

<http://www.as.miami.edu/theatrearts/>

Curriculum Requirements

Code	Title	Credit Hours
Theatre Courses		
THA 111	Acting I-A	2
THA 112	Acting I-B (Script Analysis)	2
THA 113	Movement I-A	2
THA 114	Movement I-B	2
THA 116	Dance I-A	2
THA 117	Dance I-B	2

THA 120	Freshman Studio I	1
THA 121	Freshman Studio II	1
THA 141	Introduction to Scenic, Costume, and Light Design in Theatre and Film	2
THA 142	Introduction to Theatre Technology	2
THA 143	Backstage Crew Lab	1
THA 144	Production Crew Lab	1
THA 191	Introductory Applied Music Theatre Voice I	1
THA 192	Introductory Applied Music Theatre Voice II	1
THA 196	Singing for the Stage I-A	1
THA 197	Singing for the Stage I-B	1
THA 198	Voice and Speech I-A	2
THA 199	Voice and Speech I-B	2
THA 211	Acting II-A	2
THA 212	Acting II-B	2
THA 216	Dance II-A	1
THA 217	Dance II-B	2
THA 231	Music Theatre Skills II	2
THA 232	Music Theatre Skills IV	2
THA 291	Beginning Applied Music Theatre Voice I	1
THA 292	Beginning Applied Music Theatre Voice II	1
THA 296	Singing for the Stage II-A	1
THA 297	Singing for the Stage II-B	1
THA 298	Voice and Speech II-A	1
THA 299	Voice and Speech II-B	2
THA 311	Acting III-A	2
THA 312	Acting III-B	2
THA 313	Movement II-A	1
THA 314	Movement II-B	1
THA 316	Dance III-A	2
THA 317	Dance III-B	2
THA 384	Music in the American Theatre: Its Dramaturgy, Music, and Cultural	3
THA 391	Intermediate Applied Music Theatre Voice I	1
THA 392	Intermediate Applied Music Theatre Voice II	1
THA 396	Singing for the Stage III-A	1
THA 398	Voice and Speech III-A	1
THA 399	Voice and Speech III-B	1
THA 411	Acting IV-A	2
THA 412	Acting IV-B	2
THA 416	Auditioning-II	2
THA 420	Senior Studio	3
THA 431	Musical Theatre Styles I	3
THA 432	Musical Theatre Styles II	3
THA 455	Acting for the Camera	3
THA 481	Theatre History I	3
THA 482	Theatre History II	3
THA 491	Advanced Applied Music Theatre Voice I	1
THA 492	Advanced Applied Music Theatre Voice II	1
Additional Dance Course Requirement		4
Other Required Courses		
ENG 105	English Composition I	3
ENG 106	English Composition II	3

MTC 109	Music Theory Skills I	3
MTC 110	Music Theory Skills II	3
People and Society Cognate		9
MTH Math Requirement		3
STEM Cognate		9
Total Credit Hours		127

Suggested Plan of Study

Course	Title	Credit Hours
Freshman Year		
First Semester		
THA 111	Acting I-A	2
THA 113	Movement I-A	2
THA 116	Dance I-A	2
THA 120	Freshman Studio I	1
THA 141	Introduction to Scenic, Costume, and Light Design in Theatre and Film	2
THA 143	Backstage Crew Lab	1
THA 191	Introductory Applied Music Theatre Voice I	1
THA 196	Singing for the Stage I-A	1
THA 198	Voice and Speech I-A	2
ENG 105	English Composition I	3
MTC 109	Music Theory Skills I	3
	Credit Hours	20
Second Semester		
THA 112	Acting I-B (Script Analysis)	2
THA 114	Movement I-B	2
THA 117	Dance I-B	2
THA 121	Freshman Studio II	1
THA 142	Introduction to Theatre Technology	2
THA 144	Production Crew Lab	1
THA 192	Introductory Applied Music Theatre Voice II	1
THA 197	Singing for the Stage I-B	1
THA 199	Voice and Speech I-B	2
ENG 106	English Composition II	3
MTC 110	Music Theory Skills II	3
	Credit Hours	20
Sophomore Year		
First Semester		
THA 211	Acting II-A	2
THA 216	Dance II-A	1
THA 231	Music Theatre Skills II	2
THA 291	Beginning Applied Music Theatre Voice I	1
THA 296	Singing for the Stage II-A	1
THA 298	Voice and Speech II-A	1
THA 384	Music in the American Theatre: Its Dramaturgy, Music, and Cultural	3
MTH Math requirement		3
	Credit Hours	14
Second Semester		
THA 212	Acting II-B	2
THA 217	Dance II-B	2
THA 232	Music Theatre Skills IV	2
THA 292	Beginning Applied Music Theatre Voice II	1

THA 297	Singing for the Stage II-B	1
THA 299	Voice and Speech II-B	2
People and Society COGNATE		3
Credit Hours		13
Junior Year		
First Semester		
THA 311	Acting III-A	2
THA 313	Movement II-A	1
THA 316	Dance III-A	2
THA 391	Intermediate Applied Music Theatre Voice I	1
THA 396	Singing for the Stage III-A	1
THA 398	Voice and Speech III-A	1
THA 481	Theatre History I	3
People and Society Cognate		3
STEM Cognate		3
Credit Hours		17
Second Semester		
THA 312	Acting III-B	2
THA 314	Movement II-B	1
THA 317	Dance III-B	2
THA 392	Intermediate Applied Music Theatre Voice II	1
THA 399	Voice and Speech III-B	1
THA 482	Theatre History II	3
People and Society Cognate		3
STEM Cognate		3
Credit Hours		16
Senior Year		
First Semester		
THA 316	Dance III-A ²	2
THA 411	Acting IV-A	2
THA 416	Auditioning-II	2
THA 431	Musical Theatre Styles I	3
THA 455	Acting for the Camera	3
THA 491	Advanced Applied Music Theatre Voice I	1
Credit Hours		13
Second Semester		
THA 317	Dance III-B ²	2
THA 412	Acting IV-B	2
THA 420	Senior Studio	3
THA 432	Musical Theatre Styles II	3
THA 492	Advanced Applied Music Theatre Voice II	1
STEM COGNATE		3
Credit Hours		14
Total Credit Hours		127

¹ Optional but recommended

² Optional but recommended or any Dance class.

* These courses are optional but highly recommended: THA 413 , THA 414, THA 461.

B.F.A. in Theatre Arts - Stage Management

<http://www.as.miami.edu/theatrearts/>

Curriculum Requirements

Code	Title	Credit Hours
Theatre Courses		
THA 105	Introduction to Acting	3
THA 141	Introduction to Scenic, Costume, and Light Design in Theatre and Film	2
THA 142	Introduction to Theatre Technology	2
THA 143	Backstage Crew Lab	1
THA 144	Production Crew Lab	1
THA 241	Basic Costume Sewing and Scenic Painting	3
THA 242	Drafting for the Theatre	3
THA 243	Beginning Theatre Design How to Sketch Your Idea	3
THA 344	Lighting Design	3
THA 364	The Theatre Industry	3
THA 365	Principles of Stage Management	3
THA 381	Play Analysis I	3
THA 382	Play Analysis II	3
THA 401	Internship	3
THA 402	Internship	3
THA 459	Stage Management Practicum	9
THA 461	Play Direction I	3
THA 462	Play Direction II	3
THA 463	Advanced Stage Management I	3
THA 464	Advanced Stage Management II	3
THA 466	Theatrical Unions	3
THA 481	Theatre History I	3
THA 482	Theatre History II	3
THA 487	Advanced Projects	3
Choose one of the following:		3
THA 369	Producing New Plays and Musicals	
THA 467	Producing for Regional Theatre	
THA 469	Producing Musical Theatre II	
Other Required Courses		
BUS 150	Business Analytics	3
COS 112	Interpersonal Communication	3
COS 211	Public Speaking	3
ENG 105	English Composition I	3
ENG 106	English Composition II	3
MGT 304	Organizational Behavior	3
MTC 109	Music Theory Skills I	3
Math ⁵		3
People and Society Cognate		9
STEM Cognate		9
Theatre Elective		12
Total Credit Hours		129

¹ All Stage Management majors are required to participate in a production capacity in one show per semester for all eight semesters

² All Stage Management majors are required to stage manage or assistant stage manage one show in their sophomore, junior and senior years.. This management assignment doubles as their production assignment for that particular semester.

³ THA 459 may be repeated for a maximum of 18 credit hours.

⁴ 100 level THA electives must be approved by Stage Management Faculty.

⁵ 3 credit hours in a Mathematics course numbered MTH 108 or higher are required for the BFA degree.

Suggested Plan of Study

Course	Title	Credit Hours
Freshman Year		
First Semester		
THA 141	Introduction to Scenic, Costume, and Light Design in Theatre and Film	2
THA 143	Backstage Crew Lab	1
THA 365	Principles of Stage Management	3
ENG 105	English Composition I	3
MTC 109	Music Theory Skills I	3
Math 108 or higher		3
	Credit Hours	15
Second Semester		
THA 105	Introduction to Acting	3
THA 142	Introduction to Theatre Technology	2
THA 144	Production Crew Lab	1
ENG 106	English Composition II	3
Math		3
BUS 150	Business Analytics	3
	Credit Hours	15
Sophomore Year		
First Semester		
THA 243	Beginning Theatre Design How to Sketch Your Idea	3
THA 364	The Theatre Industry	3
THA 381	Play Analysis I	3
THA 459	Stage Management Practicum	3
People in Society Cognate		3
	Credit Hours	15
Second Semester		
THA 242	Drafting for the Theatre	3
THA 382	Play Analysis II	3
THA 463	Advanced Stage Management I	3
COS 112	Interpersonal Communication	3
STEM COGNATE		3
People in Society Cognate		3
	Credit Hours	18
Junior Year		
First Semester		
THA 241	Basic Costume Sewing and Scenic Painting	3
THA 344	Lighting Design	3
THA 459	Stage Management Practicum	3
THA 461	Play Direction I	3
THA 481	Theatre History I	3
Theatre Elective		3
	Credit Hours	18
Second Semester		
THA 462	Play Direction II	3
THA 464	Advanced Stage Management II	3
THA 482	Theatre History II	3
COS 211	Public Speaking	3
Theatre Elective		3

THA Management Course (THA 369, THA 467 or THA 469 are recommended)		3
Credit Hours		18
Senior Year		
First Semester		
THA 459	Stage Management Practicum	3
THA 466	Theatrical Unions	3
STEM COGNATE		6
THA Elective		3
Credit Hours		15
Second Semester		
THA 401	Internship	3
THA 402	Internship	3
THA 487	Advanced Projects	3
Theatre Elective		3
MGT 304	Organizational Behavior	3
Credit Hours		15
Total Credit Hours		129

- ¹ All Stage Management majors are required to participate in a production capacity in one show per semester for all eight semesters
- ² All Stage Management majors are required to stage manage or assistant stage manage one show in their Sophomore, Junior and Senior years. This management assignment doubles as their production assignment for that particular semester.
- ³ THA 459 may be repeated for a maximum of 18 credit hours.
- ⁴ 100 level THA electives must be approved by Stage Management Faculty.

B.F.A. in Theatre Arts - Theatre Management

<http://www.as.miami.edu/theatrearts/>

Curriculum Requirements

Code	Title	Credit Hours
Theatre Courses		
THA 105	Introduction to Acting	3
THA 141	Introduction to Scenic, Costume, and Light Design in Theatre and Film	2
THA 142	Introduction to Theatre Technology	2
THA 143	Backstage Crew Lab	1
THA 144	Production Crew Lab	1
THA 245	Technical Planning for Theatrical Productions	3
THA 344	Lighting Design	3
THA 364	The Theatre Industry	3
THA 365	Principles of Stage Management	3
THA 366	Theatre Management Practicum I	3
THA 369	Producing New Plays and Musicals	3
THA 381	Play Analysis I	3
THA 382	Play Analysis II	3
THA 401	Internship	3
THA 402	Internship	3
THA 403	Internship	3
THA 461	Play Direction I	3
THA 463	Advanced Stage Management I	3
THA 466	Theatrical Unions	3
THA 467	Producing for Regional Theatre	3
THA 468	Professions of the American Theatre	3

THA 481	Theatre History I	3
THA 482	Theatre History II	3
Other Required Courses		
ACC 211	Principles of Financial Accounting	3
BSL 212	Introduction to Business Law	3
COS 112	Interpersonal Communication	3
COS 211	Public Speaking	3
COS 333	Business Communication	3
ECO 211	Principles of Microeconomics	3
ENG 105	English Composition I	3
ENG 106	English Composition II	3
MGT 302	Human Resource Management	3
MGT 304	Organizational Behavior	3
MGT 307	Advanced Organizational Behavior	3
MKT 301	Marketing Foundations	3
Electives		9
Liberal Arts Electives		27
Total Credit Hours		135

- ¹ All BFA Theatre Management majors are required to manage the front of house for at least at one production at the Jerry Herman Ring Theatre in their sophomore, junior and senior years.
- ² All BFA Theatre Management majors must actively participate in one season subscription renewal campaign at the Jerry Herman Ring Theatre, noted as THA 366 in the above bulletin.

Suggested Plan of Study

Course	Title	Credit Hours
Freshman Year		
First Semester		
THA 141	Introduction to Scenic, Costume, and Light Design in Theatre and Film	2
THA 143	Backstage Crew Lab	1
THA 364	The Theatre Industry	3
THA 365	Principles of Stage Management	3
ACC 211	Principles of Financial Accounting	3
ENG 105	English Composition I	3
	Credit Hours	15
Second Semester		
THA 105	Introduction to Acting	3
THA 142	Introduction to Theatre Technology	2
THA 144	Production Crew Lab	1
THA 245	Technical Planning for Theatrical Productions	3
ENG 106	English Composition II	3
Liberal Arts Elective		3
	Credit Hours	15
Sophomore Year		
First Semester		
THA 366	Theatre Management Practicum I	3
THA 369	Producing New Plays and Musicals	3
THA 481	Theatre History I	3
MKT 301	Marketing Foundations	3
Liberal Arts Elective		3
	Credit Hours	15

Second Semester		
THA 344	Lighting Design	3
THA 466	Theatrical Unions	3
THA 482	Theatre History II	3
BSL 212	Introduction to Business Law	3
ECO 211	Principles of Microeconomics	3
Liberal Arts Elective		3
	Credit Hours	18
Junior Year		
First Semester		
THA 381	Play Analysis I	3
THA 401	Internship	3
THA 461	Play Direction I	3
THA 467	Producing for Regional Theatre	3
COS 333	Business Communication	3
Liberal Arts Elective		3
	Credit Hours	18
Second Semester		
THA 382	Play Analysis II	3
THA 468	Professions of the American Theatre	3
MGT 307	Advanced Organizational Behavior	3
Elective		3
Liberal Arts Elective		3
Liberal Arts Elective		3
	Credit Hours	18
Senior Year		
First Semester		
THA 403	Internship	3
THA 463	Advanced Stage Management I	3
COS 112	Interpersonal Communication	3
MGT 302	Human Resource Management	3
Liberal Arts		3
Elective		3
	Credit Hours	18
Second Semester		
THA 402	Internship	3
COS 211	Public Speaking	3
MGT 304	Organizational Behavior	3
Elective		3
Liberal Arts Elective		3
Liberal Arts Elective		3
	Credit Hours	18
	Total Credit Hours	135

¹ All BFA Theatre Management majors are required to manage the front of house aspects of at minimum one production at the Jerry Herman Ring Theatre per year in sophomore, junior and senior years.

² All BFA Theatre Management majors must actively participate in one season subscription renewal campaign at the Jerry Herman Ring Theatre, noted as THA 366 in the above bulletin.

Minor in Theatre Arts

Code	Title	Credit Hours
THA Courses ¹		15
Total Credit Hours		15

¹ A minor in Theatre Arts consists of 15 credit hours of Theatre Arts classes with a minimum grade of C- in each course and an overall GPA of 2.0 or above.

Urban Studies

<http://www.as.miami.edu/urb>

Introduction

The minor in Urban Studies provides undergraduate students with a flexible concentration in interdisciplinary studies of cities, urbanism, and urbanity. Urban Studies is a long established academic field, especially prominent in major cities in the United States. Course work combines a practical focus on Metropolitan Miami with more general attention to urban theory and globalization.

The minor has a liberal arts orientation and includes perspectives from the social sciences, architecture, and history. It is a useful complement to majors such as Geography, History, Sociology, Anthropology, Literature, International Studies, Economics, Political Science, and others. A summer study abroad option in South Africa and Namibia is offered regularly in summer. In addition, it is possible for a student to study in the spring semester in Cape Town, South Africa (UCape Town Program). The minor is also of particular interest to students in Architecture Communication and Business. Courses in the Minor are taught in the College of Arts & Sciences and the School of Architecture. Note that there are slightly different requirements for ARC students.

Minor in Urban Studies

- Urban Studies (p. 359)

Minor in Urban Studies

Code	Title	Credit Hours
Required Courses		
URB 201	Metropolitan Miami	3
URB 301	Cities in Time and Space	3
Elective Courses		
Select three of the following: ¹		9
AMS 350	History and Culture of South Florida	
ARC 390/590	History of Cities	
ARC 541	Seminar on Town Design	
ARC 546	Studies of Havana	
ARC 554	Architecture of South Florida	
ARC 584	Special Problems	
APY 420	Archaeology, Architecture, and the City	
ENG 395	Special Topics	
FIN 340	Real Estate Principles	
GEG 390	Topics in Geography	
GEG 506	Field Studies in Geography	
GEG 519	Immigration to the United States	
INS 504	Int Rel Topics II	
SOC 304	Dynamics of Poverty in the United States	
SOC 368	Violence in America	
SOC 386	U.S. Immigration	
HIS 369	Introduction to Urban America	
HIS 371	Immigration, Race and Ethnicity in American History	
POL 343	Government in Metropolitan Areas	
Total Credit Hours		15

- ¹ ARC students may select no more than one ARC course while NonARC students must select at least one ARC course. Note that URB 201 or URB 301 will suffice as prerequisites for any of these courses.
- * Other courses may be approved upon request; please consult the program Director, Dr. Richard Grant: rgrant@miami.edu
- ** A minimum grade of C- with a 2.0 overall GPA are required.

Women's and Gender Studies

<http://www.as.miami.edu/wgs>

Dept. code: WGS

Introduction

The Program in Women's and Gender Studies at the University of Miami seeks to encourage the rigorous investigation of gender as a significant issue in all areas of human experience. It reaches across disciplines to draw on a range of methods, theories, and perspectives that help us to understand how ideas and structures based on gender shape our lives. The program's core objective is to foster the examination, open discussion, and lively debate of gender issues among faculty and students from all fields of study, enriching the undergraduate curriculum and the university's academic mission through greater communication across disciplines and colleges. Its aim is to broaden, deepen, and transform the learning community at UM and beyond.

Educational Objectives

The undergraduate curriculum in Women's and Gender Studies explores the ways in which ideas about gender and sexuality shape social roles and identities, as well as the ways in which race, ethnicity, class, and nationhood influence the perception and experience of gender and sexuality within particular cultures. The curriculum is informed by recent scholarship that recognizes gender and sexuality as crucial components of human experience in social, cultural, economic, political, religious, and legal contexts. It includes courses that introduce students to feminist theory and scholarship, engaging ethical and political issues of equality and justice. The program encourages students to question their assumptions about the possible meanings of female and male through the comparative study of how different societies and historical periods have viewed manhood, womanhood, and relations between women and men. Courses in Women's and Gender Studies enable students to acquire critical and analytical skills that they can then apply in other aspects of their educational experience at UM and beyond the university in their careers and personal development.

The LGBTQ Studies minor is designed to allow students to explore sexuality and sexual minorities from a variety of perspectives. The course will provide students with an introduction to a broad array of LGBTQ issues including visual and performing arts, literature, languages, history, social science, various theories, public policy and the law, families and other types of intimate relationships, crime, popular culture, and LGBTQ identities and communities. This widely interdisciplinary field addresses work in a broad range of scholarly disciplines including biological and cultural studies, in literature and anthropology, in the health sciences, history, and the visual arts. It ranges from archival research to the elaboration of queer theory, from the analysis of constitutional law to questions of public health, from the study of popular culture to investigations into the development and social construction of sexual identity.

Advanced Writing and Communication Requirement

To satisfy the College of Arts and Sciences writing requirement in the discipline, students majoring in WGS should take at least one WGS core course that is writing intensive (i.e., WGS 301).

Departmental Honors

Women's and Gender Studies majors with a cumulative GPA of at least 3.5 in WGS courses and an overall GPA of at least 3.0 may earn departmental honors by completing WGS 505 instead of the senior research project. Candidates for departmental honors are responsible for finding a faculty member who is willing to serve as thesis adviser and then must complete a thesis proposal of approximately 400 words which must be approved by the thesis adviser and then the program director. The format and length of the thesis will vary according to the nature of the project. Most students writing an honors thesis as part of their WGS major will take WGS 505 twice (for a total of 6 credit hours).

Major in Women's and Gender Studies

- B.A. in Women's and Gender Studies (p. 361)

Minors in Women's and Gender Studies

- Women's and Gender Studies (p. 363)
- LGBTQ Studies (p. 362)

B.A. in Women's and Gender Studies

Curriculum Requirements

Code	Title	Credit Hours
Major Courses		
WGS 201	Introduction to Women's and Gender Studies	3
WGS 301	Feminist Inquiries	3
Select six WGS courses at the 300 level or above ¹		18
Select a minimum of two additional WGS core courses		6
Additional Required Courses		
ENG 105	English Composition I	3
ENG 106	English Composition II	3
MTH 108	Precalculus Mathematics II	3
UMX 100	The University of Miami Experience	0
Language Requirement		9
STEM Cognate		9
Arts and Humanities Cognate		9
Minor Requirement		15
Electives		39
Total Credit Hours		120

¹ All Majors have the option of completing WGS 501 (or WGS 505), which will take the form of an individual research project with a faculty member of the student's choice; the student is responsible for finding an appropriate faculty member who is available to supervise the project and then must seek formal approval from the program director before proceeding with the project. The student must produce a substantial written report or research paper, the format of which will vary according to the nature of the project.

* A grade of C- or better in each course, with a cumulative GPA of at least 2.0 in WGS courses is required.

Suggested Plan of Study

Course	Title	Credit Hours
Freshman Year		
Fall		
ENG 105	English Composition I	3
MTH 108	Precalculus Mathematics II	3
Language (first course)		3
People & Society or Arts and Humanities cognate (first course)		3
Elective		3
Credit Hours		15
Spring		
ENG 106	English Composition II	3
Language (second course)		3
STEM cognate (first course)		3
Elective		3
Elective		3
Credit Hours		15
Sophomore Year		
Fall		
WGS 201	Introduction to Women's and Gender Studies	3
WGS Core Course		3
People & Society or Arts and Humanities cognate (second course)		3
Minor (first course)		3
Elective		3
Credit Hours		15

Spring		
WGS 301	Feminist Inquiries	3
WGS Core Course		3
Minor (second course)		3
STEM cognate (second course)		3
Elective		3
	Credit Hours	15
Junior Year		
Fall		
WGS Course 300 Level or above		3
WGS Course 300 level or above		3
Minor (third course)		3
STEM cognate (third course)		3
Elective		3
	Credit Hours	15
Spring		
WGS Course 300 level or above		3
WGS Course 300 level or above		3
Minor (fourth course)		3
Elective		3
Elective		3
	Credit Hours	15
Senior Year		
Fall		
WGS Course 300 level or above		3
Minor (fifth course)		3
People & Society or Arts and Humanities cognate (third course)		3
Elective		3
Elective		3
	Credit Hours	15
Spring		
WGS Course 300 level or above		3
Elective		3
Elective		3
Elective		3
Elective		3
	Credit Hours	15
	Total Credit Hours	120

Minor in LGBTQ Studies

Code	Title	Credit Hours
WGS 201	Introduction to Women's and Gender Studies	3
WGS 202	Introduction to LGBTQ Studies	3
300 Level Courses ¹		9
Total Credit Hours		15

¹ 300 level course selections must include at least 9 credit hours with no more than 6 credit hours in any one department or program or more than 3 credit hours of individual studies without the approval of the program director.

* A grade of C- or better in each course, and a cumulative GPA of at least 2.0 in LGBTQ courses is required.

Minor in Women's and Gender Studies

Code	Title	Credit Hours
WGS 201	Introduction to Women's and Gender Studies	3
WGS 301	Feminist Inquiries	3
Select two courses at the 300 level or above		6
Select a minimum of one other WGS core course		3
Total Credit Hours		15

* A minimum grade of C- or better in each course and a cumulative GPA of at least 2.0 in WGS courses are required.

Business

<http://www.bus.miami.edu>

Introduction

The University of Miami Business School offers courses leading to the degrees of

- Bachelor of Business Administration (BBA), and
- Bachelor of Science in Business Administration (BSBA).

Undergraduate degrees in business are administered by the Vice Dean for Undergraduate Business Education.

Mission

The mission of the University of Miami Business School is to develop innovative ideas and principled leaders that transform global business and society.

Accreditation

The Bachelor of Science in Business Administration and the Bachelor of Business Administration as well as all Accounting programs are fully accredited by AACSB International – The Association to Advance Collegiate Schools of Business.

Academic Policies

Student Responsibilities

- Miami Business School students are responsible for planning their own academic programs and for meeting degree requirements.
- It is the students' responsibility to understand fully, and to comply with, all the provisions of this Bulletin and any written changes to their program of study.
- Students are provided assistance by academic advisors and faculty members.
- Deviations from department, program, or school requirements are granted only by written approval from the Vice Dean or, in some cases, the relevant department chairperson.
- A student who is in violation of the provisions of this Bulletin may be administratively withdrawn from a class or classes, dismissed from Miami Business School, and/or have an electronic hold placed upon future enrollment.
- A student who is disruptive in class as determined by assigned faculty and the Vice Dean will be administratively dropped from the class.
- Information regarding appeal procedures and special requests relative to academic matters is available in Merrick 104, University of Miami Business School, Office of Undergraduate Business Education.

Admission to Miami Business School

Admission to the University for undergraduate study as a freshman is sufficient for admission to Miami Business School prior to matriculation. However, strong quantitative skills are typically needed for success. Students who do not matriculate in to Miami Business School in their first semester of study at the University may request a transfer to Miami Business School thereafter only according to the policies and procedures set out below.

Transferring to Miami Business School

Transfer applicants from outside the University of Miami must submit a satisfactory academic record in compliance with the standards of the University of Miami Office of Admission. Admitted applicants will be in good academic standing at all institutions previously attended and have a minimum UM cumulative grade point average (GPA) of 3.0. All previous transfer courses must be from an accredited institution, and a minimum grade of "C" (2.0) must be earned in all transfer courses for credit to be awarded. This includes repeated courses under a forgiveness policy at any previous institution.

All transfer students to Miami Business School, including those from other Schools and Colleges within the University of Miami, must have completed and received college credit for a calculus course equivalent to either MTH 161 (4 credit hours) or MTH 140/MTH 141 (8 credit hours), and earned a grade of "B" or better in the(se) course(s). The transfer calculus course must be approved by submitting the syllabus and textbook title to the University of Miami Department of Mathematics for evaluation.

All transfer coursework taken outside the University of Miami will be reviewed on a course-by-course basis for equivalency to Miami Business School course requirements. Any business class that is from a non-AACSB accredited institution will be accepted only as elective credit toward the overall degree requirements. Transfer applicants may appeal to have transfer classes from non-AACSB accredited institutions reviewed for possible application toward business course requirements by submitting the course syllabus and textbook title to the Office of Undergraduate Business Education.

A transfer student's overall coursework must also meet specific curricular and residency requirements. Pursuant to Miami Business School policy, transfer students must complete a minimum of 50 percent of the Business Core at the University of Miami. Transfer students must also complete a minimum of 50 percent of all major and a minimum of 50 percent of all minor courses at the University of Miami. University Residency and other requirements, applicable to all students, are set out below in the section headed Requirements for Graduation.

Academic Progress, Probation, and Dismissal

When a student's semester or cumulative GPA is below 2.0, or progress toward degree completion is unsatisfactory, the student will be warned, placed on academic probation, or dismissed in accordance with the University's or School of Business Administration's policies and procedures:

- Warning: semester GPA lower than 2.0 but cumulative GPA above 2.0
- Probation: cumulative GPA lower than 2.0
- Probation with Dismissal: two consecutive semesters with cumulative GPA lower than 2.0, or failure to make progress toward degree completion
- Failure to make progress toward degree completion includes, but is not be limited to:
 - failure to complete enough credit hours in the business degree program to graduate after ten regular semesters of enrollment
 - failure to maintain a GPA sufficiently high to permit graduation in the ordinary course with the minimum 2.5 GPA.
 - failure in any business course the student repeats pursuant to the University's General Repeat Rule (p. 27) or otherwise.
 - failure to pass the required calculus course (MAS 110 or MTH 161 for the BBA degree, MTH 161 for the BSBA degree) by the fourth semester.
- A student on probation is not permitted to enroll in more than four courses (no more than 13 credit hours) and may have an electronic hold placed upon future enrollment until grades for work-in-progress are reviewed by the Undergraduate Business Education Academic Standards Committee.
- A student who is dismissed for failure to satisfactorily complete required business core courses, or for failure to make progress toward the degree, may not automatically be dismissed from the University. Accordingly, such a student may apply to another School or College within the University, and if accepted, may continue as an undergraduate student at the University of Miami. For such a student who is **not** accepted by another School or College, dismissal from Miami Business School may have the incidental effect of dismissal from the University of Miami as well.

University Repeat Rule at Miami Business School

The University's rules regarding repeating courses may be viewed in the General University Information pages of this Bulletin, which explain the University Policies on Repeat Rules (p.). The following policy is applied specifically to business students taking advantage of the University's Repeat Rule:

- The summer sessions are not counted as semesters, either individually or together, in determining the last semester in which a student may elect to repeat a course in which a "D" or "F" grade is earned under the University Repeat policy.
- A student who wishes to take advantage of the University Repeat Rule policy must complete a Repeat Rule Request Form, which is available from the student's academic advisor in Miami Business School, Office of Undergraduate Business Education. For additional information about the application of the Repeat Rule in Miami Business School, consult an academic advisor in the Office of Undergraduate Business Education.

Readmission

The requirements for readmission may be viewed in the General Information, Student Status (p. 76) section of this Bulletin. The following special conditions related to readmission are also in effect for Miami Business School:

- A student requesting readmission, who was previously dismissed for academic reasons or who had below a 2.0 cumulative GPA, must present adequate evidence that the conditions and/or factors that caused the prior poor academic performance have changed sufficiently and that there is a reasonable expectation of satisfactory performance if the student is permitted to resume study at Miami Business School.
- A student dismissed for nonacademic reasons must provide written authorization from the Dean of Students' Office before re-enrollment will be permitted.
- A business student who did not earn at least a C grade in MAS 110 or MTH 161 will not be readmitted to Miami Business School.
- A student seeking readmission may have conditions placed upon any such readmission. Failure to satisfactorily accomplish the stated conditions may result in dismissal or the student otherwise not being permitted to register for future semesters.

Changes to Academic Requirements

Miami Business School reserves the right to change academic requirements including course offerings, minimum grade requirements, and minimum required grade point averages, to ensure that students are receiving the latest knowledge and are maintaining the standards necessary to be professionally competitive. Changes are communicated to students either by written or electronic notice, or personally by their academic advisors.

Requirements for Graduation

Residency and Other Graduation Requirements

In addition to meeting the graduation requirements as set out in Degree Programs, below, a candidate for either the BBA or BSBA degree must complete the last 45 credit hours consecutively and exclusively in degree-seeking status in residence at Miami Business School, University of Miami. Credit by examination may not be used to meet the residency requirement. In addition, a minimum of 120 credit hours is required for graduation, not including ENG 103, TAL 191, MTH 099, or any UMI Internship course. The student's last 56 credit hours must be completed at a four-year institution.

After being admitted to the University of Miami, students must complete all business coursework in residence, including coursework required by the Business Core and specific coursework for the business major and minor areas of specialization. This policy applies equally to non-business students completing minor areas of specialization at Miami Business School. Any appeal for an exception to this policy must be submitted in writing to the Office of Undergraduate Business Education.

Age of Credit Hours

Credit hours more than 12 years old are not recognized for degree purposes.

Grade Point Average (GPA)

To graduate, business students must earn a minimum cumulative grade point average (GPA) of 2.5 in all undergraduate courses taken (combined UM and transfer coursework) *and* must also earn a minimum cumulative GPA of 2.5 in all undergraduate courses taken at the University of Miami. (See the General University Information page in this Bulletin regarding Grades (p. 69).) Each major and/or minor area of specialization within Miami Business School has its own set of requirements regarding minimum GPA, both for individual courses in the major/minor area of specialization and with regard to the cumulative GPA in the specific coursework required for the major/minor area of specialization. Students are responsible for understanding the minimum GPA requirements for their proposed major/minor area(s) of specialization.

Degree Programs

Bachelor of Business Administration (BBA)

All BBA students must complete areas A, B, C, D, and E as listed below. All courses, except some of those in area D, must be taken for graded credit. (See the General University Information page in this Bulletin regarding Credit Only Option (p. 69).)

A. University of Miami's General Education Requirements

Miami Business School participates in the University's General Education requirements (p. 67). See descriptions in the General University Information section of this Academic Bulletin.

All students must satisfy the University's general education Areas of Proficiency: English composition (ENG 105 and ENG 106), Advanced Writing and Communication Skills (School-based program described below), and Quantitative Skills (MAS 110 or any Department of Mathematics course numbered MTH 108 or higher). In addition, all undergraduate students must satisfy the University's general education distribution requirements in three Areas of Knowledge: Arts & Humanities (A&H); People & Society (P&S); and Science, Technology, Engineering & Mathematics (STEM).

Every BBA student must complete a cognate designated Arts & Humanities (A&H) outside Miami Business School. Additionally, each business major and minor area of specialization fulfills either the People & Society (P&S) Area of Knowledge or the Science, Technology, Engineering & Mathematics (STEM) Area of Knowledge. For specific information about majors/minors and Area of Knowledge designations, please refer to the chart of **Majors and Minors for the BBA Degree** that follows or the relevant Academic Bulletin page for each major/minor area of specialization.

Depending on the Area of Knowledge of the student's major(s) and any minor(s), an additional cognate in either People & Society (P&S) or Science, Technology, Engineering, and Mathematics (STEM) may also be required of the BBA student. Students are required to declare their cognates with the Office of Undergraduate Business Education prior to the start of the junior year.

Miami Business School's program establishing Advanced Writing and Communication Skills proficiency for business requires students to successfully complete the following courses beyond the basic English composition courses, ENG 105 and ENG 106: BSL 212 and BUS 300. Any student who does not complete ENG 106 with at least a C- is required either to repeat ENG 106 and earn at least a C- or complete ENG 230, Advanced Professional Communication, with at least a C- before enrolling in BUS 300.

The University Quantitative Skills proficiency requirement is satisfied within the BBA degree requirements upon successful completion of MAS 110 or MTH 161 (or a MTH 161 equivalent).

B. BBA Business Core

Code	Title	Credit Hours
ACC 211	Principles of Financial Accounting	3
ACC 212	Managerial Accounting	3
BSL 212	Introduction to Business Law	3
BTE 210	Fundamentals of Business Technology and Innovation	3

BUS 101	First Step: Freshman Integrity, Responsibility, and Success through Teamwork	3
BUS 150	Business Analytics	3
BUS 300	Critical Thinking and Persuasion for Business	3
ECO 211	Principles of Microeconomics (Microeconomics)	3
ECO 212	Principles of Macroeconomics (Macroeconomics)	3
FIN 302	Fundamentals of Finance	3
MAS 110	Quantitative Applications in Business (minimum grade of C- required)	3
or MTH 161	Calculus I	
MAS 201	Introduction to Business Statistics (minimum grade of C- required)	3
MAS 202	Intermediate Business Statistics	3
MGT 303	Operations Management	3
MGT 304	Organizational Behavior	3
MGT 401	Strategic Management (must be taken in final semester)	3
MKT 201	Foundations of Marketing	3
or MKT 301	Marketing Foundations	
Total Credit Hours		51

NOTE: ENG 105 and ENG 106, or their equivalents, must be completed prior to attaining junior year classification, per the University General Education Requirements (p. 67). Additionally, all 100 and 200-level Business Core courses must be completed by the end of the fifth semester of college work or during the semester in which the student is completing 75 credit hours.

NOTE: MAS 110/MTH 161 and MAS 201 must be completed with a "C-" or better.

C. Major and Minor Areas of Specialization - Requirements

All BBA students must complete at least one major area of specialization in the Miami Business School. Additionally, students may elect to complete a minor area of specialization either at Miami Business School or in another School or College within the University. For specific information on minors offered by other Schools and Colleges of the University of Miami, please refer to the applicable College, School, or Department section within this Academic Bulletin.

Requirements for the major and minor areas of specialization are specified by each academic department. Every course completed in satisfaction of either a major or minor area of specialization must be taken for a grade and a grade of "C-" or higher earned, unless specified differently by the department. GPA minima for each business area of specialization are set by the departments. Please refer to the relevant Academic Bulletin page for the major/minor area of specialization.

Business students are permitted to pursue more than one (business or other) major in distinct areas of specialization; however, completion of all required coursework is dependent upon careful sequencing. No course may be counted toward more than one major area of specialization or toward a major and a minor area of specialization, except a course that is specifically listed by number as required for both major areas of specialization and/or a major and a minor area of specialization. In this case, an alternate course or courses may be required for the additional major and/or minor. The courses of choice required for one major or minor area of specialization may not be utilized to satisfy courses of choice requirements for a second major and/or minor area of specialization. Consequently, students should understand that completion of more than one major and/or minor area of specialization may necessitate the completion of more than 120 credit hours or more than eight semesters of study for graduation.

Business students may choose to pursue a second major (also referred to as an additional major) from the College of Arts and Sciences, the School of Communication, or the School of Education (certain majors only). No courses used to satisfy an additional major may be used to satisfy the requirements for a business major or minor area of specialization.

Major areas of specialization at Miami Business School are available only with completion of the required Business Core. A student in another School or College at the University of Miami pursuing a business degree as a "second degree" or "dual degree" student, must meet the minimum requirements for transfer to Miami Business School, although the student is not required to formally transfer to Miami Business School.

- The student must meet with the Director of Advising in the Office of Undergraduate Business Education in order to construct an academic plan and complete the Dual Degree Memorandum.
- A minimum of 160 credit hours is required for graduation with the dual degree.
- The student must meet for academic planning with the appropriate advising administrator in his/her University of Miami home School or College. Satisfaction of degree requirements in each School or College may vary.
- The Office of the Provost completes the final approval of the Dual Degree Memorandum.

Students are required to declare their major area of specialization and minor area of specialization with the Office of Undergraduate Business Education prior to the start of their junior year.

Majors and Minors for the BBA Degree

Major Areas of Specialization	Responsible Department
Accounting (P&S)	Accounting
Business Technology (STEM)	Business Technology
Economics - Political Economy (P&S) or Quantitative Economics (STEM)	Economics
Entrepreneurship (P&S)	Management
Finance (STEM)	Finance
Health Sector Management and Policy (P&S)	Health Management and Policy
Human Resource Management (P&S)	Management
International Finance and Marketing (STEM)	Finance
Legal Studies (P&S)	Business Law
Management (P&S)	Management
Marketing (P&S)	Marketing
Real Estate (STEM)	Finance

Minor Areas of Specialization	Responsible Department
Accounting (P&S)	Accounting
Business Law (P&S)	Business Law
Business Technology (STEM)	Business Technology
Economics - Political Economy (P&S) or Quantitative Economics (STEM)	Economics
Entrepreneurship (P&S)	Management
Finance (STEM)	Finance
Health Sector Management and Policy (P&S)	Health Management and Policy
International Business (P&S)	Undergraduate Business Education
Management (P&S)	Management
Marketing (P&S)	Marketing
Real Estate (STEM)	Finance

D. Electives (as needed to meet the minimum 120 credit hours)

All undergraduate courses offered by the University may be used as electives, with the following exceptions:

- ENG 103, TAL 191, MTH 099, and UMI 105-UMI 410, are offered for credit but do not count toward degree requirements. Nonetheless, the grade, if any, earned in any of these courses is included in the student's cumulative GPA, and credit for the course is included in the student's overall credit hours earned. Accordingly, these courses will serve to increase the total number of credit hours required to graduate.
- No more than 8 credit hours in applied music, including band, may be used.
- Any science course taken as an elective and used as preparation for entrance to medical school must be taken for a grade.

E. International Focus Within the Curriculum

At least one course with an international focus must be completed within the degree requirements. The appropriateness of the course is determined by the academic advisor.

Bachelor of Science in Business Administration (BSBA)

The BSBA degree at Miami Business School emphasizes quantitative foundation courses. All BSBA majors at Miami Business School must complete areas A, B, C, D, and E as listed below. All courses, except some of those in area D, must be taken for graded credit. (See the General University Information page in this Bulletin regarding Credit Only Option (p. 69).)

A. University of Miami's General Education Requirements

The Miami Business School participates in the University's General Education requirements (p. 67). See descriptions in the General University Information section of this Academic Bulletin.

All students must satisfy the University's general education Areas of Proficiency: English composition (ENG 105 and ENG 106), Advanced Writing and Communication Skills (School-based program described below), and Quantitative Skills (MAS 110 or any Department of Mathematics course numbered MTH 108 or higher). In addition, all undergraduate students must satisfy the University's general education distribution requirements in three Areas of Knowledge: Arts & Humanities (A&H); People & Society (P&S); and Science, Technology, Engineering & Mathematics (STEM).

Every BSBA student must complete a cognate designated Arts & Humanities (A&H) outside Miami Business School. Additionally, each business major and minor area of specialization fulfills either the People & Society (P&S) Area of Knowledge or the Science, Technology, Engineering & Mathematics (STEM) Area of Knowledge. For specific information about majors/minors and Area of Knowledge designations, please refer to the chart of **Majors and Minors for the BSBA Degree** that follows or the relevant Academic Bulletin page for each major/minor area of specialization.

Depending on the Area of Knowledge of the student's major(s) and any minor(s), an additional cognate in either People & Society (P&S) or Science, Technology, Engineering, and Mathematics (STEM) may also be required of the BSBA student. Students are required to declare their cognates with the Office of Undergraduate Business Education prior to the start of the junior year.

Miami Business School's program establishing Advanced Writing and Communication Skills proficiency for business requires students to successfully complete the following courses beyond the basic English composition courses, ENG 105 and ENG 106: BSL 212 and BUS 300. Any student who does not complete ENG 106 with at least a C- is required to either repeat ENG 106 and earn at least a C- or complete ENG 230, Advanced Professional Communication, with at least a C- before enrolling in BUS 300.

The University Quantitative Skills proficiency requirement is satisfied within the BSBA degree requirements upon successful completion of MTH 161 (or a MTH 161 equivalent).

B. BSBA Business Core

Code	Title	Credit Hours
ACC 221 or ACC 211	Accelerated Principles of Financial Accounting Principles of Financial Accounting	3
ACC 222 or ACC 212	Accelerated Managerial Accounting Managerial Accounting	3
BSL 212	Introduction to Business Law	3
BTE 210	Fundamentals of Business Technology and Innovation	3
BTE 320	Introduction to Programming	3
BUS 101	First Step: Freshman Integrity, Responsibility, and Success through Teamwork	3
BUS 150	Business Analytics	3
BUS 300	Critical Thinking and Persuasion for Business	3
ECO 211	Principles of Microeconomics	3
ECO 212	Principles of Macroeconomics	3
FIN 302	Fundamentals of Finance	3
MAS 311	Applied Probability and Statistics (minimum grade of C- required)	3
MAS 312	Statistical Methods and Quality Control	3
MTH 161	Calculus I (minimum grade of C- required)	4
MTH 162	Calculus II	4
MGT 303	Operations Management	3
MGT 304	Organizational Behavior	3
MGT 401	Strategic Management (must be taken in final semester)	3
MKT 201 or MKT 301	Foundations of Marketing Marketing Foundations	3
Quantitative Elective		
Select one of the suggested courses approved by the academic advisor:		3
BTE 324	Object-Oriented Programming	
BTE 423	Database Management Systems	
ECO 430	Applied Econometrics	
ECO 510	Mathematical Economics and Applications	
MAS 342	Introduction to Optimization and Decision Making	
MAS 442	Stochastic Models in Operations Research	
MAS 547	Computer Simulation Systems	
MGT 445	Supply Chain Modeling and Analysis	
MGT 446	Supply Chain Strategy	
Total Credit Hours		62

NOTE: ENG 105 and ENG 106, or their equivalents, must be completed prior to attaining junior year classification, per the University General Education Requirements (p. 67). Additionally, all 100 and 200-level Business Core courses must be completed by the end of the fifth semester of college work or during the semester in which the student is completing 75 credit hours.

NOTE: MTH 161 and MAS 311 must be completed with a “C-” or better.

C. Major and Minor Areas of Specialization - Requirements

All BSBA students must complete at least one major area of specialization at Miami Business School. Additionally, students may elect to complete a minor area of specialization either at Miami Business School or in another School or College within the University. For specific information on minors offered by other Schools and Colleges of the University of Miami, please refer to the applicable College, School, or Department section within this Academic Bulletin.

Requirements for the major and minor areas of specialization are specified by each academic department. Every course completed in satisfaction of either a major or minor area of specialization must be taken for a grade and a grade of “C-” or higher earned, unless specified differently by the department. GPA minima for each business area of specialization are set by the departments. Please refer to the relevant Academic Bulletin page for the major/minor area of specialization.

Business students are permitted to pursue more than one (business or other) major in distinct areas of specialization; however, completion of all required coursework is dependent upon careful sequencing. No course may be counted toward more than one major area of specialization or toward a major and a minor area of specialization, except a course that is specifically listed by number as required for both major areas of specialization and/or a major and a minor area of specialization. In this case, an alternate course or courses may be required for the additional major and/or minor. The courses of choice required for one major or minor area of specialization may not be utilized to satisfy courses of choice requirements for a second major and/or minor area of specialization. Consequently, students should understand that completion of more than one major and/or minor area of specialization may necessitate the completion of more than 120 credit hours or more than eight semesters of study for graduation.

Business students may choose to pursue a second major (also referred to as an additional major) from the College of Arts and Sciences, the School of Communication, or the School of Education (certain majors only). No courses used to satisfy an additional major may be used to satisfy the requirements for a business major or minor area of specialization.

Major areas of specialization at Miami Business School are available only with completion of the required Business Core. A student in another School or College at the University of Miami pursuing a business degree as a “second degree” or “dual degree” student, must meet the minimum requirements for transfer to Miami Business School, although the student is not required to formally transfer to Miami Business School.

- The student must meet with the Director of Advising in the Office of Undergraduate Business Education in order to construct an academic plan and complete the Dual Degree Memorandum.
- A minimum of 160 credit hours is required for graduation with the dual degree.
- The student must meet for academic planning with the appropriate advising administrator in his/her University of Miami home School or College. Satisfaction of degree requirements in each School or College may vary.
- The Office of the Provost completes the final approval of the Dual Degree Memorandum.

Students are required to declare their major area of specialization and minor area of specialization with the Office of Undergraduate Business Education prior to the start of their junior year.

Majors and Minors for the BSBA Degree

Major Areas of Specialization	Responsible Department
Accounting (P&S)	Accounting
Business Analytics (STEM)	Management Science
Business Technology (STEM)	Business Technology
Economics - Political Economy (P&S) or Quantitative Economics (STEM)	Economics
Entrepreneurship (P&S)	Management
Finance (STEM)	Finance
Health Sector Management and Policy (P&S)	Health Management and Policy
Human Resource Management (P&S)	Management
International Finance and Marketing (STEM)	Finance
Legal Studies (P&S)	Business Law
Management (P&S)	Management
Marketing (P&S)	Marketing
Real Estate (STEM)	Finance

Minor Areas of Specialization	Responsible Department
Accounting (P&S)	Accounting
Business Analytics (STEM)	Management Science
Business Law (P&S)	Business Law
Business Technology (STEM)	Business Technology
Economics - Political Economy (P&S) or Quantitative Economics (STEM)	Economics
Entrepreneurship (P&S)	Management
Finance (STEM)	Finance
Health Sector Management and Policy (P&S)	Health Management and Policy
International Business (P&S)	Undergraduate Business Education
Management (P&S)	Management
Marketing (P&S)	Marketing
Real Estate (STEM)	Finance

D. Electives (as needed to meet the minimum 120 credit hours)

All undergraduate courses offered by the University may be used as electives with the following exceptions:

- ENG 103, TAL 191, MTH 099, and UMI 105-UMI 410, are offered for credit but do not count toward degree requirements. Nonetheless, the grade, if any, earned in any of these courses is included in the student's cumulative GPA, and credit for the course is included in the student's overall credit hours earned. Accordingly, these courses will serve to increase the total number of credit hours required to graduate.
- No more than 8 credit hours in applied music, including band, may be used.
- Any science course taken as an elective and used in preparation for entrance to medical school must be taken for a grade.

E. International Focus Within the Curriculum

At least one course with an international focus must be completed within the degree requirements. The appropriateness of the course is determined by the academic advisor.

Honors

Foote Fellows Honors Program

The Foote Fellows Honors Program recognizes the most educationally accomplished incoming students at the University of Miami. Select incoming students will receive an invitation to the Foote Fellows Honors Program (<http://admissions.miami.edu/undergraduate/academics/programs-of-distinction/foote-fellows>).

Graduation (Latin) Honors

- Students who qualify based on their **cumulative GPA** (combined UM GPA and transfer course GPA) and class rank will graduate with University Honors: *cum laude*, *magna cum laude*, or *summa cum laude*.
- For details consult an academic advisor in the Office of Undergraduate Business Education and the Office of Academic Enhancement. (<https://oae.miami.edu/units/general-honors-program/graduation-honors>)

General Business Honors, Miami Business School

Graduation with General Business Honors requires:

- Completion of all of the requirements of the **BSBA degree program**; and
- A minimum 3.75 **cumulative GPA** (combined UM GPA and transfer course GPA) at graduation.

For details, consult an academic advisor in the Office of Undergraduate Business Education.

Departmental Honors in Business

Graduation with Departmental Honors requires:

- A minimum 3.9 GPA in Miami Business School courses at the end of the junior year; and
- Completion of a 3-credit hour research project during the entire senior year on a topic that is of interest to both the faculty member supervising the research and the student responsible for completing it. The research and written deliverable must be deemed to be of exceptional quality, consistent with the workload of a 3-credit upper level independent study course, and worthy of a designation that is only open to the top 1% of Business School undergraduates; and
- A minimum 3.9 GPA in all Miami Business School courses at graduation; and
- Any other requirements, if any, established by the Department granting honors, as set forth in this Academic Bulletin.

Students who major in two distinct areas of specialization may complete their honors research project in the department of either business major specialization. Students pursuing the International Finance and Marketing major area of specialization may complete their research project in either department.

The 3-credit hour research project class is taken for "credit only" and does not count toward the 120-credit hours required for graduation. Students who begin a research project but do not complete it will be retroactively withdrawn from the research course. Students receive credit for the project only if the work is deemed to be of exceptional quality. Details related to Departmental Honors are available in the Office of Undergraduate Business Education.

Business Honor Societies

Students may be nominated for or elected into an honor society based on specific criteria. Contact the listed department for additional information.

- Beta Gamma Sigma (Highest Honors in Business) (Undergraduate Business Education (<https://www.bus.miami.edu/academic-programs/undergraduate-business-education>))
- Beta Alpha Psi (Department of Accounting (<http://www.bus.miami.edu/thought-leadership/academic-departments/accounting>))
- Omicron Delta Epsilon (Department of Economics (<http://www.bus.miami.edu/thought-leadership/academic-departments/economics>))

Majors for Business Students

- B.B.A. in Accounting (p. 380)
- B.S.B.A. in Accounting (p. 383)
- B.S.B.A. in Business Analytics (p. 464)
- B.B.A. in Business Technology (p. 395)
- B.S.B.A. in Business Technology (p. 398)
- B.B.A. in Economics (p. 402)
- B.S.B.A. in Economics (p. 407)
- B.B.A. in Entrepreneurship (p. 443)
- B.S.B.A. in Entrepreneurship (p. 452)
- B.B.A. in Finance (p. 416)
- B.S.B.A. in Finance (p. 425)
- B.B.A. in Health Sector Management and Policy (p. 436)
- B.S.B.A. in Health Sector Management and Policy (p. 439)
- B.B.A. in Human Resource Management (p. 447)
- B.S.B.A. in Human Resource Management (p. 455)
- B.B.A. in Individualized General Business (p. 373)
- B.S.B.A. in Individualized General Business (p. 373)
- B.B.A. in International Finance and Marketing (p. 419)
- B.S.B.A. in International Finance and Marketing (p. 428)
- B.B.A. in Legal Studies (p. 387)
- B.S.B.A. in Legal Studies (p. 390)
- B.B.A. in Management (p. 449)
- B.S.B.A. in Management (p. 458)
- B.B.A. in Marketing (p. 468)
- B.S.B.A. in Marketing (p. 471)
- B.B.A. in Real Estate (p. 422)
- B.S.B.A. in Real Estate (p. 431)

Minors for Business Students

- Accounting (p. 386)
- Business Analytics (p. 467)
- Business Law for Business Students (p. 393)
- Business Technology (p. 401)
- Economics - Political Economy for Business Students (p. 412)
- Economics - Quantitative Economics for Business Students (p. 414)
- Entrepreneurship for Business Students (p. 461)

- Finance (p. 434)
- Health Sector Management and Policy (p. 442)
- International Business (p. 373)
- Management for Business Students (p. 463)
- Marketing for Business Students (p. 475)
- Real Estate (p. 435)

Minors for Non-Business Students

- Business Law for Non-Business Students (p. 394)
- Business Technology (p. 401)
- Economics - Political Economy for Non-Business Students (p. 413)
- Economics - Quantitative Economics for Non-Business Students (p. 415)
- Entrepreneurship for Non-Business Students (p. 462)
- Finance (p. 434)
- Health Sector Management and Policy (p. 442)
- Management for Non-Business Students (p. 463)
- Marketing for Non-Business Students (p. 475)

The Global Business Studies Program: Latin America (People & Society)

The Global Business Studies Program (<http://www.bus.miami.edu/academic-programs/undergraduate-business-education/special-programs/global-business-studies.html>) is a co-major option for incoming Miami Business School freshmen, who apply and are selected as GBS Scholars/Foote Fellows. Students in the program simultaneously pursue a major in a functional area of business and, in the co-major, region-specific global studies coursework.

Curriculum for Co-major in Global Business Studies (21-27 credit hours)

1. Introduction to the region (3 credit hours)
2. Demonstrated proficiency in the language of the region, or where this is not feasible, at least one language course at the 200 level or above (min. 3 credit hours) Students may demonstrate language proficiency by completing business coursework delivered in the language of the region selected.
3. Economics of the region (3 credit hours)
4. Political and/or Regulatory Environment of the region (3 credit hours)
5. History of the region (3 credit hours)
6. Introduction to International Business (Standard course is MGT 349. Recommended alternatives: MGT "Doing Business in [the Region]" where available, or other approved business course in-country) (total of 3 credit hours)
7. Seminar & Senior Thesis (6 credit hours)
 - Culminates in a written research paper examining a significant problem or proposal for a particular country, approached from an interdisciplinary stand point
 - Carried out under the supervision of one or more faculty members
 - Oral presentation of the student's findings and recommendations also required
 - Required internship or directed study in-country may allow for field research
8. Minimum of one semester "study abroad" in the studied region is required.
 - Students may choose to satisfy the co-major's economics and/or history and/or politics/regulation course requirement in-country.

GBS Scholars are also invited to participate in a wide array of co-curricular activities, intentionally designed to enhance the Global Business Studies co-major. These include a faculty-led, international travel course in the summer following freshman year and cultural activities and events throughout the program, curated by the GBS Academic Program Director.

Please note that any student who does not complete these curricular and co-curricular requirements, or who is unable to maintain a cumulative GPA of 3.5, will be asked to exit the program and co-major.

Minor Area of Specialization in International Business (People & Society)

The International Business minor provides Miami Business School students an interdisciplinary perspective of international business to augment their studies in other areas of business specialization. The International Business minor may not be taken by students pursuing the International

Finance and Marketing major or by non-business students. Students must complete all pre-requisite courses before enrolling in required International Business minor courses.

The International Business minor consists of 12 credit hours as follows:

Code	Title	Credit Hours
Core Courses ¹		
Select two or three courses (6-9 credit hours) from the following:		6-9
FIN 330	International Finance	
MGT 349	International Business	
MGT 459	International and Multinational Management	
MKT 360	International Marketing	
Choice Courses for the Minor ¹		
Select one or two courses (3-6 credit hours) to equal 12 total credit hours for the minor from the following:		3-6
BSL 412	International Business Law	
ECO 351	Economics of Development	
ECO 371	Latin America and the Global Economy	
ECO 441	International Trade Theory	
ECO 442	International Monetary Economics	
FIN 431	International Financial Management	
MGT 359	Comparative Management	
MGT 371	Doing Business in Latin America	
MKT 469	International Marketing Management	
POL 346	U.S.-Latin American Relations	
POL 347	American Foreign Policy	
POL 348	United States Relations with the Middle East	
POL 381	West European Politics (Previous Title: European Politics and Government)	
POL 384	Postcommunist Russian Politics	
POL 385	Politics and Society in Latin America	
POL 387	Politics of the Middle East	
POL 392	International Terrorism	
POL 544	Chinese Foreign Policy	
POL 582	Political Economy of Development	
POL 588	Politics in China	
POL 591	International Security	
POL 593	International Relations of the Middle East	
Total Credit Hours		12

¹ All specific coursework for the International Business minor must be completed with a grade of "C-" or higher. A minimum cumulative GPA of 2.0 is required for all specific coursework in this minor area of specialization. All courses must be taken within the current pre-requisite structure.

The General Business Program: An Individually-Designed Major for BBA and BSBA Students (People & Society or STEM)

The Individualized General Business major allows students at Miami Business School to tailor an area of business specialization creatively and to seek and develop connections among the business disciplines in ways that will suit their own academic interests and graduate school or career objectives. Building upon the strong foundation provided by the Business Core, students pursuing this program of study will be motivated to craft a unique business specialization that enhances their ability to respond to and compete in a dynamic economic marketplace.

Any BBA or BSBA degree-seeking student may pursue the customized Individualized General Business major. No additional admission or application is required. The student, however, must consult with his/her Business School academic advisor in order to select the Individualized General Business major. A three-person committee comprised of at least one faculty member and at least one undergraduate business academic advisor will be

appointed by the Undergraduate Business Education Committee to oversee the student's chosen academic program, provide feedback and assistance with course choices, and to connect the student to other relevant faculty or administrators for advice where indicated.

Curriculum for the Individualized General Business Major Area of Specialization

The student who wishes to pursue the BBA or BSBA in General Business must complete:

1. all University general education requirements, unless exempt (e.g. Foote Fellows), and
2. the Business Core requirements for either the BBA or the BSBA, including the international focus course, and
3. a minimum of 18 additional credit hours of upper-level (300-500 level) coursework chosen from among the course offerings of Miami Business School. The specific coursework selected to satisfy the Individualized General Business major may not be utilized to also satisfy the Business Core or the specific coursework requirements for any other major or minor area of specialization in Business. All coursework must be taken for a grade and within the current pre-requisite structure.

A minimum of 120 credit hours is required for graduation. The Individualized General Business major area of specialization may fulfill either the People & Society or the STEM general education Area of Knowledge, based upon the preponderance of the specific coursework pursued and with the approval of the advising committee.

Cognates for Non-Business Students: Understanding Business (P&S); and Business Analytics (STEM)

Understanding Business (People and Society)

The University of Miami Business School offers a general business cognate to non-business students: Understanding Business. Completion of this cognate fulfills the University's General Education requirement of a cognate in the Area of Knowledge labeled People & Society (P&S).

This cognate offers students an overview of the business environment with the goal of promoting awareness and understanding of the real-world issues that affect the global economy in the twenty-first century. Courses in the cognate deliver the essential business concepts that enable critical consideration of the questions that confront decision makers in the various functional areas of business. Students declare the cognate via their advisor at their home School or College.

The Understanding Business cognate consists of the following courses:

Code	Title	Credit Hours
Required Course		
BUS 200	Introduction to Business	3
Options		
Select two courses (6 credit hours) from the following:		6
BUS 201	Money	
BUS 202	Introduction to the Legal Environment of Business	
BUS 203	Managing Effectively: A Skills Development Approach	
BUS 206	Principles of International Business	
FIN 300	Fundamentals of Finance for Non-Finance Majors	
HIS 225	History of the Modern Business Enterprise	
MGT 251	Nature and Foundations of Entrepreneurship	
MKT 301	Marketing Foundations	
Total Credit Hours		9

Business Analytics: Transforming data into insights for better informed decisions (STEM)

Professionals with deep analytical skills are in high demand across a variety of industries and organizations. Business analytics solutions use quantitative analysis to measure past performance and to guide and organization's future business planning. The Business Analytics cognate offers a selection of courses that cover important tools and techniques to help understand and analyze data, predict outcomes, and to improve decision-making in increasingly complex and interconnected business environments. Completion of this cognate fulfills the University's General Education requirement of a cognate in the Area of Knowledge labeled Science, Technology, Engineering, and Math (STEM). Students declare the cognate via their advisor at their home School or College.

Code	Title	Credit Hours
Complete exactly three courses (9 credit hours) from the following:		
MAS 332	Data Acquisition, Preparation and Visualization	
MAS 342	Introduction to Optimization and Decision Making	
MAS 432	Data Analysis	
		9

MAS 442	Stochastic Models in Operations Research	
MAS 547	Computer Simulation Systems	
MAS 548	Data Mining and Knowledge Acquisition	
Total Credit Hours		9

Minors for Non-Business Students

Students in other schools and colleges of the University may choose to pursue any of the following minor areas of specialization at Miami Business School by officially declaring the minor at their home School or College:

Minor Areas of Specialization

- Business Law (P&S) (p. 394)
- Business Technology (STEM) (p. 401)
- Economics - Political Economy (P&S) (p. 413)
- Economics - Quantitative Economics (STEM) (p. 415)
- Entrepreneurship (P&S) (p. 462)
- Finance (STEM) (p. 434)
- Health Sector Management and Policy (P&S) (p. 442)
- Management (P&S) (p. 463)
- Marketing (P&S) (p. 475)

Students interested in completing a minor offered by the University of Miami Business School should consult with an academic advisor *in the School or College of their degree/major* to determine if a business minor is acceptable. Neither advice nor consent from either the Office of Undergraduate Business Education or the relevant Miami Business School department is necessary for a student to choose or complete a Miami Business School minor. Instead the non-business student should simply declare the minor in CaneLink and complete the necessary specific coursework, according to the details listed in the appropriate department's section of this Academic Bulletin and the following supplemental guidelines, which are applicable to all minors unless otherwise provided by the department offering the minor area of specialization:

All courses within the minor must be taken for a grade and completed with a grade of "C-" or higher unless a higher minimum grade is prescribed by the department offering the minor. To be awarded the minor, the student must also achieve a minimum cumulative GPA of 2.0 in all minor courses, unless a higher grade or GPA is prescribed by the department offering the minor, as set out in that department's section of this Academic Bulletin. All courses taken by the student in the department offering the minor will count toward the GPA in the minor.

General Overview

The Foote Fellows Honors Program (p. 76) recognizes the most educationally accomplished incoming students at the University of Miami. Foote Fellows have distinguished themselves both in and out of the classroom at their previous schools, are self-motivated, and think independently. Admission to the Foote Fellows Honors Program is by invitation only.

Foote Fellows are exempt from the Cognates Program of General Education requirements. Within the curricular framework of their school or college, Foote Fellows enjoy unmatched freedom and flexibility to explore a multitude of educational resources. Many Foote Fellows leverage this opportunity to take additional majors and/or minors and to study abroad.

At each of the nine undergraduate schools at the University of Miami, a dedicated advisor helps Foote Fellows chart their academic path and attain access to distinctive learning opportunities at the University, such as special school-based seminars, faculty-mentored research, networking opportunities, and off-campus internships.

Foote Fellows also will be invited to join advanced, interdisciplinary Foote Fellow seminars taught by leading faculty members from across the University. An example is "Books That Matter," a rigorous seminar in non-fiction reading that is offered in sessions for first-year and for upper-class students. Freshman Foote Fellows benefit from early move-in to the residential colleges. Further, Foote Fellows receive focused advising on post-baccalaureate distinguished fellowships and awards. The Foote Fellows Honors Program reflects the educational vision of former University of Miami President Edward T. Foote, who retired in 2000 after serving the University for twenty years.

To graduate with the Foote Fellows Honors Program distinction, Foote Fellow students must have achieved a minimum GPA of 3.5 at the completion of the final semester.

Eligibility for the Foote Fellows Honors Program transcript distinction for each student is determined by the **lower** of two GPAs:

1. UM cumulative graduation GPA
2. Combined GPA (UM cumulative graduation GPA + Transfer GPA)

Foote Fellows in Business

As the best and brightest of each incoming class, Miami Business School Foote Fellows are afforded the most stimulating academic and co-curricular experiences the School has to offer. They are invited to take part in Foote-only seminars, exclusive workshops on a variety of academic and career-oriented themes, and networking events with some of Miami Business School's most honored speakers and guests.

Miami Business School Foote Fellows enroll in the Foote Fellow sections of business core classes, such as BUS 101, BUS 255, BSL 212, ACC 221, and ACC 222. They are also privileged to engage, one-on-one with business faculty, for at least one (1) semester, in cutting-edge research projects that culminate in a series of collaborative workshops as well as potential publications. Unsurprisingly, then, Foote Fellows frequently represent the School as ambassadors to elite conferences and as members of competitive teams vying for regional, national, and international recognition.

Business Foote Fellows also enjoy dedicated academic and co-curricular/career advisors, as well as opportunities for unique mentorship by prominent alumni.

Accounting

Department Code: ACC

Introduction and Educational Objectives

The objective of the program of studies in accounting is to prepare business students to make a smooth transition from college into a successful and meaningful career in the professional practice of accounting, whether it be in public, private, or governmental accounting. Because of the professional aspects of accounting, equal emphasis is placed upon general education in the arts and humanities and the functioning of business enterprises, as well as the basic underlying concepts of accounting.

Educational Requirements to Sit for the CPA Exam

Most of our students intend to become qualified as Certified Public Accountants (CPA). While the CPA exam is a national exam administered by the American Institute of Certified Public Accountants, its execution and CPA licensing practices are governed by state law. For example, some states require a certain number of credit hours in particular subjects and have overall accounting and business credit hour requirements. As such, you should check with the state in which you intend to practice to determine what the specific course requirements are for that state. **Note:** Our department is unable to make a determination of your eligibility to sit for the CPA exam. This can only be done by the appropriate state board. The licensure requirements for the State of Florida can be viewed at the Florida Department of Business and Professional Regulation website (<http://www.myfloridalicense.com/dbpr/cpa/licensure.html>).

For your convenience, the Florida rules that apply to most individuals are summarized here. Please check the State of Florida website (<http://www.myfloridalicense.com/dbpr/cpa/licensure.html>) for updates and rules which may apply in particular circumstances.

As of July 1, 2008 the Florida State Board of Accountancy (BOA) separated the requirements to become a Certified Public Accountant (CPA) into two parts:

1. the requirements to be eligible to take the CPA exam and
2. the requirements for licensure to practice as a CPA in Florida.

Requirements to Sit for the CPA Exam

To be eligible to take the CPA exam, you must have completed at least 120 credit hours including 24 credit hours of accounting (auditing, cost and managerial accounting, financial accounting, accounting information systems, and taxation) at the upper division (300-level or above) and 24 credit hours in upper division general business courses with some exceptions in that one microeconomics, one macroeconomics, one statistics, one business law, and one introduction to computers course may be lower division. As part of the general business credit hours, applicants are required to have at least 3 credit hours of business law courses. Excess upper division accounting courses may be used to meet the general business requirement; however, elementary accounting classes are never acceptable toward the required credit hours nor are courses for non-accounting majors and any MBA courses that are equivalent to elementary accounting. The exam is offered in the following time periods; January – February, April – May, July – August and October – November. **Note:** you do not have to have a bachelor's degree in order to sit for the CPA exam.

Requirements for Licensure

In addition to passing all four parts of the CPA exam with at least a 75% within an 18 month rolling period, the BOA requires that you have completed a bachelor's degree plus an additional 30 credit hours for a total of 150 credit hours before you can become licensed as a CPA. One year of work experience under the supervision of a licensed CPA is now also required to become licensed. (This experience may be obtained before or after sitting for the exam; however, all requirements to sit for the exam must be met before the work experience commences.) If you fail to apply for licensure within three years of receiving the licensure package, (sent after you pass all four parts) the CPA grades expire and you have to retake the examination.

The 150 credit hours must include a minimum of 30 credit hours of accounting courses at the 300-level or above and at least 36 credit hours of general business courses at the 300-level or above (with some exceptions). Excess upper division accounting courses may be used to meet the general

business requirement. Courses for non-accounting majors and any MBA courses that are equivalent to elementary accounting are not accepted for this requirement.

Licensed in Another State

If you are licensed in a state other than Florida you can obtain a license in Florida by a process called endorsement. You must provide evidence of meeting all of the requirements in effect at the time of your application. In addition, if you passed the exam more than two years before applying you must provide evidence of meeting continuing professional education requirements.

Accreditation

The Board accepts degrees from schools accredited by the following associations: Middle States Association, New England Association, North Central Association, Northwest Association, Southern Association of Colleges and Schools, Western Association of Schools and Colleges, Association of Independent Schools and Colleges who have been approved by the Florida State Board of Independent Colleges and Universities, and Canadian Schools who have been approved by their provincial educational bodies. If you have graduated from a school or college which is not accredited by the above-mentioned means, then you must use the provisions of F.A.C. 61H1-27.001(5).

Duplicate Courses

- No credit will be given for courses which duplicate another course for which the applicant has received credit. CPA review courses are considered as duplicates.
- For the CPA requirements in other states, you should consult the State Board of Accountancy for your state.

The Fifth Year Option

Many of our graduates satisfy the 30 credit hour requirement for the CPA by continuing on for a fifth year during which time they also can complete the requirements for either the Master of Accounting (MAcc) or Master of Science in Taxation (MST) degree. While the programs are similar in that they offer an opportunity to concentrate in accounting, they differ in degree of specialization and career path orientation. The MAcc program offers two tracks: Assurance (MAcc-Assurance) for students planning to go into public accounting and Corporate Accounting (MAcc-Corporate) for students planning careers as controllers/CFOs or financial analysts. The MST is designed for students interested in careers requiring a high degree of specialized tax knowledge in public accounting, private industry, and government. Students interested in these programs should consult with the Program Director in the Department of Accounting.

Major in Accounting

- B.B.A. in Accounting (p. 380)
- B.S.B.A. in Accounting (p. 383)

Minor in Accounting

- Accounting (p. 386)

Special Programs

- Accelerated Accounting Programs (p. 378)
- Five-Year Accounting Program with Senior-Year Internship (p. 385)

Accelerated Accounting Programs

Accelerated Master's Programs

In addition to offering the Master of Accounting (MAcc) and Master of Science in Taxation (MST) in the usual time frame involving one year of full-time study beyond the Bachelor's level, the MAcc-Assurance Track, MAcc-Corporate Track, and MST are offered as accelerated programs. These programs permit high achieving accounting students who have accelerated their education by taking advanced courses in high school, testing out of classes, taking increased class loads, or going to summer school, to start their graduate work while in the senior year.

The accelerated programs are available only to students who are undergraduate students at the University of Miami Business School. The programs are designed in such a way that students can expect to complete both their Bachelor's and Master's degrees and make significant progress on the CPA exam (if not complete it entirely) within 4½ years. In addition, these programs are extremely price competitive.

Accelerated Program Timeline

1. Internship in summer after junior year
2. Twelve credit hours of work in senior year will count towards the MAcc or MST degree (only students in the accelerated programs are eligible to take these classes during their senior year).
3. In summer after senior year take one graduate course, CPA review course, and the CPA exam.
4. Complete remaining credit hours of graduate work in fall semester after senior year.

Pre-requisites

The following must be completed before students begin their senior year:

- A minimum of 102 credit hours
- All undergraduate degree requirements except for those that can be completed in the senior year
- FIN 303 before or during senior year (for those students who intend to select the MAcc-Corporate track)
- Note: MGT 401 must be completed in the final semester of the undergraduate program.
- The following Accounting major requirements must be taken prior to senior year:

Code	Title	Credit Hours
ACC 311	Intermediate Accounting I	3
ACC 312	Intermediate Accounting II	3
ACC 402	Auditing	3
ACC 403	Fundamentals of Taxation	3
ACC 404	Advanced Taxation	3
or ACC 301	Cost Accounting	
BSL 401	The Law of Financial Transactions	3
Total Credit Hours		18

Senior Year Curriculum (Senior-Graduate Status)

The program-specific curriculum¹ for the senior year is the same for all tracks (except that students selecting the MAcc-Corporate track must complete FIN 303 in order to take the graduate finance courses required for the track) and consists of the following courses:

Code	Title	Credit Hours
ACC 301	Cost Accounting ²	3
or ACC 404	Advanced Taxation	
ACC 406	Accounting Systems	3
ACC 411	Advanced Accounting	3
FIN 303	Intermediate Financial Management (or other non-accounting undergraduate course approved by Program Director)	3
MGT 401	Strategic Management (taken in the final undergraduate semester)	3
Select one additional non-accounting undergraduate course approved by the Program Director		3
Six (6) credit hours of 500-level courses approved by the Program Director. Examples of approved courses include ACC 522 Advanced Issues in Auditing (3 credit hours) and ACC 530 International Financial Reporting Standards (one credit hour)		6
Six (6) credit hours of 600-level courses approved by the Program Director. Examples of approved courses include ACC 648 Financial Reporting Implications of Income Taxes (2 credit hours) and BUS 610 Critical Thinking and Persuasion for Business (2 credit hours)		6
Total Credit Hours		30

¹ Program requirements are subject to change. Not all courses are offered every semester or term. Consult the Program Director for the recommended sequence.

² Both ACC 301 and ACC 404 are required courses. One of these two courses is completed in the junior year. the remaining course must be completed in the senior year.

Students must select their track (MAcc-Assurance, MAcc-Corporate, or MST) by the spring semester of their senior year before registering for their final fall graduate classes.

Summer after Senior Year

Students must take one approved graduate course, such as ACC 620, in the summer following their senior year. Students are also **REQUIRED** to take an approved CPA review course during the summer following their senior year after graduation. Students who do not take a CPA review course must complete an additional six graduate credit hours which will likely delay graduation from December to the following May. Students are expected to pass part, if not all, of the CPA exam during this summer.

Final Fall Semester

In the final fall semester, students will complete the remaining 16 graduate credit hours including the requirements for their track and electives selected in consultation with the Program Director in the Department of Accounting.

Admission to the Accelerated Master's Programs

Incoming Freshmen

- Prospective students may apply to the accelerated program when they apply for admission to the University of Miami.
- SAT Reading and Math combined scores should meet or exceed 1400; high school unweighted GPA should meet or exceed 3.75.
- Students are required to have a cumulative and an accounting major GPA of 3.3 or higher by their junior at the University of Miami. Students must then maintain a cumulative GPA of 3.3 or higher and an accounting major GPA of 3.3 or higher to remain in the program. Students who do not maintain the expected GPA may be placed on probation or transferred out of the program.
- Students will need to have completed a minimum of 102 credit hours by the start of their senior year.

Current University of Miami Undergraduate Accounting Majors

- Students should apply to the accelerated program by September 30 of their junior year.
- Admission to the program will be based on GPA, letters of recommendation, and performance in upper division (300-level or above) accounting courses in progress or completed. It is expected that the students admitted to the program will have GPAs exceeding 3.3, but students with these scores are not guaranteed admission. The decision will depend on the quality and size of the applicant pool and will be made by senior school administrators and faculty.
- After admission, to remain in the program, students must maintain a cumulative GPA of 3.3 or higher and an accounting major GPA of 3.3 or higher. Students who do not maintain the expected GPA may be placed on probation or transferred out of the program.
- Students will need to have completed a minimum of 102 credit hours by the start of their senior year including the following:

Code	Title	Credit Hours
ACC 311	Intermediate Accounting I	3
ACC 312	Intermediate Accounting II	3
ACC 402	Auditing	3
ACC 403	Fundamentals of Taxation	3
ACC 404 or ACC 301	Advanced Taxation Cost Accounting	3
BSL 401	The Law of Financial Transactions	3
Total Credit Hours		18

B.B.A. in Accounting

Curriculum Requirements

Major Area of Specialization in Accounting (People & Society)

In addition to satisfying the University General Education Requirements and Electives, students pursuing the BBA in Accounting must complete the BBA Business Core and the specific coursework for the Accounting major area of specialization as follows:

Code	Title	Credit Hours
University General Education Requirements ¹		
ENG 105	English Composition I	3
ENG 106	English Composition II	3
UMX 100	The University of Miami Experience	0
Arts and Humanities Cognate Courses		9
STEM Cognate Courses		9
Electives ²		18
BBA Business Core Requirements ¹		
ACC 211	Principles of Financial Accounting	3
ACC 212	Managerial Accounting	3
BSL 212	Introduction to Business Law	3
BTE 210	Fundamentals of Business Technology and Innovation	3
BUS 101	First Step: Freshman Integrity, Responsibility, and Success through Teamwork	3
BUS 150	Business Analytics	3
BUS 300	Critical Thinking and Persuasion for Business ³	3
ECO 211	Principles of Microeconomics (Microeconomics)	3

ECO 212	Principles of Macroeconomics (Macroeconomics)	3
FIN 302	Fundamentals of Finance	3
MAS 110	Quantitative Applications in Business (minimum grade of C- required)	3
or MTH 161	Calculus I	
MAS 201	Introduction to Business Statistics (minimum grade of C- required)	3
MAS 202	Intermediate Business Statistics	3
MGT 303	Operations Management	3
MGT 304	Organizational Behavior	3
MGT 401	Strategic Management (must be taken in the final semester)	3
MKT 201	Foundations of Marketing	3
or MKT 301	Marketing Foundations	
Major Area of Specialization in Accounting ⁴		
ACC 301	Cost Accounting	3
ACC 311	Intermediate Accounting I	3
ACC 312	Intermediate Accounting II ⁴	3
ACC 402	Auditing	3
ACC 403	Fundamentals of Taxation	3
ACC 404	Advanced Taxation	3
ACC 406	Accounting Systems	3
ACC 411	Advanced Accounting	3
BSL 401	The Law of Financial Transactions	3
Total Credit Hours		120

¹ **NOTE:** ENG 105 and ENG 106, or their equivalents, must be completed prior to attaining junior year classification, per the University General Education Requirements. Additionally, all 100 and 200-level Business Core courses must be completed by the end of the fifth semester of college work or during the semester in which the student is completing 75 credit hours.

² At least one course with an international focus must be completed within the degree requirements. The appropriateness of the course is determined by the academic advisor.

³ Students who do not earn at least a C- in ENG 106 must either repeat ENG 106 and earn at least a C- or complete ENG 230 with at least a C- before enrolling in BUS 300.

⁴ To continue as an accounting major, a student must have a minimum cumulative GPA of 3.0 in accounting courses before enrolling in ACC 312. In subsequent coursework specific to the Accounting major area of specialization, including ACC 312, a grade of "C-" or better is acceptable as long as the overall GPA in the major is a 2.0.

Sample Plan of Study

This Sample Plan of Study represents one possible version of a new freshman Business student's 8-semester plan. The individual student's plan may vary depending upon the initial placement into English Composition and mathematics. Moreover, numerous plan variations are possible if a student enters the University with advanced college credits, wishes to participate in study abroad, chooses a special program option, or selects additional majors or minors.

Note that each major/minor at the University of Miami satisfies a particular "Area of Knowledge" within the general education requirements of the University. This means that it is possible to pursue two majors or a major and a minor within the Business School and fulfill both the STEM and People and Society Areas of Knowledge; a separate cognate in these areas would not be required. The only remaining general education Area of Knowledge would be Arts and Humanities, which must be completed through a major, minor, or cognate outside of the Business School.

Students construct their individualized plans in collaboration with their assigned academic advisor.

Course	Title	Credit Hours
Freshman Year		
Fall		
BSL 212	Introduction to Business Law	3
BUS 101	First Step: Freshman Integrity, Responsibility, and Success through Teamwork	3
ENG 105	English Composition I	3

MAS 110 or MTH 161	Quantitative Applications in Business or Calculus I	3
UMX 100	The University of Miami Experience	0
Arts and Humanities Cognate Course		3
Credit Hours		15
Spring		
BUS 150	Business Analytics	3
ENG 106	English Composition II	3
MAS 201	Introduction to Business Statistics	3
MKT 201	Foundations of Marketing	3
Arts and Humanities Cognate Course		3
Credit Hours		15
Sophomore Year		
Fall		
ACC 211	Principles of Financial Accounting	3
BTE 210	Fundamentals of Business Technology and Innovation	3
ECO 211	Principles of Microeconomics	3
MAS 202	Intermediate Business Statistics	3
Arts and Humanities Cognate Course		3
Credit Hours		15
Spring		
ACC 212	Managerial Accounting	3
ECO 212	Principles of Macroeconomics	3
FIN 302	Fundamentals of Finance	3
MGT 304	Organizational Behavior	3
Elective		3
Credit Hours		15
Junior Year		
Fall		
ACC 311	Intermediate Accounting I	3
ACC 403	Fundamentals of Taxation	3
BUS 300	Critical Thinking and Persuasion for Business	3
STEM Cognate Course		3
Elective		3
Credit Hours		15
Spring		
ACC 312	Intermediate Accounting II	3
ACC 402	Auditing	3
MGT 303	Operations Management	3
STEM Cognate Course		3
Elective		3
Credit Hours		15
Senior Year		
Fall		
ACC 404	Advanced Taxation	3
ACC 411	Advanced Accounting	3
BSL 401	The Law of Financial Transactions	3
STEM Cognate Course		3
Elective		3
Credit Hours		15
Spring		
ACC 301	Cost Accounting	3

ACC 406	Accounting Systems	3
MGT 401	Strategic Management	3
Elective		3
Elective		3
	Credit Hours	15
	Total Credit Hours	120

B.S.B.A. in Accounting Curriculum Requirements

Major Area of Specialization in Accounting (People & Society)

In addition to satisfying the University General Education Requirements and Electives, students pursuing the BSBA in Accounting must complete the BSBA Business Core and the specific coursework for the Accounting major area of specialization as follows:

Code	Title	Credit Hours
University General Education Requirements ¹		
ENG 105	English Composition I	3
ENG 106	English Composition II	3
UMX 100	The University of Miami Experience	0
Arts and Humanities Cognate Courses		9
STEM Cognate Courses		9
Electives ²		7
BSBA Business Core Requirements ¹		
ACC 221	Accelerated Principles of Financial Accounting	3
ACC 222	Accelerated Managerial Accounting	3
BSL 212	Introduction to Business Law	3
BTE 210	Fundamentals of Business Technology and Innovation	3
BTE 320	Introduction to Programming	3
BUS 101	First Step: Freshman Integrity, Responsibility, and Success through Teamwork	3
BUS 150	Business Analytics	3
BUS 300	Critical Thinking and Persuasion for Business ³	3
ECO 211	Principles of Microeconomics	3
ECO 212	Principles of Macroeconomics	3
FIN 302	Fundamentals of Finance	3
MAS 311	Applied Probability and Statistics (minimum grade of C- required)	3
MAS 312	Statistical Methods and Quality Control	3
MTH 161	Calculus I (minimum grade of C- required)	4
MTH 162	Calculus II	4
MGT 303	Operations Management	3
MGT 304	Organizational Behavior	3
MGT 401	Strategic Management (must be taken in the final semester)	3
MKT 201 or MKT 301	Foundations of Marketing Marketing Foundations	3
Quantitative Choice - Select one of these suggested courses approved by the academic advisor - check pre-requisites:		3
BTE 324	Object-Oriented Programming	
BTE 423	Database Management Systems	
ECO 430	Applied Econometrics	
ECO 510	Mathematical Economics and Applications	
MAS 342	Introduction to Optimization and Decision Making	
MAS 442	Stochastic Models in Operations Research	
MAS 547	Computer Simulation Systems	

MGT 445	Supply Chain Modeling and Analysis	
MGT 446	Supply Chain Strategy	
Major Area of Specialization in Accounting ⁴		
ACC 301	Cost Accounting	3
ACC 311	Intermediate Accounting I	3
ACC 312	Intermediate Accounting II ⁴	3
ACC 402	Auditing	3
ACC 403	Fundamentals of Taxation	3
ACC 404	Advanced Taxation	3
ACC 406	Accounting Systems	3
ACC 411	Advanced Accounting	3
BSL 401	The Law of Financial Transactions	3
Total Credit Hours		120

Sample Plan of Study

This Sample Plan of Study represents one possible version of a new freshman Business student's 8-semester plan. The individual student's plan may vary depending upon the initial placement into English Composition and mathematics. Moreover, numerous plan variations are possible if a student enters the University with advanced college credits, wishes to participate in study abroad, chooses a special program option, or selects additional majors or minors.

Note that each major/minor at the University of Miami satisfies a particular "Area of Knowledge" within the general education requirements of the University. This means that it is possible to pursue two majors or a major and a minor within the Business School and fulfill both the STEM and People and Society Areas of Knowledge; a separate cognate in these areas would not be required. The only remaining general education Area of Knowledge would be Arts and Humanities, which must be completed through a major, minor, or cognate outside of the Business School.

Students construct their individualized plans in collaboration with their assigned academic advisor.

Course	Title	Credit Hours
Freshman Year		
Fall		
BUS 101	First Step: Freshman Integrity, Responsibility, and Success through Teamwork	3
ECO 211	Principles of Microeconomics	3
ENG 105	English Composition I	3
MKT 201	Foundations of Marketing	3
MTH 161	Calculus I	4
UMX 100	The University of Miami Experience	0
Credit Hours		16
Spring		
ACC 221	Accelerated Principles of Financial Accounting	3
BUS 150	Business Analytics	3
ECO 212	Principles of Macroeconomics	3
ENG 106	English Composition II	3
MTH 162	Calculus II	4
Credit Hours		16
Sophomore Year		
Fall		
ACC 222	Accelerated Managerial Accounting	3
ACC 311	Intermediate Accounting I	3
BSL 212	Introduction to Business Law	3
BTE 210	Fundamentals of Business Technology and Innovation	3
MAS 311	Applied Probability and Statistics	3
Credit Hours		15

Spring		
ACC 312	Intermediate Accounting II	3
ACC 403	Fundamentals of Taxation	3
FIN 302	Fundamentals of Finance	3
MAS 312	Statistical Methods and Quality Control	3
Arts and Humanities Cognate Course		3
	Credit Hours	15
Junior Year		
Fall		
ACC 404	Advanced Taxation	3
BSL 401	The Law of Financial Transactions	3
BUS 300	Critical Thinking and Persuasion for Business	3
MGT 304	Organizational Behavior	3
Arts and Humanities Cognate Course		3
	Credit Hours	15
Spring		
ACC 402	Auditing	3
BTE 320	Introduction to Programming	3
MGT 303	Operations Management	3
STEM Cognate Course		3
Arts and Humanities Cognate Course		3
	Credit Hours	15
Senior Year		
Fall		
ACC 406	Accounting Systems (This course is taken in fall for Accelerated Accounting only. All others take ACC 406 in spring.)	3
ACC 411	Advanced Accounting	3
STEM Cognate Course		3
Elective		3
Elective		3
	Credit Hours	15
Spring		
ACC 301	Cost Accounting	3
MGT 401	Strategic Management	3
Quantitative Choice Course		3
STEM Cognate Course		3
Elective		1
	Credit Hours	13
	Total Credit Hours	120

Five-Year Accounting Program with Senior-Year Internship

The Five-Year Accounting Program with Senior-Year Internship is intended to allow exceptional students to acquire both undergraduate and graduate accounting degrees in five years while gaining valuable experience working at a full-time internship in the spring semester of their senior year. Students will also take a CPA review course and sit for the CPA exam so they can pass some (if not all) parts of the exam before they graduate with their Master of Accounting or Master of Science in Taxation degree.

Program Timeline

1. Junior Year: Complete an application to the program and apply for an internship position to take place in the spring of senior year.
2. Fall semester of Senior Year: Submit the internship agreement and apply to graduate school.
3. Spring semester of Senior Year: Complete Internship followed by 9 credit hours of coursework to complete the undergraduate degree and Accounting major.
4. Summer following Senior Year: Take CPA review and exam.

5. Fall semester following Senior Year. Begin the Master of Accounting (MAcc) or Master of Science in Taxation (MST) Program.

Pre-requisites

The program is designed for University of Miami Business School undergraduate students who are pursuing the accounting major and who have a cumulative GPA of at least 3.2 at the time of application. Admission to the program is based on several criteria, so a 3.2 GPA does not guarantee admission. Students should discuss the program and their academic plan for entering the program with an academic advisor in the Office of Undergraduate Business Education or with the Program Director in the Department of Accounting. Prior to the spring semester of their senior year, students will need to have completed all undergraduate degree requirements, except for two accounting major courses and MGT 401.

Senior Year Spring Semester Curriculum

In the first half of the spring semester of the senior year, students will work full-time in an accounting internship for which they can receive 3 credit hours toward their undergraduate degree (ACC 550). Additionally, in the spring semester of their senior year, students will take 9 credit hours in three specially-designed short-duration courses that include two accounting major courses and MGT 401.

Summer, Fall, and Spring after Senior Year

In the summer after their senior year, students will have the opportunity to take a CPA review course and sit for the CPA exam. Students will complete their Master of Accounting or Master of Science in Taxation in the fall and spring semesters after senior year and begin working that following summer or fall.

Admission to the Five-Year Accounting Program with Senior-Year Internship

- Students must apply to the program in their junior year and obtain an "approved" internship through the Toppel Career Center.
- The internship must be scheduled to take place during the spring semester of their senior year.
- In the fall semester of their senior year, before registering for their senior-year spring classes, students must submit a copy of their internship agreement to the Program Director or Program Manager in the Department of Accounting.
- By the fall semester of their senior year, students must have applied for admission to the graduate program and submitted their verification deposit to pursue a Master of Accounting or Master of Science in Taxation degree in the fall semester immediately following their senior year.
- The GMAT will be waived for students admitted into the program.

Minor in Accounting

Minor Area of Specialization in Accounting (People & Society)

The Department of Accounting allows Miami Business School students to earn a minor in Accounting. The Accounting minor is not available to non-business students.

Business students who choose to pursue the minor in Accounting must complete the following 9 credit hours of coursework in accordance with the current pre-requisite structure, which includes "Junior Status" and either completion of ACC 211 and ACC 212 or completion of ACC 221 and ACC 222:

Code	Title	Credit Hours
Required Courses ¹		
ACC 301	Cost Accounting	3
ACC 311	Intermediate Accounting I ²	3
ACC 312	Intermediate Accounting II ³	3
Total Credit Hours		9

¹ ACC 211 and ACC 212 or ACC 221 and ACC 222 are pre-requisites for all other Accounting courses.

² ACC 311 may be taken concurrently with ACC 222 for BSBA students.

³ To obtain a minor in Accounting a student must have a minimum cumulative GPA of 3.0 in Accounting courses before enrolling in ACC 312. This course has the additional pre-requisite of ACC 311.

Business Law

Department Code: BSL

Introduction

The modern manager faces increasing legal implications in daily operations and in formulating business policy. Consequently, effective decision-making requires an appreciation of the social, ethical, economic, and political bases of law as it relates to business. Business law courses provide the student with fundamental insight into legal institutions, the regulatory environment, and the nature of legal discourse, as well as an array

of substantive principles of law, including such areas as contracts, sales, business organizations, and domestic and international commercial relationships.

Educational Objectives

The primary goals of the Department of Business Law are to contribute to legal knowledge through conducting scholarly research, to disseminate it by publication in leading journals and law reviews, and to transmit that knowledge to students and the larger University-wide, business, and professional communities.

These goals both inform and drive the Department's educational objectives, which focus on:

- instilling in students a strong sense of the legal and ethical issues permeating business;
- aiding students' comprehension of the legal and regulatory environment as well as the ethical considerations and substantive laws that shape business practices and policies; and
- developing students' analytical and problem solving ability, as well as their oral and written presentation skills.

Major in Legal Studies

- B.B.A. in Legal Studies (p. 387)
- B.S.B.A. in Legal Studies (p. 390)

Minor in Business Law

- Business Law for Business Students (p. 393)
- Business Law for Non-Business Students (p. 394)

B.B.A. in Legal Studies

Major Area of Specialization in Legal Studies (People & Society)

The Bachelor of Business Administration (BBA) with a major area of specialization in Legal Studies is intended to enhance the interaction between legal counsel and the business manager, preparing graduates to excel in a wide variety of business pursuits. A flexible, inherently cross-disciplinary course of study, the Legal Studies major can facilitate careers in such fields as risk management, compliance, human resources, marketing, finance and accounting, general business or non-profit management, health care, government, and small business ownership/entrepreneurship. For some, it may also provide an appropriate foundation for the professional study of law.

Curriculum Requirements

In addition to satisfying the University General Education Requirements and Electives, students pursuing the BBA in Legal Studies must complete the BBA Business Core and the specific coursework for the Legal Studies major area of specialization as follows:

Code	Title	Credit Hours
University General Education Requirements ¹		
ENG 105	English Composition I	3
ENG 106	English Composition II	3
UMX 100	The University of Miami Experience	0
Arts and Humanities Cognate Courses		9
STEM Cognate Courses		9
Electives ²		27
BBA Business Core Requirements ¹		
ACC 211	Principles of Financial Accounting	3
ACC 212	Managerial Accounting	3
BSL 212	Introduction to Business Law	3
BTE 210	Fundamentals of Business Technology and Innovation	3
BUS 101	First Step: Freshman Integrity, Responsibility, and Success through Teamwork	3
BUS 150	Business Analytics	3
BUS 300	Critical Thinking and Persuasion for Business ³	3
ECO 211	Principles of Microeconomics (Microeconomics)	3
ECO 212	Principles of Macroeconomics (Macroeconomics)	3
FIN 302	Fundamentals of Finance	3

MAS 110 or MTH 161	Quantitative Applications in Business (minimum grade of C- required) Calculus I	3
MAS 201	Introduction to Business Statistics (minimum grade of C- required)	3
MAS 202	Intermediate Business Statistics	3
MGT 303	Operations Management	3
MGT 304	Organizational Behavior	3
MGT 401	Strategic Management (must be taken in the final semester)	3
MKT 201 or MKT 301	Foundations of Marketing Marketing Foundations	3
Major Area of Specialization in Legal Studies ⁴		
BSL 212	Introduction to Business Law (Taken as part of the Business Core, it is a pre-requisite for all other BSL courses.)	
BSL 324	Negotiation	3
BSL 485	Managing the Legal Factor (taken in the final semester)	3
Major Choice Courses - Select four courses (12 credit hours) from the following:		12
BSL 304	Corporate Law	
BSL 305	Legal and Social Aspects of Business Regulation	
BSL 333	Legal Aspects of Real Estate Transactions	
BSL 401	The Law of Financial Transactions	
BSL 412	International Business Law	
BSL 424	Intellectual Property Law	
BSL 435	Law of Entrepreneurship	
BSL 460	Health Care Law and Ethics	
BSL 476	The Law of Risk	
BSL 498	Special Topics in Business Law	
BSL 499	Special Topics in Business Law	
Total Credit Hours		120

¹ **NOTE:** ENG 105 and ENG 106, or their equivalents, must be completed prior to attaining junior year classification, per the University General Education Requirements. Additionally, all 100 and 200-level Business Core courses must be completed by the end of the fifth semester of college work or during the semester in which the student is completing 75 credit hours.

² At least one course with an international focus must be completed within the degree requirements. The appropriateness of the course is determined by the academic advisor.

³ Students who do not earn at least a C- in ENG 106 must either repeat ENG 106 and earn at least a C- or complete ENG 230 with at least a C- before enrolling in BUS 300.

⁴ All specific coursework for the major area of specialization in Legal Studies must be completed with a grade of "C-" or higher. A minimum cumulative GPA of 2.5 is required for all specific coursework taken in the major area of specialization. All courses must be completed within the current pre-requisite structure.

Sample Plan of Study

This Sample Plan of Study represents one possible version of a new freshman business student's 8-semester plan. The individual student's plan may vary depending upon the initial placement into English Composition and mathematics. Moreover, numerous plan variations are possible if a student enters the University with advanced college credits, wishes to participate in study abroad, chooses a special program option, or selects additional majors or minors.

Note that each major/minor at the University of Miami satisfies a particular "Area of Knowledge" within the general education requirements of the University. This means that it is possible to pursue two majors or a major and a minor within Miami Business School and fulfill both the STEM and People and Society Areas of Knowledge; a separate cognate in these areas would not be required. The only remaining general education Area of Knowledge is Arts and Humanities, which must be completed through a major, minor, or cognate outside of Miami Business School.

Students construct their individualized plans in collaboration with their assigned academic advisor.

Course	Title	Credit Hours
Freshman Year		
Fall		
BSL 212	Introduction to Business Law	3
BUS 101	First Step: Freshman Integrity, Responsibility, and Success through Teamwork	3
ENG 105	English Composition I	3
MAS 110 or MTH 161	Quantitative Applications in Business or Calculus I	3
UMX 100	The University of Miami Experience	0
Arts and Humanities Cognate Course		3
	Credit Hours	15
Spring		
BUS 150	Business Analytics	3
ENG 106	English Composition II	3
MAS 201	Introduction to Business Statistics	3
MKT 201	Foundations of Marketing	3
Arts and Humanities Cognate Course		3
	Credit Hours	15
Sophomore Year		
Fall		
ACC 211	Principles of Financial Accounting	3
BTE 210	Fundamentals of Business Technology and Innovation	3
ECO 211	Principles of Microeconomics	3
MAS 202	Intermediate Business Statistics	3
Arts and Humanities Cognate Course		3
	Credit Hours	15
Spring		
ACC 212	Managerial Accounting	3
ECO 212	Principles of Macroeconomics	3
FIN 302	Fundamentals of Finance	3
MGT 304	Organizational Behavior	3
Legal Studies Major Choice		3
	Credit Hours	15
Junior Year		
Fall		
BSL 324	Negotiation	3
BUS 300	Critical Thinking and Persuasion for Business	3
MGT 303	Operations Management	3
STEM Cognate Course		3
Elective		3
	Credit Hours	15
Spring		
Legal Studies Major Choice		3
Legal Studies Major Choice		3
STEM Cognate Course		3
Elective		3
Elective		3
	Credit Hours	15
Senior Year		
Fall		
Legal Studies Major Choice		3

STEM Cognate Course		3
Elective		3
Elective		3
Elective		3
	Credit Hours	15
Spring		
BSL 485	Managing the Legal Factor	3
MGT 401	Strategic Management	3
Elective		3
Elective		3
Elective		3
	Credit Hours	15
	Total Credit Hours	120

B.S.B.A. in Legal Studies

Major Area of Specialization in Legal Studies (People & Society)

A student may pursue the Bachelor of Science in Business Administration (BSBA) with a major area of specialization in Legal Studies. This course of study facilitates the interaction between legal counsel and the business manager, preparing graduates to excel in a wide variety of business pursuits. A flexible, inherently cross-disciplinary course of study, the Legal Studies major can facilitate careers in such fields as risk management, compliance, human resources, marketing, finance and accounting, general business or non-profit management, health care, government, and small business ownership/entrepreneurship. For some, it may also provide an appropriate foundation for the professional study of law.

Curriculum Requirements

In addition to satisfying the University General Education Requirements and Electives, students pursuing the BSBA in Legal Studies must complete the BSBA Business Core and the specific coursework for the Legal Studies major area of specialization as follows:

Code	Title	Credit Hours
University General Education Requirements ¹		
ENG 105	English Composition I	3
ENG 106	English Composition II	3
UMX 100	The University of Miami Experience	0
Arts and Humanities Cognate Courses		9
STEM Cognate Courses		9
Electives ²		16
BSBA Business Core Requirements ¹		
ACC 221 or ACC 211	Accelerated Principles of Financial Accounting Principles of Financial Accounting	3
ACC 222 or ACC 212	Accelerated Managerial Accounting Managerial Accounting	3
BSL 212	Introduction to Business Law	3
BTE 210	Fundamentals of Business Technology and Innovation	3
BTE 320	Introduction to Programming	3
BUS 101	First Step: Freshman Integrity, Responsibility, and Success through Teamwork	3
BUS 150	Business Analytics	3
BUS 300	Critical Thinking and Persuasion for Business ³	3
ECO 211	Principles of Microeconomics	3
ECO 212	Principles of Macroeconomics	3
FIN 302	Fundamentals of Finance	3
MAS 311	Applied Probability and Statistics (minimum grade of C- required)	3
MAS 312	Statistical Methods and Quality Control	3
MTH 161	Calculus I (minimum grade of C- required)	4

MTH 162	Calculus II	4
MGT 303	Operations Management	3
MGT 304	Organizational Behavior	3
MGT 401	Strategic Management (must be taken in the final semester)	3
MKT 201 or MKT 301	Foundations of Marketing Marketing Foundations	3
Quantitative Choice - Select one of these suggested courses approved by the academic advisor - check pre-requisites:		3
BTE 324	Object-Oriented Programming	
BTE 423	Database Management Systems	
ECO 430	Applied Econometrics	
ECO 510	Mathematical Economics and Applications	
MAS 342	Introduction to Optimization and Decision Making	
MAS 442	Stochastic Models in Operations Research	
MAS 547	Computer Simulation Systems	
MGT 445	Supply Chain Modeling and Analysis	
MGT 446	Supply Chain Strategy	
Major Area of Specialization in Legal Studies ⁴		
BSL 212	Introduction to Business Law (Taken as part of the Business Core, it is a pre-requisite for all other BSL courses.)	
BSL 324	Negotiation	3
BSL 485	Managing the Legal Factor	3
Major Choice Courses - Select four courses (12 credit hours) from the following:		12
BSL 304	Corporate Law	
BSL 305	Legal and Social Aspects of Business Regulation	
BSL 333	Legal Aspects of Real Estate Transactions	
BSL 401	The Law of Financial Transactions	
BSL 412	International Business Law	
BSL 424	Intellectual Property Law	
BSL 435	Law of Entrepreneurship	
BSL 460	Health Care Law and Ethics	
BSL 476	The Law of Risk	
BSL 498	Special Topics in Business Law	
BSL 499	Special Topics in Business Law	
Total Credit Hours		120

¹ **NOTE:** ENG 105 and ENG 106, or their equivalents, must be completed prior to attaining junior year classification, per the University General Education Requirements. Additionally, all 100 and 200-level Business Core courses must be completed by the end of the fifth semester of college work or during the semester in which the student is completing 75 credit hours.

² At least one course with an international focus must be completed within the degree requirements. The appropriateness of the course is determined by the academic advisor.

³ Students who do not earn at least a C- in ENG 106 must either repeat ENG 106 and earn at least a C- or complete ENG 230 with at least a C- before enrolling in BUS 300.

⁴ All specific coursework for the major in Legal Studies must be completed with a grade of "C-" or higher. A minimum cumulative GPA of 2.5 is required for all specific coursework taken in the major area of specialization. All courses must be completed within the current pre-requisite structure.

Sample Plan of Study

This Sample Plan of Study represents one possible version of a new freshman business student's 8-semester plan. The individual student's plan may vary depending upon the initial placement into English Composition and mathematics. Moreover, numerous plan variations are possible if a student enters the University with advanced college credits, wishes to participate in study abroad, chooses a special program option, or selects additional majors or minors.

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People and Society Areas of Knowledge; a separate cognate in these areas would not be required. The only remaining general education Area of Knowledge is Arts and Humanities, which must be completed through a major, minor, or cognate outside of the Business School.

Students construct their individualized plans in collaboration with their assigned academic advisor.

Course	Title	Credit Hours
Freshman Year		
Fall		
BSL 212	Introduction to Business Law	3
BUS 101	First Step: Freshman Integrity, Responsibility, and Success through Teamwork	3
ENG 105	English Composition I	3
MKT 201	Foundations of Marketing	3
MTH 161	Calculus I	4
UMX 100	The University of Miami Experience	0
	Credit Hours	16
Spring		
ACC 221	Accelerated Principles of Financial Accounting	3
BUS 150	Business Analytics	3
ENG 106	English Composition II	3
MTH 162	Calculus II	4
Arts and Humanities Cognate Course		3
	Credit Hours	16
Sophomore Year		
Fall		
ACC 222	Accelerated Managerial Accounting	3
BTE 210	Fundamentals of Business Technology and Innovation	3
ECO 211	Principles of Microeconomics	3
MAS 311	Applied Probability and Statistics	3
Arts and Humanities Cognate Course		3
	Credit Hours	15
Spring		
ECO 212	Principles of Macroeconomics	3
FIN 302	Fundamentals of Finance	3
MAS 312	Statistical Methods and Quality Control	3
Arts and Humanities Cognate Course		3
Legal Studies Major Choice		3
	Credit Hours	15
Junior Year		
Fall		
BSL 324	Negotiation	3
BUS 300	Critical Thinking and Persuasion for Business	3
MGT 304	Organizational Behavior	3
Legal Studies Major Choice		3
Elective		3
	Credit Hours	15
Spring		
BTE 320	Introduction to Programming	3
MGT 303	Operations Management	3
Legal Studies Major Choice		3
STEM Cognate Course		3
Elective		3
	Credit Hours	15

Senior Year		
Fall		
Legal Studies Major Choice		3
Quantitative Choice Course		3
STEM Cognate Course		3
Elective		3
Elective		3
	Credit Hours	15
Spring		
BSL 485	Managing the Legal Factor	3
MGT 401	Strategic Management	3
STEM Cognate Course		3
Elective		3
Elective		1
	Credit Hours	13
	Total Credit Hours	120

Minor in Business Law for Business Students

Minor Area of Specialization in Business Law (People & Society)

The Business Law minor is flexible, permitting students to augment their studies with an appreciation of the role of law and ethics in global citizenship as well as in the student's chosen corporate, creative, scientific, academic, professional, or personal endeavors. Students in the Miami Business School pursue the minor in Business Law by officially declaring the minor and by completing the coursework identified below.

Curriculum Requirements - Business Students

The 12-credit-hour minor in Business Law for Business School students consists of the following (all courses must be completed within the current pre-requisite structure):

Code	Title	Credit Hours
Required Courses		
BSL 212	Introduction to Business Law (part of the Business Core for Business students; pre-requisite for all other BSL courses)	3
BSL 485	Managing the Legal Factor (required in the student's final semester)	3
Choice Courses for the Minor		
Select two courses (6 credit hours) from the following:		6
BSL 304	Corporate Law	
BSL 305	Legal and Social Aspects of Business Regulation	
BSL 324	Negotiation	
BSL 333	Legal Aspects of Real Estate Transactions	
BSL 401	The Law of Financial Transactions	
BSL 412	International Business Law	
BSL 424	Intellectual Property Law	
BSL 435	Law of Entrepreneurship	
BSL 460	Health Care Law and Ethics	
BSL 476	The Law of Risk	
BSL 498	Special Topics in Business Law	
BSL 499	Special Topics in Business Law	
Total Credit Hours		12

NOTE: All specific coursework for the minor in Business Law must be completed with a grade of "C-" or higher. A minimum cumulative GPA of 2.5 is required for all specific coursework taken in the minor area of specialization.

Minor in Business Law for Non-Business Students

Minor Area of Specialization in Business Law (People & Society)

The Business Law minor is flexible, permitting students to augment their studies with an appreciation of the role of law and ethics in global citizenship as well as in the student's chosen corporate, creative, scientific, academic, professional, or personal endeavors. Non-Business students pursue the minor in Business Law by officially declaring the minor at their home school or college and by completing the coursework identified below.

Interested students, before declaring the minor, should consult with an academic advisor *in the School or College of their degree/major* to determine if the minor in Business Law is acceptable. If so, neither advice nor consent from either the Office of Undergraduate Business Education or the Business Law Department is necessary.

Curriculum Requirements for Non-Business Students

The 12-credit-hour minor in Business Law for non-business students consists of the following (all courses must be completed within the current pre-requisite structure):

Code	Title	Credit Hours
Required Course		
BUS 202	Introduction to the Legal Environment of Business	3
Choice Courses for the Minor		
Select three courses (9 credit hours) from the following:		9
BSL 304	Corporate Law	
BSL 305	Legal and Social Aspects of Business Regulation	
BSL 324	Negotiation	
BSL 333	Legal Aspects of Real Estate Transactions	
BSL 401	The Law of Financial Transactions	
BSL 412	International Business Law	
BSL 424	Intellectual Property Law	
BSL 435	Law of Entrepreneurship	
BSL 460	Health Care Law and Ethics	
BSL 476	The Law of Risk	
BSL 498	Special Topics in Business Law	
BSL 499	Special Topics in Business Law	
Total Credit Hours		12

NOTE: All specific coursework for the minor in Business Law must be completed with a grade of "C-" or higher. A minimum cumulative GPA of 2.5 is required for all specific coursework taken in the minor area of specialization.

Business Technology

Department Code: BTE

Introduction

The Department of Business Technology serves the University as the focus for employing business technology and information management in the efficient solution of the entire range of business problems.

Today's business and government organizations rely heavily upon information management for efficient administration and management. Collection, storage, and retrieval of data by computers are involved in the wide range of business activities including daily operations, management decision-making, and long-range planning. As the dependence of management on business technology grows, so does the need for business technology specialists. The courses and degree programs are described below.

Educational Objectives

The Business Technology major is designed to provide the student with the key information technology and management skills needed in today's business environment, plus a firm grounding in the primary business areas in which these skills will be applied. Graduates of the program may qualify for entry-level positions as systems and/or information analysts, information security specialists, consultants, user support analysts, programmers, or other information management positions.

Major in Business Technology

- B.B.A. in Business Technology (p. 395)
- B.S.B.A. in Business Technology (p. 398)

Minor in Business Technology

- Business Technology (p. 401)

B.B.A. in Business Technology

Curriculum Requirements

Major Area of Specialization in Business Technology (STEM)

In addition to satisfying the University General Education Requirements and Electives, students pursuing the BBA in Business Technology must complete the BBA Business Core and the specific coursework for the Business Technology major area of specialization as follows:

Code	Title	Credit Hours
University General Education Requirements ¹		
ENG 105	English Composition I	3
ENG 106	English Composition II	3
UMX 100	The University of Miami Experience	0
Arts and Humanities Cognate Courses		9
People and Society Cognate Courses		9
Electives ²		27
BBA Business Core Requirements ¹		
ACC 211	Principles of Financial Accounting	3
ACC 212	Managerial Accounting	3
BSL 212	Introduction to Business Law	3
BTE 210	Fundamentals of Business Technology and Innovation	3
BUS 101	First Step: Freshman Integrity, Responsibility, and Success through Teamwork	3
BUS 150	Business Analytics	3
BUS 300	Critical Thinking and Persuasion for Business ³	3
ECO 211	Principles of Microeconomics (Microeconomics)	3
ECO 212	Principles of Macroeconomics (Macroeconomics)	3
FIN 302	Fundamentals of Finance	3
MAS 110	Quantitative Applications in Business (minimum grade of C- required)	3
or MTH 161	Calculus I	
MAS 201	Introduction to Business Statistics (minimum grade of C- required)	3
MAS 202	Intermediate Business Statistics	3
MGT 303	Operations Management	3
MGT 304	Organizational Behavior	3
MGT 401	Strategic Management (must be taken in the final semester)	3
MKT 201	Foundations of Marketing	3
or MKT 301	Marketing Foundations	
Major Area of Specialization in Business Technology ⁴		
BTE 320	Introduction to Programming	3
BTE 400	Web-Mobile-Cloud (pre-requisite BTE 320)	3
BTE 417	Fundamentals of Tech Project Management	3
BTE 423	Database Management Systems (pre-requisite BTE 320)	3
Major Choice Courses - Select two courses (6 credit hours) from the following:		6
BTE 324	Object-Oriented Programming (pre-requisite BTE 320)	
BTE 360	Systems Analysis and Design	

BTE 389	Launching HighTechnology Ventures	
BTE 401	Computers in an Inter-Networked Society	
BTE 412	Foundations of Business Enterprise Technologies	
BTE 413	Big Data Strategy	
BTE 430	Business Networks	
BTE 450	Introduction to Health Informatics	
BTE 465	Web Application Development (pre-requisite BTE 320)	
BTE 496	Directed Studies in Business Technology	
BTE 497	Directed Studies in Business Technology	
BTE 498	Special Topics in Business Technology	
BTE 499	Special Topics in Business Technology	
BTE 523	Big Data Development (pre-requisite BTE 320)	
BTE 524	Mobile Apps Development (pre-requisite BTE 320 & BTE 324)	
BTE 535	Information Security (pre-requisite BTE 320)	
BTE 550	Business Technology Internship	
BTE 565	Mobile to Cloud: Developing Distributed Applications (pre-requisite BTE 320 & BTE 324)	
Total Credit Hours		120

- 1 **NOTE:** ENG 105 and ENG 106 , or their equivalents, must be completed prior to attaining junior year classification, per the University General Education Requirements. Additionally, all 100 and 200-level Business Core courses must be completed by the end of the fifth semester of college work or during the semester in which the student is completing 75 credit hours.
- 2 At least one course with an international focus must be completed within the degree requirements. The appropriateness of the course is determined by the academic advisor.
- 3 Students who do not earn at least a C- in ENG 106 must either repeat ENG 106 and earn at least a C- or complete ENG 230 with at least a C- before enrolling in BUS 300.
- 4 All specific coursework for the major in Business Technology must be completed with a grade of "C-" or higher. In addition, a minimum cumulative GPA of 2.5 is required for all specific coursework taken in the major area of specialization. All courses must be completed within the current pre-requisite structure.

Sample Plan of Study

This Sample Plan of Study represents one possible version of a new freshman Business student's 8-semester plan. The individual student's plan may vary depending upon the initial placement into English Composition and mathematics. Moreover, numerous plan variations are possible if a student enters the University with advanced college credits, wishes to participate in study abroad, chooses a special program option, or selects additional majors or minors.

Note that each major/minor at the University of Miami satisfies a particular "Area of Knowledge" within the general education requirements of the University. This means that it is possible to pursue two majors or a major and a minor within the Business School and fulfill both the STEM and People and Society Areas of Knowledge; a separate cognate in these areas would not be required. The only remaining general education Area of Knowledge would be Arts and Humanities, which must be completed through a major, minor, or cognate outside of the Business School.

Students construct their individualized plans in collaboration with their assigned academic advisor.

Course	Title	Credit Hours
Freshman Year		
Fall		
BUS 101	First Step: Freshman Integrity, Responsibility, and Success through Teamwork	3
ENG 105	English Composition I	3
MAS 110 or MTH 161	Quantitative Applications in Business or Calculus I	3
MKT 201	Foundations of Marketing	3
UMX 100	The University of Miami Experience	0
Arts and Humanities Cognate Course		3
Credit Hours		15

Spring		
BSL 212	Introduction to Business Law	3
BUS 150	Business Analytics	3
ENG 106	English Composition II	3
MAS 201	Introduction to Business Statistics	3
Arts and Humanities Cognate Course		3
	Credit Hours	15
Sophomore Year		
Fall		
ACC 211	Principles of Financial Accounting	3
BTE 210	Fundamentals of Business Technology and Innovation	3
ECO 211	Principles of Microeconomics	3
MAS 202	Intermediate Business Statistics	3
Arts and Humanities Cognate Course		3
	Credit Hours	15
Spring		
ACC 212	Managerial Accounting	3
BTE 417	Fundamentals of Tech Project Management	3
ECO 212	Principles of Macroeconomics	3
FIN 302	Fundamentals of Finance	3
Elective		3
	Credit Hours	15
Junior Year		
Fall		
BTE 320	Introduction to Programming	3
BUS 300	Critical Thinking and Persuasion for Business	3
MGT 304	Organizational Behavior	3
People and Society Cognate Course		3
Elective		3
	Credit Hours	15
Spring		
BTE 423	Database Management Systems	3
MGT 303	Operations Management	3
People and Society Cognate Course		3
Elective		3
Elective		3
	Credit Hours	15
Senior Year		
Fall		
BTE 400	Web-Mobile-Cloud	3
Business Technology Major Choice		3
People and Society Cognate Course		3
Elective		3
Elective		3
	Credit Hours	15
Spring		
MGT 401	Strategic Management	3
Business Technology Major Choice		3
Elective		3
Elective		3

Elective	3
Credit Hours	15
Total Credit Hours	120

B.S.B.A. in Business Technology

Curriculum Requirements

Major Area of Specialization in Business Technology (STEM)

In addition to satisfying the University General Education Requirements and Electives, students pursuing the BSBA in Business Technology must complete the BSBA Business Core and the specific coursework for the Business Technology major area of specialization as follows:

Code	Title	Credit Hours
University General Education Requirements ¹		
ENG 105	English Composition I	3
ENG 106	English Composition II	3
UMX 100	The University of Miami Experience	0
Arts and Humanities Cognate Courses		9
People and Society Cognate Courses		9
Electives ²		16
BSBA Business Core Requirements ¹		
ACC 221 or ACC 211	Accelerated Principles of Financial Accounting Principles of Financial Accounting	3
ACC 222 or ACC 212	Accelerated Managerial Accounting Managerial Accounting	3
BSL 212	Introduction to Business Law	3
BTE 210	Fundamentals of Business Technology and Innovation	3
BTE 320	Introduction to Programming	3
BUS 101	First Step: Freshman Integrity, Responsibility, and Success through Teamwork	3
BUS 150	Business Analytics	3
BUS 300	Critical Thinking and Persuasion for Business ³	3
ECO 211	Principles of Microeconomics	3
ECO 212	Principles of Macroeconomics	3
FIN 302	Fundamentals of Finance	3
MAS 311	Applied Probability and Statistics (minimum grade of C- required)	3
MAS 312	Statistical Methods and Quality Control	3
MTH 161	Calculus I (minimum grade of C- required)	4
MTH 162	Calculus II	4
MGT 303	Operations Management	3
MGT 304	Organizational Behavior	3
MGT 401	Strategic Management (must be taken in the final semester)	3
MKT 201 or MKT 301	Foundations of Marketing Marketing Foundations	3
Quantitative Choice - Select one of these suggested courses approved by the academic advisor - check pre-requisites:		3
BTE 324	Object-Oriented Programming (may not double count as both the Quantitative Choice and major requirement unless Business Technology is an additional Business major)	
BTE 423	Database Management Systems (may not double count as both the Quantitative Choice and major requirement unless Business Technology is an additional Business major)	
ECO 430	Applied Econometrics	
ECO 510	Mathematical Economics and Applications	
MAS 342	Introduction to Optimization and Decision Making	

MAS 442	Stochastic Models in Operations Research	
MAS 547	Computer Simulation Systems	
MGT 445	Supply Chain Modeling and Analysis	
MGT 446	Supply Chain Strategy	
Major Area of Specialization in Business Technology ⁴		
BTE 320	Introduction to Programming (taken as part of the Business Core)	
BTE 324	Object-Oriented Programming (pre-requisite BTE 320)	3
BTE 400	Web-Mobile-Cloud (pre-requisite BTE 320)	3
BTE 417	Fundamentals of Tech Project Management	3
BTE 423	Database Management Systems (pre-requisite BTE 320)	3
Major Choice Courses - Select two courses (6 credit hours) from the following:		6
BTE 360	Systems Analysis and Design	
BTE 389	Launching HighTechnology Ventures	
BTE 401	Computers in an Inter-Networked Society	
BTE 412	Foundations of Business Enterprise Technologies	
BTE 413	Big Data Strategy	
BTE 430	Business Networks	
BTE 450	Introduction to Health Informatics	
BTE 465	Web Application Development (pre-requisite BTE 320)	
BTE 496	Directed Studies in Business Technology	
BTE 497	Directed Studies in Business Technology	
BTE 498	Special Topics in Business Technology	
BTE 499	Special Topics in Business Technology	
BTE 523	Big Data Development (pre-requisite BTE 320)	
BTE 524	Mobile Apps Development (pre-requisite BTE 320 & BTE 324)	
BTE 535	Information Security (pre-requisite BTE 320)	
BTE 550	Business Technology Internship	
BTE 565	Mobile to Cloud: Developing Distributed Applications (pre-requisite BTE 320 & BTE 324)	
Total Credit Hours		120

¹ **NOTE:** ENG 105 and ENG 106, or their equivalents, must be completed prior to attaining junior year classification, per the University General Education Requirements. Additionally, all 100 and 200-level Business Core courses must be completed by the end of the fifth semester of college work or during the semester in which the student is completing 75 credit hours.

² At least one course with an international focus must be completed within the degree requirements. The appropriateness of the course is determined by the academic advisor.

³ Students who do not earn at least a C- in ENG 106 must either repeat ENG 106 and earn at least a C- or complete ENG 230 with at least a C- before enrolling in BUS 300.

⁴ All specific coursework for the major area of specialization in Business Technology must be completed with a grade of "C-" or higher. In addition, a minimum cumulative GPA of 2.5 is required for all specific coursework taken in the major area of specialization. All courses must be completed within the current pre-requisite structure.

Sample Plan of Study

This Sample Plan of Study represents one possible version of a new freshman business student's 8-semester plan. The individual student's plan may vary depending upon the initial placement into English Composition and mathematics. Moreover, numerous plan variations are possible if a student enters the University with advanced college credits, wishes to participate in study abroad, chooses a special program option, or selects additional majors or minors.

Note that each major/minor at the University of Miami satisfies a particular "Area of Knowledge" within the general education requirements of the University. This means that it is possible to pursue two majors, or a major and a minor, within Miami School of Business and fulfill both the STEM and People and Society Areas of Knowledge; a separate cognate in these areas would not be required. The only remaining general education Area of Knowledge is Arts and Humanities, which must be completed through a major, minor, or cognate outside of the School of Business.

Students construct their individualized plans in collaboration with their assigned academic advisor.

Course	Title	Credit Hours
Freshman Year		
Fall		
BSL 212	Introduction to Business Law	3
BUS 101	First Step: Freshman Integrity, Responsibility, and Success through Teamwork	3
ENG 105	English Composition I	3
MKT 201	Foundations of Marketing	3
MTH 161	Calculus I	4
UMX 100	The University of Miami Experience	0
	Credit Hours	16
Spring		
ACC 221	Accelerated Principles of Financial Accounting	3
BUS 150	Business Analytics	3
ENG 106	English Composition II	3
MTH 162	Calculus II	4
Arts and Humanities Cognate Course		3
	Credit Hours	16
Sophomore Year		
Fall		
ACC 222	Accelerated Managerial Accounting	3
BTE 210	Fundamentals of Business Technology and Innovation	3
ECO 211	Principles of Microeconomics	3
MAS 311	Applied Probability and Statistics	3
Arts and Humanities Cognate Course		3
	Credit Hours	15
Spring		
BTE 417	Fundamentals of Tech Project Management	3
ECO 212	Principles of Macroeconomics	3
FIN 302	Fundamentals of Finance	3
MAS 312	Statistical Methods and Quality Control	3
Arts and Humanities Cognate Course		3
	Credit Hours	15
Junior Year		
Fall		
BTE 320	Introduction to Programming	3
BUS 300	Critical Thinking and Persuasion for Business	3
MGT 304	Organizational Behavior	3
People and Society Cognate Course		3
Elective		3
	Credit Hours	15
Spring		
BTE 324	Object-Oriented Programming	3
MGT 303	Operations Management	3
Business Technology Major Choice		3
People and Society Cognate Course		3
Elective		3
	Credit Hours	15
Senior Year		
Fall		
BTE 400	Web-Mobile-Cloud	3
BTE 423	Database Management Systems	3

People and Society Cognate Course		3
Elective		3
Elective		3
	Credit Hours	15
Spring		
MGT 401	Strategic Management	3
Business Technology Major Choice		3
Quantitative Choice Course		3
Elective		3
Elective		1
	Credit Hours	13
	Total Credit Hours	120

Minor in Business Technology

Minor Area of Specialization in Business Technology (STEM)

Miami Business School students, as well as students in the other schools and colleges of the University of Miami, may pursue the minor in Business Technology by officially declaring the minor at their home school or college and completing the coursework specified below. Interested *non-business* students, before declaring the minor, should consult with an academic advisor *in the School or College of their degree/major* to determine if the minor in Business Technology is acceptable. If so, neither advice nor consent from either the Office of Undergraduate Business Education or the Business Technology Department is necessary.

The 12-credit-hour minor in Business Technology consists of the following:

Code	Title	Credit Hours
Required Courses		
BTE 320	Introduction to Programming	3
BTE 412	Foundations of Business Enterprise Technologies	3
Choice Courses for the Minor ¹		
Select two courses (6 credit hours) from the following:		6
BTE 324	Object-Oriented Programming (pre-requisite BTE 320)	
BTE 360	Systems Analysis and Design	
BTE 389	Launching HighTechnology Ventures	
BTE 400	Web-Mobile-Cloud (pre-requisite BTE 320)	
BTE 401	Computers in an Inter-Networked Society	
BTE 413	Big Data Strategy	
BTE 417	Fundamentals of Tech Project Management	
BTE 423	Database Management Systems (pre-requisite BTE 320)	
BTE 430	Business Networks	
BTE 450	Introduction to Health Informatics	
BTE 465	Web Application Development (pre-requisite BTE 320)	
BTE 496	Directed Studies in Business Technology (Only 3 credit hours of either BTE 496 or 498 may be selected for the minor.)	
BTE 497	Directed Studies in Business Technology	
BTE 498	Special Topics in Business Technology (Only 3 credit hours of either BTE 496 or 498 may be selected for the minor.)	
BTE 499	Special Topics in Business Technology	
BTE 523	Big Data Development (pre-requisite BTE 320)	
BTE 524	Mobile Apps Development (pre-requisite BTE 320 & BTE 324)	
BTE 535	Information Security (pre-requisite BTE 320)	
BTE 550	Business Technology Internship	

BTE 565	Mobile to Cloud: Developing Distributed Applications (pre-requisite BTE 320 & BTE 324)	
Total Credit Hours		12

¹ All courses must be completed within the current pre-requisite structure.

Note: All specific coursework for the minor in Business Technology must be completed with a grade of “C-” or better. In addition, a minimum cumulative GPA of 2.5 is required for all specific coursework taken in the minor area of specialization.

Economics

Department Code: ECO

Introduction and Educational Objectives

Economics uses the idea of optimizing behavior to provide a unified framework for studying human action. The economics curriculum is designed to give business students an understanding of economic theory and its application to a wide range of problems. The program provides excellent preparation for careers in business, government, and international agencies. It is particularly recommended for students planning graduate study or professional training in fields such as law, business, international studies, public administration, and economics.

A student pursuing the Economics major will select one of two possible tracks: Political Economy (the People and Society track) or Quantitative Economics (the Science, Technology, Mathematics, and Engineering track).

Members of the Department are prepared to counsel students in the selection of courses and in other matters relating to the preparation for careers. Economics may also be the major area of specialization of a candidate for the Master of Arts (p. 1016) and Doctor of Philosophy (p. 995) degrees. Consult the Graduate Academic Programs (p. 989) section of the Bulletin for general requirements of these programs of study.

Major in Economics

- B.B.A. in Economics (p. 402)
- B.S.B.A. in Economics (p. 407)

Minors in Economics

- Minor in Political Economy for Business Students (p. 412)
- Minor in Political Economy for Non Business Students (p. 413)
- Minor in Quantitative Economics for Business Students (p. 414)
- Minor in Quantitative Economics for Non Business Students (p. 415)

B.B.A. in Economics

Curriculum Requirements

Major Area of Specialization in Economics (People & Society or STEM)

Miami Business School students who wish to pursue the Economics major area of specialization will choose between two tracks: Political Economy (P&S) or Quantitative Economics (STEM).

In the Political Economy track, People and Society courses are predominant. In the Quantitative Economics track, Science, Technology, Engineering, and Mathematics courses are predominant.

In addition to satisfying the University General Education Requirements and Electives, students pursuing the BBA in Economics must complete the BBA Business Core and the specific coursework for one of the Economics major tracks as follows:

Code	Title	Credit Hours
University General Education Requirements ¹		
ENG 105	English Composition I	3
ENG 106	English Composition II	3
UMX 100	The University of Miami Experience	0
Arts and Humanities Cognate Courses		9
STEM or People and Society Cognate Courses (depends upon which Major track is selected)		9
Electives ²		27
BBA Business Core Requirements ¹		

ACC 211	Principles of Financial Accounting	3
ACC 212	Managerial Accounting	3
BSL 212	Introduction to Business Law	3
BTE 210	Fundamentals of Business Technology and Innovation	3
BUS 101	First Step: Freshman Integrity, Responsibility, and Success through Teamwork	3
BUS 150	Business Analytics	3
BUS 300	Critical Thinking and Persuasion for Business ³	3
ECO 211	Principles of Microeconomics (Microeconomics)	3
ECO 212	Principles of Macroeconomics (Macroeconomics)	3
FIN 302	Fundamentals of Finance	3
MAS 110	Quantitative Applications in Business (minimum grade of C- required)	3
or MTH 161	Calculus I	
MAS 201	Introduction to Business Statistics (minimum grade of C- required)	3
MAS 202	Intermediate Business Statistics	3
MGT 303	Operations Management	3
MGT 304	Organizational Behavior	3
MGT 401	Strategic Management (must be taken in the final semester)	3
MKT 201	Foundations of Marketing	3
or MKT 301	Marketing Foundations	
Major Area of Specialization in Economics⁴		
Choose either the Political Economy Track or the Quantitative Economics Track		18
Political Economy Track Required Courses (People & Society) :		
ECO 211	Principles of Microeconomics (taken as part of the Business Core)	
ECO 212	Principles of Macroeconomics (taken as part of the Business Core)	
ECO 300	Microeconomic Theory and Applications (ECO 302 may be taken instead if MTH 161 or equivalent is completed)	
ECO 303	Macroeconomic Theory	
Major Choice Courses (P&S) - Select four courses (12 credit hours) from the following: ⁵		
ECO 311	Labor Economics (I)	
ECO 333	Industrial Economics and Public Policy	
ECO 345	Environmental Economics	
ECO 351	Economics of Development	
ECO 371	Latin America and the Global Economy	
ECO 379	The Political Economy of Growth	
ECO 386	Health Economics	
ECO 403	Monetary Economics	
ECO 420	Economic Growth	
ECO 441	International Trade Theory	
ECO 442	International Monetary Economics	
ECO 443	Economic Analysis of Energy and Commodity Markets	
ECO 445	Global Economics: Trade and Currencies	
ECO 498	Special Topics in Economics (People and Society Topics)	
ECO 532	History of Economic Thought	
Students may select a maximum of two courses (6 credit hours) of their major choice courses from the following STEM courses: ⁵		
ECO 430	Applied Econometrics	
ECO 444	Game Theory in Economic Applications.	
ECO 460	Industrial Organization	
ECO 499	Special Topics in Economics (STEM Topics)	
ECO 510	Mathematical Economics and Applications	
ECO 511	Empirical Labor Economics	

ECO 512	Topics in Mathematical Economics
ECO 520	Econometrics
ECO 521	Advanced Macroeconomic Theory
ECO 533	Advanced Microeconomic Theory
Quantitative Economics Track Required Courses (STEM) : ⁶	
ECO 211	Principles of Microeconomics (taken as part of the Business Core)
ECO 212	Principles of Macroeconomics (taken as part of the Business Core)
ECO 302	Microeconomic Theory (requires MTH 161 or equivalent as a pre-requisite)
ECO 303	Macroeconomic Theory
Major Choice Courses (STEM) - Select four courses (12 credit hours) from the following: ⁵	
ECO 430	Applied Econometrics
ECO 444	Game Theory in Economic Applications.
ECO 460	Industrial Organization
ECO 499	Special Topics in Economics (STEM Topics)
ECO 510	Mathematical Economics and Applications
ECO 511	Empirical Labor Economics
ECO 512	Topics in Mathematical Economics
ECO 520	Econometrics
ECO 521	Advanced Macroeconomic Theory
ECO 533	Advanced Microeconomic Theory
Total Credit Hours	120

¹ **NOTE:** ENG 105 and ENG 106, or their equivalents, must be completed prior to attaining junior year classification, per the University General Education Requirements. Additionally, all 100 and 200-level Business Core courses must be completed by the end of the fifth semester of college work or during the semester in which the student is completing 75 credit hours.

² At least one course with an international focus must be completed within the degree requirements. The appropriateness of the course is determined by the academic advisor.

³ Students who do not earn at least a C- in ENG 106 must either repeat ENG 106 and earn at least a C- or complete ENG 230 with at least a C- before enrolling in BUS 300.

⁴ All specific coursework for the major in Economics must be completed with a grade of "C-" or higher. A minimum cumulative GPA of 2.0 is required for all specific coursework taken in the major area of specialization.
All courses must be taken within the current pre-requisite structure.

⁵ Course pre-requisites vary by course.

⁶ MTH 161 or its equivalent and ECO 302 are required for Quantitative Economics.

Sample Plans of Study

This Sample Plan of Study represents one possible version of a new freshman Business student's 8-semester plan. The individual student's plan may vary depending upon the initial placement into English Composition and mathematics. Moreover, numerous plan variations are possible if a student enters the University with advanced college credits, wishes to participate in study abroad, chooses a special program option, or selects additional majors or minors.

Note that each major/minor at the University of Miami satisfies a particular "Area of Knowledge" within the general education requirements of the University. This means that it is possible to pursue two majors or a major and a minor within the Business School and fulfill both the STEM and People and Society Areas of Knowledge; a separate cognate in these areas would not be required. The only remaining general education Area of Knowledge would be Arts and Humanities, which must be completed through a major, minor, or cognate outside of the Business School.

Students construct their individualized plans in collaboration with their assigned academic advisor.

Political Economy Track Plan of Study

Course	Title	Credit Hours
Freshman Year		
Fall		
BUS 101	First Step: Freshman Integrity, Responsibility, and Success through Teamwork	3

ECO 211	Principles of Microeconomics	3
ENG 105	English Composition I	3
MAS 110 or MTH 161	Quantitative Applications in Business or Calculus I	3
MKT 201	Foundations of Marketing	3
UMX 100	The University of Miami Experience	0
	Credit Hours	15
Spring		
BUS 150	Business Analytics	3
ECO 212	Principles of Macroeconomics	3
ENG 106	English Composition II	3
MAS 201	Introduction to Business Statistics	3
Arts and Humanities Cognate Course		3
	Credit Hours	15
Sophomore Year		
Fall		
ACC 211	Principles of Financial Accounting	3
BSL 212	Introduction to Business Law	3
BTE 210	Fundamentals of Business Technology and Innovation	3
MAS 202	Intermediate Business Statistics	3
Arts and Humanities Cognate Course		3
	Credit Hours	15
Spring		
ACC 212	Managerial Accounting	3
ECO 300 or 302	Microeconomic Theory and Applications or Microeconomic Theory	3
FIN 302	Fundamentals of Finance	3
MGT 304	Organizational Behavior	3
Arts and Humanities Cognate Course		3
	Credit Hours	15
Junior Year		
Fall		
BUS 300	Critical Thinking and Persuasion for Business	3
ECO 303	Macroeconomic Theory	3
Economics P&S Major Choice		3
STEM Cognate Course		3
Elective		3
	Credit Hours	15
Spring		
MGT 303	Operations Management	3
Economics P&S Major Choice		3
STEM Cognate Course		3
Elective		3
Elective		3
	Credit Hours	15
Senior Year		
Fall		
Economics P&S Major Choice		3
STEM Cognate Course		3
Elective		3
Elective		3

Elective		3
	Credit Hours	15
Spring		
MGT 401	Strategic Management	3
Economics P&S Major Choice		3
Elective		3
Elective		3
Elective		3
	Credit Hours	15
	Total Credit Hours	120

Quantitative Economics Track Plan of Study

Course	Title	Credit Hours
Freshman Year		
Fall		
BUS 101	First Step: Freshman Integrity, Responsibility, and Success through Teamwork	3
ECO 211	Principles of Microeconomics	3
ENG 105	English Composition I	3
MKT 201	Foundations of Marketing	3
MTH 161	Calculus I	4
UMX 100	The University of Miami Experience	0
	Credit Hours	16
Spring		
BUS 150	Business Analytics	3
ECO 212	Principles of Macroeconomics	3
ENG 106	English Composition II	3
MAS 201	Introduction to Business Statistics	3
Arts and Humanities Cognate Course		3
	Credit Hours	15
Sophomore Year		
Fall		
ACC 211	Principles of Financial Accounting	3
BSL 212	Introduction to Business Law	3
BTE 210	Fundamentals of Business Technology and Innovation	3
MAS 202	Intermediate Business Statistics	3
Arts and Humanities Cognate Course		3
	Credit Hours	15
Spring		
ACC 212	Managerial Accounting	3
ECO 302	Microeconomic Theory	3
FIN 302	Fundamentals of Finance	3
MGT 304	Organizational Behavior	3
Arts and Humanities Cognate Course		3
	Credit Hours	15
Junior Year		
Fall		
BUS 300	Critical Thinking and Persuasion for Business	3
ECO 303	Macroeconomic Theory	3
Economics STEM Major Choice		3
People and Society Cognate Course		3

Elective		3
	Credit Hours	15
Spring		
MGT 303	Operations Management	3
Economics STEM Major Choice		3
People and Society Cognate Course		3
Elective		3
Elective		3
	Credit Hours	15
Senior Year		
Fall		
Economics STEM Major Choice		3
People and Society Cognate Course		3
Elective		3
Elective		3
Elective		3
	Credit Hours	15
Spring		
MGT 401	Strategic Management	3
Economics STEM Major Choice		3
Elective		3
Elective		3
Elective		2
	Credit Hours	14
	Total Credit Hours	120

B.S.B.A. in Economics

Curriculum Requirements

Major Area of Specialization in Economics (People & Society or STEM)

Miami Business School students who wish to pursue the Economics major area of specialization will choose between two tracks: Political Economy (P&S) or Quantitative Economics (STEM).

In the Political Economy track, People and Society courses are predominant. In the Quantitative Economics track, courses in Science, Technology, Engineering, and Mathematics are predominant.

In addition to satisfying the University General Education Requirements and Electives, students pursuing the BSBA in Economics must complete the BSBA Business Core and the specific coursework for one of the Economics major tracks as follows:

Code	Title	Credit Hours
University General Education Requirements ¹		
ENG 105	English Composition I	3
ENG 106	English Composition II	3
UMX 100	The University of Miami Experience	0
Arts and Humanities Cognate Courses		9
STEM or People and Society Cognate Courses		9
Electives ²		16
BSBA Business Core Requirements ¹		
ACC 221 or ACC 211	Accelerated Principles of Financial Accounting Principles of Financial Accounting	3
ACC 222 or ACC 212	Accelerated Managerial Accounting Managerial Accounting	3
BSL 212	Introduction to Business Law	3
BTE 210	Fundamentals of Business Technology and Innovation	3

BTE 320	Introduction to Programming	3
BUS 101	First Step: Freshman Integrity, Responsibility, and Success through Teamwork	3
BUS 150	Business Analytics	3
BUS 300	Critical Thinking and Persuasion for Business ³	3
ECO 211	Principles of Microeconomics (Microeconomics)	3
ECO 212	Principles of Macroeconomics (Macroeconomics)	3
FIN 302	Fundamentals of Finance	3
MAS 311	Applied Probability and Statistics (minimum grade of C- required)	3
MAS 312	Statistical Methods and Quality Control	3
MTH 161	Calculus I (minimum grade of C- required)	4
MTH 162	Calculus II	4
MGT 303	Operations Management	3
MGT 304	Organizational Behavior	3
MGT 401	Strategic Management (must be taken in the final semester)	3
MKT 201 or MKT 301	Foundations of Marketing Marketing Foundations	3
Quantitative Choice - Select one of these suggested courses approved by the academic advisor - check pre-requisites:		3
BTE 324	Object-Oriented Programming	
BTE 423	Database Management Systems	
ECO 430	Applied Econometrics (may not double count as both the Quantitative Choice and a major choice unless Economics is an additional major)	
ECO 510	Mathematical Economics and Applications (may not double count as both the Quantitative Choice and a major choice unless Economics is an additional major)	
MAS 342	Introduction to Optimization and Decision Making	
MAS 442	Stochastic Models in Operations Research	
MAS 547	Computer Simulation Systems	
MGT 445	Supply Chain Modeling and Analysis	
MGT 446	Supply Chain Strategy	
Major Area of Specialization in Economics ⁴		
Choose either the Political Economy Track or the Quantitative Economics Track		18
Political Economy Track Required Courses (People & Society) :		
ECO 211	Principles of Microeconomics (taken as part of the Business Core)	
ECO 212	Principles of Macroeconomics (taken as part of the Business Core)	
ECO 302	Microeconomic Theory	
ECO 303	Macroeconomic Theory	
Major Choice Courses (P&S) - Select four courses (12 credit hours) from the following: ⁵		
ECO 311	Labor Economics (I)	
ECO 333	Industrial Economics and Public Policy	
ECO 345	Environmental Economics	
ECO 351	Economics of Development	
ECO 371	Latin America and the Global Economy	
ECO 379	The Political Economy of Growth	
ECO 386	Health Economics	
ECO 403	Monetary Economics	
ECO 420	Economic Growth	
ECO 441	International Trade Theory	
ECO 442	International Monetary Economics	
ECO 443	Economic Analysis of Energy and Commodity Markets	
ECO 445	Global Economics: Trade and Currencies	
ECO 498	Special Topics in Economics (People and Society Topics)	

ECO 532	History of Economic Thought
A maximum of two courses (6 credit hours) of major choice courses may be selected from the following STEM courses: ⁵	
ECO 430	Applied Econometrics
ECO 444	Game Theory in Economic Applications.
ECO 460	Industrial Organization
ECO 499	Special Topics in Economics (STEM Topics)
ECO 510	Mathematical Economics and Applications
ECO 511	Empirical Labor Economics
ECO 512	Topics in Mathematical Economics
ECO 520	Econometrics
ECO 521	Advanced Macroeconomic Theory
ECO 533	Advanced Microeconomic Theory
Quantitative Economics Track Required Courses (STEM) :	
ECO 211	Principles of Microeconomics (taken as part of the Business Core)
ECO 212	Principles of Macroeconomics (taken as part of the Business Core)
ECO 302	Microeconomic Theory
ECO 303	Macroeconomic Theory
Major Choice Courses (STEM) - Select four courses (12 credit hours) from the following: ⁵	
ECO 430	Applied Econometrics
ECO 444	Game Theory in Economic Applications.
ECO 460	Industrial Organization
ECO 499	Special Topics in Economics (STEM Topics)
ECO 510	Mathematical Economics and Applications
ECO 511	Empirical Labor Economics
ECO 512	Topics in Mathematical Economics
ECO 520	Econometrics
ECO 521	Advanced Macroeconomic Theory
ECO 533	Advanced Microeconomic Theory
Total Credit Hours	120

- 1 **NOTE:** ENG 105 and ENG 106 , or their equivalents, must be completed prior to attaining junior year classification, per the University General Education Requirements. Additionally, all 100 and 200-level Business Core courses must be completed by the end of the fifth semester of college work or during the semester in which the student is completing 75 credit hours.
- 2 At least one course with an international focus must be completed within the degree requirements. The appropriateness of the course is determined by the academic advisor.
- 3 Students who do not earn at least a C- in ENG 106 must either repeat ENG 106 and earn at least a C- or complete ENG 230 with at least a C- before enrolling in BUS 300.
- 4 All specific coursework for the major area of specialization in Economics must be completed with a grade of "C-" or higher. A minimum cumulative GPA of 2.0 is required for all specific coursework taken in the major area of specialization. All courses must be taken within the current pre-requisite structure.
- 5 Course pre-requisites vary by course.

Sample Plans of Study

This Sample Plan of Study represents one possible version of a new freshman business student's 8-semester plan. The individual student's plan may vary depending upon the initial placement into English Composition and mathematics. Moreover, numerous plan variations are possible if a student enters the University with advanced college credits, wishes to participate in study abroad, chooses a special program option, or selects additional majors or minors.

Note that each major/minor at the University of Miami satisfies a particular "Area of Knowledge" within the general education requirements of the University. This means that it is possible to pursue two majors, or a major and a minor, within Miami Business School and fulfill both the STEM and People and Society Areas of Knowledge; a separate cognate in these areas would not be required. The only remaining general education Area of Knowledge is Arts and Humanities, which must be completed through a major, minor, or cognate outside of the Business School.

Students construct their individualized plans in collaboration with their assigned academic advisor.

Political Economy Track Plan of Study

Course	Title	Credit Hours
Freshman Year		
Fall		
BUS 101	First Step: Freshman Integrity, Responsibility, and Success through Teamwork	3
ECO 211	Principles of Microeconomics	3
ENG 105	English Composition I	3
MKT 201	Foundations of Marketing	3
MTH 161	Calculus I	4
UMX 100	The University of Miami Experience	0
	Credit Hours	16
Spring		
ACC 221	Accelerated Principles of Financial Accounting	3
BUS 150	Business Analytics	3
ECO 212	Principles of Macroeconomics	3
ENG 106	English Composition II	3
MTH 162	Calculus II	4
	Credit Hours	16
Sophomore Year		
Fall		
ACC 222	Accelerated Managerial Accounting	3
BSL 212	Introduction to Business Law	3
BTE 210	Fundamentals of Business Technology and Innovation	3
MAS 311	Applied Probability and Statistics	3
Arts and Humanities Cognate Course		3
	Credit Hours	15
Spring		
ECO 302	Microeconomic Theory	3
FIN 302	Fundamentals of Finance	3
MAS 312	Statistical Methods and Quality Control	3
MGT 304	Organizational Behavior	3
Arts and Humanities Cognate Course		3
	Credit Hours	15
Junior Year		
Fall		
BTE 320	Introduction to Programming	3
BUS 300	Critical Thinking and Persuasion for Business	3
ECO 303	Macroeconomic Theory	3
Economics P&S Major Choice		3
Arts and Humanities Cognate Course		3
	Credit Hours	15
Spring		
MGT 303	Operations Management	3
Economics P&S Major Choice		3
STEM Cognate Course		3
Elective		3
Elective		3
	Credit Hours	15
Senior Year		
Fall		
Economics P&S Major Choice		3

Quantitative Choice Course		3
STEM Cognate Course		3
Elective		3
Elective		3
	Credit Hours	15
Spring		
MGT 401	Strategic Management	3
Economics P&S Major Choice		3
STEM Cognate Course		3
Elective		3
Elective		1
	Credit Hours	13
	Total Credit Hours	120

Quantitative Economics Track Plan of Study

Course	Title	Credit Hours
Freshman Year		
Fall		
BUS 101	First Step: Freshman Integrity, Responsibility, and Success through Teamwork	3
ECO 211	Principles of Microeconomics	3
ENG 105	English Composition I	3
MKT 201	Foundations of Marketing	3
MTH 161	Calculus I	4
UMX 100	The University of Miami Experience	0
	Credit Hours	16
Spring		
ACC 221	Accelerated Principles of Financial Accounting	3
BUS 150	Business Analytics	3
ECO 212	Principles of Macroeconomics	3
ENG 106	English Composition II	3
MTH 162	Calculus II	4
	Credit Hours	16
Sophomore Year		
Fall		
ACC 222	Accelerated Managerial Accounting	3
BSL 212	Introduction to Business Law	3
BTE 210	Fundamentals of Business Technology and Innovation	3
MAS 311	Applied Probability and Statistics	3
Arts and Humanities Cognate Course		3
	Credit Hours	15
Spring		
ECO 302	Microeconomic Theory	3
FIN 302	Fundamentals of Finance	3
MAS 312	Statistical Methods and Quality Control	3
MGT 304	Organizational Behavior	3
Arts and Humanities Cognate Course		3
	Credit Hours	15
Junior Year		
Fall		
BTE 320	Introduction to Programming	3
BUS 300	Critical Thinking and Persuasion for Business	3

ECO 303	Macroeconomic Theory	3
Economics STEM Major Choice		3
Arts and Humanities Cognate Course		3
Credit Hours		15
Spring		
MGT 303	Operations Management	3
Economics STEM Major Choice		3
People and Society Cognate Course		3
Elective		3
Elective		3
Credit Hours		15
Senior Year		
Fall		
Economics STEM Major Choice		3
Quantitative Choice Course		3
People and Society Cognate Course		3
Elective		3
Elective		3
Credit Hours		15
Spring		
MGT 401	Strategic Management	3
Economics STEM Major Choice		3
People and Society Cognate Course		3
Elective		3
Elective		1
Credit Hours		13
Total Credit Hours		120

Minor in Political Economy for Business Students

Minor Area of Specialization in Political Economy (People & Society)

Curriculum Requirements - Business Students

Code	Title	Credit Hours
Required Courses		
ECO 211	Principles of Microeconomics (taken as part of the Business Core)	3
ECO 212	Principles of Macroeconomics (taken as part of the Business Core)	3
ECO 300 or ECO 302	Microeconomic Theory and Applications ^{1,2} Microeconomic Theory	3
Choice Courses for the Minor		
Select three courses from the following: ³		9
ECO 303	Macroeconomic Theory	
ECO 311	Labor Economics (I)	
ECO 333	Industrial Economics and Public Policy	
ECO 345	Environmental Economics	
ECO 351	Economics of Development	
ECO 371	Latin America and the Global Economy	
ECO 379	The Political Economy of Growth	
ECO 386	Health Economics	
ECO 403	Monetary Economics	
ECO 420	Economic Growth	
ECO 441	International Trade Theory	

ECO 442	International Monetary Economics
ECO 443	Economic Analysis of Energy and Commodity Markets
ECO 445	Global Economics: Trade and Currencies
ECO 498	Special Topics in Economics (People and Society Topics)
ECO 532	History of Economic Thought
Students may select only one course (3 credit hours) of their minor choice courses from the following STEM courses: ³	
ECO 430	Applied Econometrics
ECO 444	Game Theory in Economic Applications.
ECO 460	Industrial Organization
ECO 499	Special Topics in Economics (STEM Topics)
ECO 510	Mathematical Economics and Applications
ECO 511	Empirical Labor Economics
ECO 512	Topics in Mathematical Economics
ECO 520	Econometrics
ECO 521	Advanced Macroeconomic Theory
ECO 533	Advanced Microeconomic Theory
Total Credit Hours	18

¹ Pre-requisites for ECO 300: ECO 211 and MAS 110 or MTH 130 or MTH 141 or MTH 151 or MTH 161 or MTH 171 or an equivalent calculus course or higher

² Pre-requisites for ECO 302 : ECO 211 and MTH 141 or MTH 151 or MTH 161 or MTH 171 or an equivalent Calculus 1 course or higher

³ Course pre-requisites vary by course.

* **NOTE:** All specific coursework for the minor in Economics must be completed with a grade of "C-" or higher. A minimum cumulative GPA of 2.0 is required for all specific coursework taken in the minor area of specialization.

Minor in Political Economy for Non Business Students

Minor Area of Specialization in Political Economy (People & Society)

Curriculum Requirements for Non-Business Students

Interested students should consult with an academic advisor **in the School or College of their degree/major** to determine if the minor in Political Economy is acceptable. If so, neither advice nor consent from either the Office of Undergraduate Business Education or the Economics department is necessary for a student to choose or complete the Political Economy minor. Instead the non-business student should simply declare the Political Economy minor and complete the required 15 credit hours of Economics courses, according to the following:

Code	Title	Credit Hours
Required Courses		
ECO 211	Principles of Microeconomics	3
ECO 212	Principles of Macroeconomics	3
ECO 300 or ECO 302	Microeconomic Theory and Applications ^{1,2} Microeconomic Theory	3
Choice Courses for the Minor		
Select two courses from the following: ³		6
ECO 303	Macroeconomic Theory	
ECO 311	Labor Economics (I)	
ECO 333	Industrial Economics and Public Policy	
ECO 345	Environmental Economics	
ECO 351	Economics of Development	
ECO 371	Latin America and the Global Economy	
ECO 379	The Political Economy of Growth	
ECO 386	Health Economics	
ECO 403	Monetary Economics	
ECO 420	Economic Growth	
ECO 441	International Trade Theory	

ECO 442	International Monetary Economics
ECO 443	Economic Analysis of Energy and Commodity Markets
ECO 445	Global Economics: Trade and Currencies
ECO 498	Special Topics in Economics (People and Society Topics)
ECO 532	History of Economic Thought
Students may select only one course (3 credit hours) of their minor choice courses from the following STEM courses: ³	
ECO 430	Applied Econometrics
ECO 444	Game Theory in Economic Applications.
ECO 460	Industrial Organization
ECO 499	Special Topics in Economics (STEM Topics)
ECO 510	Mathematical Economics and Applications ⁴
ECO 511	Empirical Labor Economics
ECO 512	Topics in Mathematical Economics
ECO 520	Econometrics
ECO 521	Advanced Macroeconomic Theory
ECO 533	Advanced Microeconomic Theory
Total Credit Hours	15

¹ Pre-requisites for ECO 300: ECO 211 and MAS 110 or MTH 130 or MTH 141 or MTH 151 or MTH 161 or MTH 171 or an equivalent calculus course or higher

² Pre-requisites for ECO 302 : ECO 211 and MTH 141 or MTH 151 or MTH 161 or MTH 171 or an equivalent Calculus 1 course or higher

³ Course pre-requisites vary by course.

* **NOTE:** All specific coursework for the minor in Economics must be completed with a grade of "C-" or higher. A minimum cumulative GPA of 2.0 is required for all specific coursework taken in the minor area of specialization.

Minor in Quantitative Economics for Business Students

Minor Area of Specialization in Quantitative Economics (STEM)

Curriculum Requirements for Business Students

Code	Title	Credit Hours
Required Courses		
ECO 211	Principles of Microeconomics (taken as part of the Business Core)	3
ECO 212	Principles of Macroeconomics (taken as part of the Business Core)	3
ECO 302	Microeconomic Theory ¹	3
Choice Courses for the Minor		
Select three courses from the following: ²		9
ECO 430	Applied Econometrics	
ECO 444	Game Theory in Economic Applications.	
ECO 460	Industrial Organization	
ECO 499	Special Topics in Economics (STEM topics)	
ECO 510	Mathematical Economics and Applications	
ECO 511	Empirical Labor Economics	
ECO 512	Topics in Mathematical Economics	
ECO 520	Econometrics	
ECO 521	Advanced Macroeconomic Theory	
ECO 533	Advanced Microeconomic Theory	
Total Credit Hours		18

¹ Pre-requisites for ECO 302 : ECO 211 and MTH 141 or MTH 151 or MTH 161 or MTH 171 or an equivalent Calculus 1 course or higher

² Course pre-requisites vary by course.

* **NOTE:** All specific coursework for the minor in Economics must be completed with a grade of "C-" or higher. A minimum cumulative GPA of 2.0 is required for all specific coursework taken in the minor area of specialization.

Minor in Quantitative Economics for Non Business Students

Minor Area of Specialization in Quantitative Economics (STEM)

Curriculum Requirements for Non-Business Students

Interested students should consult with an academic advisor in the School or College of their degree/major to determine if the minor in Quantitative Economics is acceptable. If so, neither advice nor consent from either the Office of Undergraduate Business Education or the Economics department is necessary for a student to choose or complete a minor in Quantitative Economics. Instead the non-business student should simply declare the Quantitative Economics minor and complete the required 15 credit hours of Economics courses, according to the following:

Code	Title	Credit Hours
Required Courses		
ECO 211	Principles of Microeconomics	3
ECO 212	Principles of Macroeconomics	3
ECO 302	Microeconomic Theory ¹	3
Choice Courses for the Minor		
Select two courses from the following: ²		6
ECO 430	Applied Econometrics	
ECO 444	Game Theory in Economic Applications.	
ECO 460	Industrial Organization	
ECO 499	Special Topics in Economics (STEM Topics)	
ECO 510	Mathematical Economics and Applications	
ECO 511	Empirical Labor Economics	
ECO 512	Topics in Mathematical Economics	
ECO 520	Econometrics	
ECO 521	Advanced Macroeconomic Theory	
ECO 533	Advanced Microeconomic Theory	
Total Credit Hours		15

¹ Pre-requisites for ECO 302 : ECO 211 and MTH 141 or MTH 151 or MTH 161 or MTH 171 or an equivalent Calculus 1 course or higher

² Course pre-requisites vary by course.

* **NOTE:** All specific coursework for the minor in Economics must be completed with a grade of "C-" or higher. A minimum cumulative GPA of 2.0 is required for all specific coursework taken in the minor area of specialization.

Finance

Department Code: FIN

Introduction

The finance major area of specialization is designed to prepare business students for a wide variety of careers. Because finance is focused on valuation and decision making, it is applicable to virtually every possible type of organization.

Educational Objectives

The finance discipline is focused on two primary issues. The first is determining value. The second is making the best decisions with respect to value. We study these issues in a variety of contexts and industries.

The three primary areas of finance are financial management, investments, and financial markets and intermediaries. Financial management focuses on how an organization can accomplish its mission. For example, a corporation seeks to create and maintain wealth, and a non-profit organization seeks to improve the world in some way. All organizations want to achieve their mission to the greatest extent possible, and that requires making the best decisions with respect to value. The area of investments studies the purchase and sale of financial securities, such as stocks, bonds, options, and futures from the point of view of an investor. Financial markets are created to facilitate the trading (buying/selling) of financial securities. Financial intermediaries sell claims on themselves to investors, such as stock, life insurance, or a bank deposit. Financial intermediaries then invest the money from such sales in other assets such as loans, real estate, or other financial securities.

Major Areas of Specialization

- Finance

- International Finance and Marketing
- Real Estate

Important Note: To be eligible for any major specialization offered by the Finance Department, the following requirements must be met:

- A student must earn a grade of "B" (grade point of 3.0) or higher in FIN 302 (note that a grade of "B-" does not qualify).
- A student must have a cumulative University of Miami GPA of 2.5 or higher before enrolling in FIN 303 or FIN 320.
- All specific coursework for the major area of specialization must be completed with a grade of "C-" or higher (except for the minimum "B" grade required for FIN 302, as noted).
- A minimum cumulative GPA of 2.0 is required for all specific coursework taken in the major area of specialization.

Minor Areas of Specialization

- Finance
- Real Estate

Majors in Finance, International Finance and Marketing, and Real Estate

- B.B.A. in Finance (p. 416)
- B.S.B.A. in Finance (p. 425)
- B.B.A. in International Finance and Marketing (p. 419)
- B.S.B.A. in International Finance and Marketing (p. 428)
- B.B.A. in Real Estate (p. 422)
- B.S.B.A. in Real Estate (p. 431)

Minors in Finance and Real Estate

- Finance (p. 434)
- Real Estate (p. 435)

B.B.A. in Finance

Curriculum Requirements

Major Area of Specialization in Finance (STEM)

In addition to satisfying the University General Education Requirements and Electives, students pursuing the BBA in Finance must complete the BBA Business Core and the specific coursework for the Finance major area of specialization as follows:

Code	Title	Credit Hours
University General Education Requirements ¹		
ENG 105	English Composition I	3
ENG 106	English Composition II	3
UMX 100	The University of Miami Experience	0
Arts and Humanities Cognate Courses		9
People and Society Cognate Courses		9
Electives ²		27
BBA Business Core Requirements ¹		
ACC 211	Principles of Financial Accounting	3
ACC 212	Managerial Accounting	3
BSL 212	Introduction to Business Law	3
BTE 210	Fundamentals of Business Technology and Innovation	3
BUS 101	First Step: Freshman Integrity, Responsibility, and Success through Teamwork	3
BUS 150	Business Analytics	3
BUS 300	Critical Thinking and Persuasion for Business ³	3
ECO 211	Principles of Microeconomics (Microeconomics)	3
ECO 212	Principles of Macroeconomics (Macroeconomics)	3
FIN 302	Fundamentals of Finance	3

MAS 110 or MTH 161	Quantitative Applications in Business (minimum grade of C- required) Calculus I	3
MAS 201	Introduction to Business Statistics (minimum grade of C- required)	3
MAS 202	Intermediate Business Statistics	3
MGT 303	Operations Management	3
MGT 304	Organizational Behavior	3
MGT 401	Strategic Management (must be taken in the final semester)	3
MKT 201 or MKT 301	Foundations of Marketing Marketing Foundations	3
Major Area of Specialization in Finance ^{4, 5}		
FIN 302	Fundamentals of Finance (taken as part of the Business Core - minimum B grade required)	
FIN 303	Intermediate Financial Management (pre-requisite FIN 302) ⁶	3
FIN 320	Investment and Security Markets (pre-requisite FIN 302) ⁶	3
Major Choice Courses		12
Select two courses (6 credit hours) at the 300-500 level from the Finance departmental offerings. ⁷		
Select two courses (6 credit hours) at the 400 or 500 level from the Finance departmental offerings.		
Total Credit Hours		120

¹ **NOTE:** ENG 105 and ENG 106, or their equivalents, must be completed prior to attaining junior year classification, per the University General Education Requirements. Additionally, all 100 and 200-level Business Core courses must be completed by the end of the fifth semester of college work or during the semester in which the student is completing 75 credit hours.

² At least one course with an international focus must be completed within the degree requirements. The appropriateness of the course is determined by the academic advisor.

³ Students who do not earn at least a C- in ENG 106 must either repeat ENG 106 and earn at least a C- or complete ENG 230 with at least a C- before enrolling in BUS 300.

⁴ In order to pursue a major in Finance, a student must earn a grade of "B" (grade point of 3.0) or higher in FIN 302 (note that a grade of "B-" does not qualify), and must have a minimum cumulative University of Miami GPA of 2.5 before enrolling in FIN 303 or FIN 320.

⁵ All specific coursework for the major area of specialization in Finance must be completed with a grade of "C-" or higher (except for the minimum "B" grade required for FIN 302, as noted). A minimum cumulative GPA of 2.0 is required for all specific coursework taken in the major area of specialization.

All courses must be taken within the current pre-requisite structure.

⁶ Students are strongly encouraged to take FIN 303 and FIN 320 during the same semester.

⁷ Excluding FIN 300 and FIN 308.

Sample Plan of Study

This Sample Plan of Study represents one possible version of a new freshman Business student's 8-semester plan. The individual student's plan may vary depending upon the initial placement into English Composition and mathematics. Moreover, numerous plan variations are possible if a student enters the University with advanced college credits, wishes to participate in study abroad, chooses a special program option, or selects additional majors or minors.

Note that each major/minor at the University of Miami satisfies a particular "Area of Knowledge" within the general education requirements of the University. This means that it is possible to pursue two majors or a major and a minor within the Business School and fulfill both the STEM and People and Society Areas of Knowledge; a separate cognate in these areas would not be required. The only remaining general education Area of Knowledge would be Arts and Humanities, which must be completed through a major, minor, or cognate outside of the Business School.

Students construct their individualized plans in collaboration with their assigned academic advisor.

Course	Title	Credit Hours
Freshman Year		
Fall		
BSL 212	Introduction to Business Law	3
BUS 101	First Step: Freshman Integrity, Responsibility, and Success through Teamwork	3
ENG 105	English Composition I	3

MAS 110 or MTH 161	Quantitative Applications in Business or Calculus I	3
UMX 100	The University of Miami Experience	0
Arts and Humanities Cognate Course		3
Credit Hours		15
Spring		
BUS 150	Business Analytics	3
ENG 106	English Composition II	3
MAS 201	Introduction to Business Statistics	3
MKT 201	Foundations of Marketing	3
Arts and Humanities Cognate Course		3
Credit Hours		15
Sophomore Year		
Fall		
ACC 211	Principles of Financial Accounting	3
BTE 210	Fundamentals of Business Technology and Innovation	3
ECO 211	Principles of Microeconomics	3
MAS 202	Intermediate Business Statistics	3
Arts and Humanities Cognate Course		3
Credit Hours		15
Spring		
ACC 212	Managerial Accounting	3
ECO 212	Principles of Macroeconomics	3
FIN 302	Fundamentals of Finance	3
MGT 304	Organizational Behavior	3
Elective		3
Credit Hours		15
Junior Year		
Fall		
BUS 300	Critical Thinking and Persuasion for Business	3
FIN 303	Intermediate Financial Management	3
FIN 320	Investment and Security Markets	3
People and Society Cognate Course		3
Elective		3
Credit Hours		15
Spring		
MGT 303	Operations Management	3
Finance Major Choice		3
Finance Major Choice		3
People and Society Cognate Course		3
Elective		3
Credit Hours		15
Senior Year		
Fall		
Finance Major Choice		3
People and Society Cognate Course		3
Elective		3
Elective		3
Elective		3
Credit Hours		15
Spring		
MGT 401	Strategic Management	3

Finance Major Choice	3
Elective	3
Elective	3
Elective	3
Credit Hours	15
Total Credit Hours	120

B.B.A. in International Finance and Marketing

Introduction

The International Finance and Marketing major area of specialization is aimed at meeting the needs of business students seeking to pursue a career in international business, finance, and/or marketing.

Educational Objectives

The International Finance and Marketing major area of specialization is designed to prepare students for the most critical areas of decision making in international business. The objective is to provide business students with a comprehensive curriculum based on a strong program of international courses, and to create opportunities for access to multinational companies and the international business community.

Curriculum Requirements

Major Area of Specialization in International Finance and Marketing (STEM).

In addition to satisfying the University General Education Requirements and Electives, students pursuing the BBA in International Finance and Marketing must complete the BBA Business Core and the specific coursework for the International Finance and Marketing major area of specialization as follows:

Code	Title	Credit Hours
University General Education Requirements ¹		
ENG 105	English Composition I	3
ENG 106	English Composition II	3
UMX 100	The University of Miami Experience	0
Arts and Humanities Cognate Courses		9
People and Society Cognate Courses		9
Electives ²		24
BBA Business Core Requirements ¹		
ACC 211	Principles of Financial Accounting	3
ACC 212	Managerial Accounting	3
BSL 212	Introduction to Business Law	3
BTE 210	Fundamentals of Business Technology and Innovation	3
BUS 101	First Step: Freshman Integrity, Responsibility, and Success through Teamwork	3
BUS 150	Business Analytics	3
BUS 300	Critical Thinking and Persuasion for Business ³	3
ECO 211	Principles of Microeconomics (Microeconomics)	3
ECO 212	Principles of Macroeconomics (Macroeconomics)	3
FIN 302	Fundamentals of Finance	3
MAS 110	Quantitative Applications in Business (minimum grade of C- required)	3
or MTH 161	Calculus I	
MAS 201	Introduction to Business Statistics (minimum grade of C- required)	3
MAS 202	Intermediate Business Statistics	3
MGT 303	Operations Management	3
MGT 304	Organizational Behavior	3
MGT 401	Strategic Management (must be taken in the final semester)	3
MKT 201	Foundations of Marketing	3
or MKT 301	Marketing Foundations	

Major Area of Specialization in International Finance and Marketing ^{4,5}		
FIN 302	Fundamentals of Finance (taken as part of the Business Core - minimum grade of B required)	
MKT 201/301	Foundations of Marketing (taken as part of the Business Core - minimum grade of B required)	
FIN 320	Investment and Security Markets	3
FIN 330	International Finance	3
FIN 431	International Financial Management	3
MKT 302	Marketing Research and Market Analysis	3
MKT 360	International Marketing	3
MKT 469	International Marketing Management	3
Major Choice Course		3
Select one course (3 credit hours) at the 400 level from Finance departmental offerings. ⁶		
Total Credit Hours		120

¹ **NOTE:** ENG 105 and ENG 106, or their equivalents, must be completed prior to attaining junior year classification, per the University General Education Requirements. Additionally, all 100 and 200-level Business Core courses must be completed by the end of the fifth semester of college work or during the semester in which the student is completing 75 credit hours.

² At least one course with an international focus must be completed within the degree requirements. The appropriateness of the course is determined by the academic advisor.

³ Students who do not earn at least a C- in ENG 106 must either repeat ENG 106 and earn at least a C- or complete ENG 230 with at least a C- before enrolling in BUS 300.

⁴ In order to pursue a major in International Finance and Marketing, a student must earn a grade of "B" (grade point of 3.0) or higher in both FIN 302 and MKT 201/MKT 301 (note that a grade of "B-" does not qualify), and must have a minimum cumulative University of Miami GPA of 2.5 before enrolling in FIN 303 or FIN 320.

⁵ All specific coursework for the major area of specialization in International Finance and Marketing must be completed with a grade of "C-" or higher (except for the minimum "B" grade required for FIN 302 and MKT 201/MKT 301, as noted). A minimum cumulative GPA of 2.0 is required for all specific coursework taken in the major area of specialization.

All courses must be taken within the current pre-requisite structure.

⁶ No 300-level Finance course may be used to satisfy this requirement. Additionally, some 400-level Finance courses require FIN 303 as a pre-requisite.

BBA in International Finance and Marketing - Sample Plan of Study

This Sample Plan of Study represents one possible version of a new freshman Business student's 8-semester plan. The individual student's plan may vary depending upon the initial placement into English Composition and mathematics. Moreover, numerous plan variations are possible if a student enters the University with advanced college credits, wishes to participate in study abroad, chooses a special program option, or selects additional majors or minors.

Note that each major/minor at the University of Miami satisfies a particular "Area of Knowledge" within the general education requirements of the University. This means that it is possible to pursue two majors or a major and a minor within the Business School and fulfill both the STEM and People and Society Areas of Knowledge; a separate cognate in these areas would not be required. The only remaining general education Area of Knowledge would be Arts and Humanities, which must be completed through a major, minor, or cognate outside of the Business School.

Students construct their individualized plans in collaboration with their assigned academic advisor.

Course	Title	Credit Hours
Freshman Year		
Fall		
BSL 212	Introduction to Business Law	3
BUS 101	First Step: Freshman Integrity, Responsibility, and Success through Teamwork	3
ENG 105	English Composition I	3
MAS 110 or MTH 161	Quantitative Applications in Business or Calculus I	3
UMX 100	The University of Miami Experience	0

Arts and Humanities Cognate Course		3
	Credit Hours	15
Spring		
BUS 150	Business Analytics	3
ENG 106	English Composition II	3
MAS 201	Introduction to Business Statistics	3
MKT 201	Foundations of Marketing	3
Arts and Humanities Cognate Course		3
	Credit Hours	15
Sophomore Year		
Fall		
ACC 211	Principles of Financial Accounting	3
BTE 210	Fundamentals of Business Technology and Innovation	3
ECO 211	Principles of Microeconomics	3
MAS 202	Intermediate Business Statistics	3
Arts and Humanities Cognate Course		3
	Credit Hours	15
Spring		
ACC 212	Managerial Accounting	3
ECO 212	Principles of Macroeconomics	3
FIN 302	Fundamentals of Finance	3
MGT 304	Organizational Behavior	3
Elective		3
	Credit Hours	15
Junior Year		
Fall		
BUS 300	Critical Thinking and Persuasion for Business	3
FIN 320	Investment and Security Markets	3
MKT 302	Marketing Research and Market Analysis	3
People and Society Cognate Course		3
Elective		3
	Credit Hours	15
Spring		
FIN 330	International Finance	3
MGT 303	Operations Management	3
MKT 360	International Marketing	3
People and Society Cognate Course		3
Elective		3
	Credit Hours	15
Senior Year		
Fall		
FIN 431	International Financial Management	3
International Finance and Marketing Major Choice - FIN 400 level course		3
People and Society Cognate Course		3
Elective		3
Elective		3
	Credit Hours	15
Spring		
MGT 401	Strategic Management	3
MKT 469	International Marketing Management	3
Elective		3
Elective		3

Elective	3
Credit Hours	15
Total Credit Hours	120

B.B.A. in Real Estate

Introduction

The Real Estate area of study at the University of Miami Business School is for business students seeking to apply the theoretical and analytical concepts of finance to real estate lending, investment, and development.

Educational Objectives

The importance of understanding developments in real estate and mortgage markets and the integration of real estate investments into the national and international economy have led to increased interest in this important field. The real estate major area of specialization strengthens ties with important segments of the business community and builds on the University's strategic strengths in architecture (New Urbanism) and urban planning.

Business students pursuing the major area of specialization in Real Estate should consider taking the courses necessary to meet the requirements of the Urban Studies Minor (p. 359) (For more information, contact the Director of the Urban Studies Program. (<http://www.as.miami.edu/urbanstudies/contact>))

Curriculum Requirements

Major Area of Specialization in Real Estate (STEM)

In addition to satisfying the University General Education Requirements and Electives, students pursuing the BBA in Real Estate must complete the BBA Business Core and the specific coursework for the Real Estate major area of specialization as follows:

Code	Title	Credit Hours
University General Education Requirements ¹		
ENG 105	English Composition I	3
ENG 106	English Composition II	3
UMX 100	The University of Miami Experience	0
Arts and Humanities Cognate Courses		9
People and Society Cognate Courses		9
Electives ²		26
BBA Business Core Requirements ¹		
ACC 211	Principles of Financial Accounting	3
ACC 212	Managerial Accounting	3
BSL 212	Introduction to Business Law	3
BTE 210	Fundamentals of Business Technology and Innovation	3
BUS 101	First Step: Freshman Integrity, Responsibility, and Success through Teamwork	3
BUS 150	Business Analytics	3
BUS 300	Critical Thinking and Persuasion for Business ³	3
ECO 211	Principles of Microeconomics (Microeconomics)	3
ECO 212	Principles of Macroeconomics (Macroeconomics)	3
FIN 302	Fundamentals of Finance	3
MAS 110	Quantitative Applications in Business (minimum grade of C- required)	3
or MTH 161	Calculus I	
MAS 201	Introduction to Business Statistics (minimum grade of C- required)	3
MAS 202	Intermediate Business Statistics	3
MGT 303	Operations Management	3
MGT 304	Organizational Behavior	3
MGT 401	Strategic Management (must be taken in the final semester)	3
MKT 201	Foundations of Marketing	3
or MKT 301	Marketing Foundations	

Major Area of Specialization in Real Estate ^{4, 5}		
FIN 302	Fundamentals of Finance (taken as part of the Business Core - minimum grade of B required)	
BSL 333	Legal Aspects of Real Estate Transactions (pre-requisite BSL 212)	3
FIN 320 or FIN 303	Investment and Security Markets (pre-requisite FIN 302) ⁶ Intermediate Financial Management	3
FIN 344	Real Estate Investment Analysis (pre-requisite FIN 302 & pre- or co-requisite FIN 303 or FIN 320)	3
FIN 347	Introduction to ARGUS	1
FIN 445	Real Estate Finance (pre-requisite FIN 344)	3
Major Choice Courses - Select two courses (6 credit hours) from the following: ⁶		6
FIN 423	Introduction to Alternative Investment (pre-requisites FIN 302 & FIN 320)	
FIN 427	Fixed Income Markets and Analysis (pre-requisites FIN 302 & FIN 320)	
FIN 446	Real Estate Market Analysis (pre- or co-requisite FIN 344)	
Optional Course (Strongly Recommended)		
FIN 348	Advanced ARGUS (offered as a one-credit enhancement in the spring semester) ⁷	
Total Credit Hours		120

¹ **NOTE:** ENG 105 and ENG 106, or their equivalents, must be completed prior to attaining junior year classification, per the University General Education Requirements. Additionally, all 100 and 200-level Business Core courses must be completed by the end of the fifth semester of college work or during the semester in which the student is completing 75 credit hours.

² At least one course with an international focus must be completed within the degree requirements. The appropriateness of the course is determined by the academic advisor.

³ Students who do not earn at least a C- in ENG 106 must either repeat ENG 106 and earn at least a C- or complete ENG 230 with at least a C- before enrolling in BUS 300.

⁴ In order to pursue a major area of specialization in Real Estate, a student must earn a grade of "B" (grade point of 3.0) or higher in FIN 302 (note that a grade of "B-" does not qualify), and must have a minimum cumulative University of Miami GPA of 2.5 before enrolling in FIN 303 or FIN 320.

⁵ All specific coursework for the major in Real Estate must be completed with a grade of "C-" or higher (except for the minimum "B" grade required for FIN 302, as noted). A minimum cumulative GPA of 2.0 is required for all specific coursework taken in the major area of specialization.

All courses must be taken within the current pre-requisite structure.

⁶ Currently, two of the three major electives for Real Estate require FIN 320 as a pre-requisite.

⁷ The pre-requisite for FIN 348 is FIN 347.

Sample Plan of Study

This Sample Plan of Study represents one possible version of a new freshman business student's 8-semester plan. The individual student's plan may vary depending upon the initial placement into English Composition and mathematics. Moreover, numerous plan variations are possible if a student enters the University with advanced college credits, wishes to participate in study abroad, chooses a special program option, or selects additional majors or minors.

Note that each major/minor at the University of Miami satisfies a particular "Area of Knowledge" within the general education requirements of the University. This means that it is possible to pursue two majors or a major and a minor within Miami Business School and fulfill both the STEM and People and Society Areas of Knowledge; a separate cognate in these areas would not be required. The only remaining general education Area of Knowledge is Arts and Humanities, which must be completed through a major, minor, or cognate outside of Miami Business School.

Students construct their individualized plans in collaboration with their assigned academic advisor.

Course	Title	Credit Hours
Freshman Year		
Fall		
BSL 212	Introduction to Business Law	3

BUS 101	First Step: Freshman Integrity, Responsibility, and Success through Teamwork	3
ENG 105	English Composition I	3
MAS 110 or MTH 161	Quantitative Applications in Business or Calculus I	3
UMX 100	The University of Miami Experience	0
Arts and Humanities Cognate Course		3
	Credit Hours	15
Spring		
BUS 150	Business Analytics	3
ENG 106	English Composition II	3
MAS 201	Introduction to Business Statistics	3
MKT 201	Foundations of Marketing	3
Arts and Humanities Cognate Course		3
	Credit Hours	15
Sophomore Year		
Fall		
ACC 211	Principles of Financial Accounting	3
BTE 210	Fundamentals of Business Technology and Innovation	3
ECO 211	Principles of Microeconomics	3
MAS 202	Intermediate Business Statistics	3
Arts and Humanities Cognate Course		3
	Credit Hours	15
Spring		
ACC 212	Managerial Accounting	3
ECO 212	Principles of Macroeconomics	3
FIN 302	Fundamentals of Finance	3
MGT 304	Organizational Behavior	3
Elective		3
	Credit Hours	15
Junior Year		
Fall		
BUS 300	Critical Thinking and Persuasion for Business	3
FIN 320 or 303	Investment and Security Markets or Intermediate Financial Management	3
FIN 344	Real Estate Investment Analysis	3
People and Society Cognate Course		3
Elective		3
	Credit Hours	15
Spring		
BSL 333	Legal Aspects of Real Estate Transactions	3
FIN 347	Introduction to ARGUS	1
FIN 445	Real Estate Finance	3
MGT 303	Operations Management	3
People and Society Cognate Course		3
Elective recommended - FIN 348 Advanced ARGUS		1
Elective		1
	Credit Hours	15
Senior Year		
Fall		
Real Estate Major Choice		3
People and Society Cognate Course		3

Elective		3
Elective		3
Elective		3
	Credit Hours	15
Spring		
MGT 401	Strategic Management	3
Real Estate Major Choice		3
Elective		3
Elective		3
Elective		3
	Credit Hours	15
	Total Credit Hours	120

B.S.B.A. in Finance

Curriculum Requirements

Major Area of Specialization in Finance (STEM)

In addition to satisfying the University General Education Requirements and Electives, students pursuing the BSBA in Finance must complete the BSBA Business Core and the specific coursework for the Finance major area of specialization as follows:

Code	Title	Credit Hours
University General Education Requirements ¹		
ENG 105	English Composition I	3
ENG 106	English Composition II	3
UMX 100	The University of Miami Experience	0
Arts and Humanities Cognate Courses		9
People and Society Cognate Courses		9
Electives ²		16
BSBA Business Core Requirements ¹		
ACC 221 or ACC 211	Accelerated Principles of Financial Accounting Principles of Financial Accounting	3
ACC 222 or ACC 212	Accelerated Managerial Accounting Managerial Accounting	3
BSL 212	Introduction to Business Law	3
BTE 210	Fundamentals of Business Technology and Innovation	3
BTE 320	Introduction to Programming	3
BUS 101	First Step: Freshman Integrity, Responsibility, and Success through Teamwork	3
BUS 150	Business Analytics	3
BUS 300	Critical Thinking and Persuasion for Business ³	3
ECO 211	Principles of Microeconomics	3
ECO 212	Principles of Macroeconomics	3
FIN 302	Fundamentals of Finance	3
MAS 311	Applied Probability and Statistics (minimum grade of C- required)	3
MAS 312	Statistical Methods and Quality Control	3
MTH 161	Calculus I (minimum grade of C- required)	4
MTH 162	Calculus II	4
MGT 303	Operations Management	3
MGT 304	Organizational Behavior	3
MGT 401	Strategic Management (must be taken in the final semester)	3
MKT 201 or MKT 301	Foundations of Marketing Marketing Foundations	3

Quantitative Choice - Select one of these suggested courses approved by the academic advisor - check pre-requisites:		3
BTE 324	Object-Oriented Programming	
BTE 423	Database Management Systems	
ECO 430	Applied Econometrics	
ECO 510	Mathematical Economics and Applications	
MAS 342	Introduction to Optimization and Decision Making	
MAS 442	Stochastic Models in Operations Research	
MAS 547	Computer Simulation Systems	
MGT 445	Supply Chain Modeling and Analysis	
MGT 446	Supply Chain Strategy	
Major Area of Specialization in Finance ^{4, 5}		
FIN 302	Fundamentals of Finance (taken as part of the Business Core - minimum B grade required)	
FIN 303	Intermediate Financial Management ⁶	3
FIN 320	Investment and Security Markets ⁶	3
Major Choice Courses		12
Select two courses (6 credit hours) at the 300-500 level from the Finance departmental offerings. ⁷		
Select two courses (6 credit hours) at the 400 or 500 level from the Finance departmental offerings.		
Total Credit Hours		120

- ¹ **NOTE:** ENG 105 and ENG 106, or their equivalents, must be completed prior to attaining junior year classification, per the University General Education Requirements. Additionally, all 100 and 200-level Business Core courses must be completed by the end of the fifth semester of college work or during the semester in which the student is completing 75 credit hours.
- ² At least one course with an international focus must be completed within the degree requirements. The appropriateness of the course is determined by the academic advisor.
- ³ Students who do not earn at least a C- in ENG 106 must either repeat ENG 106 and earn at least a C- or complete ENG 230 with at least a C- before enrolling in BUS 300.
- ⁴ In order to pursue a Finance area of specialization, a student must earn a grade of "B" (grade point of 3.0) or higher in FIN 302 (note that a grade of "B-" does not qualify), and must have a minimum cumulative University of Miami GPA of 2.5 before enrolling in FIN 303 or FIN 320.
- ⁵ All specific coursework for the major area of specialization in Finance must be completed with a grade of "C-" or higher (except for the minimum "B" grade required for FIN 302, as noted). A minimum cumulative GPA of 2.0 is required for all specific coursework taken in the major area of specialization.
All courses must be taken within the current pre-requisite structure.
- ⁶ Students are strongly encouraged to take FIN 303 and FIN 320 during the same semester.
- ⁷ Excluding FIN 300 and FIN 308.

Sample Plan of Study

This Sample Plan of Study represents one possible version of a new freshman business student's 8-semester plan. The individual student's plan may vary depending upon the initial placement into English Composition and mathematics. Moreover, numerous plan variations are possible if a student enters the University with advanced college credits, wishes to participate in study abroad, chooses a special program option, or selects additional majors or minors.

Note that each major/minor at the University of Miami satisfies a particular "Area of Knowledge" within the general education requirements of the University. This means that it is possible to pursue two majors, or a major and a minor, within Miami Business School and fulfill both the STEM and People and Society Areas of Knowledge; a separate cognate in these areas would not be required. The only remaining general education Area of Knowledge is Arts and Humanities, which must be completed through a major, minor, or cognate outside of the Business School.

Students construct their individualized plans in collaboration with their assigned academic advisor.

Course	Title	Credit Hours
Freshman Year		
Fall		
BSL 212	Introduction to Business Law	3
BUS 101	First Step: Freshman Integrity, Responsibility, and Success through Teamwork	3
ENG 105	English Composition I	3

MKT 201	Foundations of Marketing	3
MTH 161	Calculus I	4
UMX 100	The University of Miami Experience	0
	Credit Hours	16
Spring		
ACC 221	Accelerated Principles of Financial Accounting	3
BUS 150	Business Analytics	3
ENG 106	English Composition II	3
MTH 162	Calculus II	4
Arts and Humanities Cognate Course		3
	Credit Hours	16
Sophomore Year		
Fall		
ACC 222	Accelerated Managerial Accounting	3
BTE 210	Fundamentals of Business Technology and Innovation	3
ECO 211	Principles of Microeconomics	3
MAS 311	Applied Probability and Statistics	3
Arts and Humanities Cognate Course		3
	Credit Hours	15
Spring		
ECO 212	Principles of Macroeconomics	3
FIN 302	Fundamentals of Finance	3
MAS 312	Statistical Methods and Quality Control	3
MGT 304	Organizational Behavior	3
Arts and Humanities Cognate Course		3
	Credit Hours	15
Junior Year		
Fall		
BTE 320	Introduction to Programming	3
BUS 300	Critical Thinking and Persuasion for Business	3
FIN 303	Intermediate Financial Management	3
FIN 320	Investment and Security Markets	3
People and Society Cognate Course		3
	Credit Hours	15
Spring		
MGT 303	Operations Management	3
Finance Major Choice		3
Finance Major Choice		3
People and Society Cognate Course		3
Elective		3
	Credit Hours	15
Senior Year		
Fall		
Finance Major Choice		3
Quantitative Choice Course		3
People and Society Cognate Course		3
Elective		3
Elective		3
	Credit Hours	15
Spring		
MGT 401	Strategic Management	3
Finance Major Choice		3

Elective	3
Elective	3
Elective	1
Credit Hours	13
Total Credit Hours	120

B.S.B.A. in International Finance and Marketing

Introduction

The International Finance and Marketing major area of specialization is aimed at meeting the needs of business students seeking to pursue careers in international business, finance, and/or marketing.

Educational Objectives

The International Finance and Marketing major area of specialization is designed to prepare Miami Business School students for the most critical areas of decision making in international business: Finance and Marketing. The objective is to provide business students with a comprehensive curriculum based on a strong program of international courses, and create opportunities for access to multinational companies and the international business community.

Curriculum Requirements

Major Area of Specialization in International Finance and Marketing (STEM)

In addition to satisfying the University General Education Requirements and Electives, students pursuing the BSBA in International Finance and Marketing must complete the BSBA Business Core and the specific coursework for the International Finance and Marketing major area of specialization as follows:

Code	Title	Credit Hours
University General Education Requirements ¹		
ENG 105	English Composition I	3
ENG 106	English Composition II	3
UMX 100	The University of Miami Experience	0
Arts and Humanities Cognate Courses		9
People and Society Cognate Courses		9
Electives ²		13
BSBA Business Core Requirements ¹		
ACC 221 or ACC 211	Accelerated Principles of Financial Accounting Principles of Financial Accounting	3
ACC 222 or ACC 212	Accelerated Managerial Accounting Managerial Accounting	3
BSL 212	Introduction to Business Law	3
BTE 210	Fundamentals of Business Technology and Innovation	3
BTE 320	Introduction to Programming	3
BUS 101	First Step: Freshman Integrity, Responsibility, and Success through Teamwork	3
BUS 150	Business Analytics	3
BUS 300	Critical Thinking and Persuasion for Business ³	3
ECO 211	Principles of Microeconomics	3
ECO 212	Principles of Macroeconomics	3
FIN 302	Fundamentals of Finance	3
MAS 311	Applied Probability and Statistics (minimum grade of C- required)	3
MAS 312	Statistical Methods and Quality Control	3
MTH 161	Calculus I (minimum grade of C- required)	4
MTH 162	Calculus II	4
MGT 303	Operations Management	3
MGT 304	Organizational Behavior	3

MGT 401	Strategic Management (must be taken in the final semester)	3
MKT 201 or MKT 301	Foundations of Marketing Marketing Foundations	3
Quantitative Choice - Select one of these suggested courses approved by the academic advisor - check pre-requisites:		3
BTE 324	Object-Oriented Programming	
BTE 423	Database Management Systems	
ECO 430	Applied Econometrics	
ECO 510	Mathematical Economics and Applications	
MAS 342	Introduction to Optimization and Decision Making	
MAS 442	Stochastic Models in Operations Research	
MAS 547	Computer Simulation Systems	
MGT 445	Supply Chain Modeling and Analysis	
MGT 446	Supply Chain Strategy	
Major Area of Specialization in International Finance and Marketing ^{4, 5}		
FIN 302	Fundamentals of Finance (taken as part of the Business Core - minimum B grade required)	
MKT 201/301	Foundations of Marketing (taken as part of the Business Core - minimum B grade required)	
FIN 320	Investment and Security Markets	3
FIN 330	International Finance	3
FIN 431	International Financial Management	3
MKT 302	Marketing Research and Market Analysis	3
MKT 360	International Marketing	3
MKT 469	International Marketing Management	3
Major Choice Course		3
Select one course (3 credit hours) at the 400 level from Finance departmental offerings. ⁶		
Total Credit Hours		120

¹ **NOTE:** ENG 105 and ENG 106, or their equivalents, must be completed prior to attaining junior year classification, per the University General Education Requirements. Additionally, all 100 and 200-level Business Core courses must be completed by the end of the fifth semester of college work or during the semester in which the student is completing 75 credit hours.

² At least one course with an international focus must be completed within the degree requirements. The appropriateness of the course is determined by the academic advisor.

³ Students who do not earn at least a C- in ENG 106 must either repeat ENG 106 and earn at least a C- or complete ENG 230 with at least a C- before enrolling in BUS 300.

⁴ In order to pursue a major in International Finance and Marketing, a student must earn a grade of "B" (grade point of 3.0) or higher in both FIN 302 and MKT 201/MKT 301 (note that a grade of "B-" does not qualify), and must have a minimum cumulative University of Miami GPA of 2.5 before enrolling in FIN 303 or FIN 320.

⁵ All specific coursework for the major in International Finance and Marketing must be completed with a grade of "C-" or higher (except for the minimum "B" grade required for FIN 302 and MKT 201/MKT 301, as noted). A minimum cumulative GPA of 2.0 is required for all specific coursework taken in the major area of specialization.

All courses must be taken within the current pre-requisite structure.

⁶ No 300-level Finance course may be used to satisfy this requirement. Additionally, some 400-level Finance courses require FIN 303 as a pre-requisite.

BSBA in International Finance and Marketing - Sample Plan of Study

This Sample Plan of Study represents one possible version of a new freshman business student's 8-semester plan. The individual student's plan may vary depending upon the initial placement into English Composition and mathematics. Moreover, numerous plan variations are possible if a student enters the University with advanced college credits, wishes to participate in study abroad, chooses a special program option, or selects additional majors or minors.

Note that each major/minor at the University of Miami satisfies a particular "Area of Knowledge" within the general education requirements of the University. This means that it is possible to pursue two majors, or a major and a minor, within Miami Business School and fulfill both the STEM and People and Society Areas of Knowledge; a separate cognate in these areas would not be required. The only remaining general education Area of Knowledge is Arts and Humanities, which must be completed through a major, minor, or cognate outside of the Business School.

Students construct their individualized plans in collaboration with their assigned academic advisor.

Course	Title	Credit Hours
Freshman Year		
Fall		
BSL 212	Introduction to Business Law	3
BUS 101	First Step: Freshman Integrity, Responsibility, and Success through Teamwork	3
ENG 105	English Composition I	3
MKT 201	Foundations of Marketing	3
MTH 161	Calculus I	4
UMX 100	The University of Miami Experience	0
	Credit Hours	16
Spring		
ACC 221	Accelerated Principles of Financial Accounting	3
BUS 150	Business Analytics	3
ENG 106	English Composition II	3
MTH 162	Calculus II	4
Arts and Humanities Cognate Course		3
	Credit Hours	16
Sophomore Year		
Fall		
ACC 222	Accelerated Managerial Accounting	3
BTE 210	Fundamentals of Business Technology and Innovation	3
ECO 211	Principles of Microeconomics	3
MAS 311	Applied Probability and Statistics	3
Arts and Humanities Cognate Course		3
	Credit Hours	15
Spring		
ECO 212	Principles of Macroeconomics	3
FIN 302	Fundamentals of Finance	3
MAS 312	Statistical Methods and Quality Control	3
MGT 304	Organizational Behavior	3
Arts and Humanities Cognate Course		3
	Credit Hours	15
Junior Year		
Fall		
BTE 320	Introduction to Programming	3
BUS 300	Critical Thinking and Persuasion for Business	3
FIN 320	Investment and Security Markets	3
MKT 302	Marketing Research and Market Analysis	3
People and Society Cognate Course		3
	Credit Hours	15
Spring		
FIN 330	International Finance	3
MGT 303	Operations Management	3
MKT 360	International Marketing	3
People and Society Cognate Course		3
Elective		3
	Credit Hours	15
Senior Year		
Fall		
International Finance and Marketing Major Choice - FIN 400 level course		3

Quantitative Choice Course		3
People and Society Cognate Course		3
Elective		3
Elective		3
	Credit Hours	15
Spring		
FIN 431	International Financial Management	3
MGT 401	Strategic Management	3
MKT 469	International Marketing Management	3
Elective		3
Elective		1
	Credit Hours	13
	Total Credit Hours	120

B.S.B.A. in Real Estate

Introduction

The Real Estate major area of specialization at the University of Miami Business School is for business students seeking to apply the theoretical and analytical concepts of finance to real estate lending, investment, and development.

Educational Objectives

The importance of understanding developments in real estate and mortgage markets and the integration of real estate investments into the national and international economy have led to increased interest in this important field. The real estate major strengthens ties with important segments of the business community and builds on the University's strategic strengths in architecture (New Urbanism) and urban planning.

Business students pursuing the Real Estate major area of specialization should consider taking the courses necessary to meet the requirements of the Urban Studies Minor (p. 359) (For more information, contact the Director of the Urban Studies Program. (<http://www.as.miami.edu/urbanstudies/contact>))

Curriculum Requirements

Major Area of Specialization in Real Estate (STEM)

In addition to satisfying the University General Education Requirements and Electives, students pursuing the BSBA in Real Estate must complete the BSBA Business Core and the specific coursework for the Real Estate major area of specialization as follows:

Code	Title	Credit Hours
University General Education Requirements ¹		
ENG 105	English Composition I	3
ENG 106	English Composition II	3
UMX 100	The University of Miami Experience	0
Arts and Humanities Cognate Courses		9
People and Society Cognate Courses		9
Electives ²		15
BSBA Business Core Requirements ¹		
ACC 221 or ACC 211	Accelerated Principles of Financial Accounting Principles of Financial Accounting	3
ACC 222 or ACC 212	Accelerated Managerial Accounting Managerial Accounting	3
BSL 212	Introduction to Business Law	3
BTE 210	Fundamentals of Business Technology and Innovation	3
BTE 320	Introduction to Programming	3
BUS 101	First Step: Freshman Integrity, Responsibility, and Success through Teamwork	3
BUS 150	Business Analytics	3
BUS 300	Critical Thinking and Persuasion for Business ³	3

ECO 211	Principles of Microeconomics	3
ECO 212	Principles of Macroeconomics	3
FIN 302	Fundamentals of Finance	3
MAS 311	Applied Probability and Statistics (minimum grade of C- required)	3
MAS 312	Statistical Methods and Quality Control	3
MTH 161	Calculus I (minimum grade of C- required)	4
MTH 162	Calculus II	4
MGT 303	Operations Management	3
MGT 304	Organizational Behavior	3
MGT 401	Strategic Management (must be taken in the final semester)	3
MKT 201	Foundations of Marketing	3
or MKT 301	Marketing Foundations	
Quantitative Choice - Select one of these suggested courses approved by the academic advisor - check pre-requisites:		3
BTE 324	Object-Oriented Programming	
BTE 423	Database Management Systems	
ECO 430	Applied Econometrics	
ECO 510	Mathematical Economics and Applications	
MAS 342	Introduction to Optimization and Decision Making	
MAS 442	Stochastic Models in Operations Research	
MAS 547	Computer Simulation Systems	
MGT 445	Supply Chain Modeling and Analysis	
MGT 446	Supply Chain Strategy	
Major Area of Specialization in Real Estate ^{4, 5}		
FIN 302	Fundamentals of Finance (taken as part of the Business Core - minimum B grade required)	
BSL 333	Legal Aspects of Real Estate Transactions (pre-requisite BSL 212)	3
FIN 320	Investment and Security Markets (pre-requisite FIN 302) ⁶	3
or FIN 303	Intermediate Financial Management	
FIN 344	Real Estate Investment Analysis (pre-requisite FIN 302 & pre- or co-requisite FIN 303 or FIN 320)	3
FIN 347	Introduction to ARGUS	1
FIN 445	Real Estate Finance (pre-requisite FIN 344)	3
Major Choice Courses - Select two courses (6 credit hours) from the following: ⁶		6
FIN 423	Introduction to Alternative Investment (pre-requisites FIN 302 & FIN 320)	
FIN 427	Fixed Income Markets and Analysis (pre-requisites FIN 302 & FIN 320)	
FIN 446	Real Estate Market Analysis (pre- or co-requisite FIN 344)	
Optional Course (Strongly Recommended)		
FIN 348	Advanced ARGUS (offered as a one-credit enhancement in the spring semester) ⁷	
Total Credit Hours		120

¹ **NOTE:** ENG 105 and ENG 106, or their equivalents, must be completed prior to attaining junior year classification, per the University General Education Requirements. Additionally, all 100 and 200-level Business Core courses must be completed by the end of the fifth semester of college work or during the semester in which the student is completing 75 credit hours.

² At least one course with an international focus must be completed within the degree requirements. The appropriateness of the course is determined by the academic advisor.

³ Students who do not earn at least a C- in ENG 106 must either repeat ENG 106 and earn at least a C- or complete ENG 230 with at least a C- before enrolling in BUS 300.

⁴ In order to pursue a major area of specialization in Real Estate, a student must earn a grade of "B" (grade point of 3.0) or higher in FIN 302 (note that a grade of "B-" does not qualify), and must have a minimum cumulative University of Miami GPA of 2.5 before enrolling in FIN 303 or FIN 320.

- 5 All specific coursework for the major area of specialization in Real Estate must be completed with a grade of "C-" of higher (except for the minimum "B" grade required for FIN 302, as noted). A minimum cumulative GPA of 2.0 is required for all specific coursework taken in the major area of specialization.
All courses must be taken within the current pre-requisite structure.
- 6 Currently, two of the three major electives for Real Estate require FIN 320 as a pre-requisite.
- 7 The pre-requisite for FIN 348 is FIN 347.

BSBA in Real Estate - Sample Plan of Study

This Sample Plan of Study represents one possible version of a new freshman business student's 8-semester plan. The individual student's plan may vary depending upon the initial placement into English Composition and mathematics. Moreover, numerous plan variations are possible if a student enters the University with advanced college credits, wishes to participate in study abroad, chooses a special program option, or selects additional majors or minors.

Note that each major/minor at the University of Miami satisfies a particular "Area of Knowledge" within the general education requirements of the University. This means that it is possible to pursue two majors, or a major and a minor, within Miami Business School and fulfill both the STEM and People and Society Areas of Knowledge; a separate cognate in these areas would not be required. The only remaining general education Area of Knowledge is Arts and Humanities, which must be completed through a major, minor, or cognate outside of the Business School.

Students construct their individualized plans in collaboration with their assigned academic advisor.

Course	Title	Credit Hours
Freshman Year		
Fall		
BSL 212	Introduction to Business Law	3
BUS 101	First Step: Freshman Integrity, Responsibility, and Success through Teamwork	3
ENG 105	English Composition I	3
MKT 201	Foundations of Marketing	3
MTH 161	Calculus I	4
UMX 100	The University of Miami Experience	0
	Credit Hours	16
Spring		
ACC 221	Accelerated Principles of Financial Accounting	3
BUS 150	Business Analytics	3
ENG 106	English Composition II	3
MTH 162	Calculus II	4
Arts and Humanities Cognate Course		3
	Credit Hours	16
Sophomore Year		
Fall		
ACC 222	Accelerated Managerial Accounting	3
BTE 210	Fundamentals of Business Technology and Innovation	3
ECO 211	Principles of Microeconomics	3
MAS 311	Applied Probability and Statistics	3
Arts and Humanities Cognate Course		3
	Credit Hours	15
Spring		
ECO 212	Principles of Macroeconomics	3
FIN 302	Fundamentals of Finance	3
MAS 312	Statistical Methods and Quality Control	3
MGT 304	Organizational Behavior	3
Arts and Humanities Cognate Course		3
	Credit Hours	15

Junior Year		
Fall		
BTE 320	Introduction to Programming	3
BUS 300	Critical Thinking and Persuasion for Business	3
FIN 320 or 303	Investment and Security Markets or Intermediate Financial Management	3
FIN 344	Real Estate Investment Analysis	3
People and Society Cognate Course		3
	Credit Hours	15
Spring		
BSL 333	Legal Aspects of Real Estate Transactions	3
FIN 347	Introduction to ARGUS	1
FIN 445	Real Estate Finance	3
MGT 303	Operations Management	3
People and Society Cognate Course		3
Elective recommended - FIN 348 Advanced ARGUS		1
	Credit Hours	14
Senior Year		
Fall		
People and Society Cognate Course		3
Quantitative Choice Course		3
Real Estate Major Choice		3
Elective		3
Elective		3
	Credit Hours	15
Spring		
MGT 401	Strategic Management	3
Real Estate Major Choice		3
Elective		3
Elective		3
Elective		2
	Credit Hours	14
	Total Credit Hours	120

Minor in Finance

Minor Area of Specialization in Finance (STEM)

Miami Business School students, as well as students in the other schools and colleges of the University of Miami, may pursue a minor in Finance by officially declaring the minor at their home school or college. Interested *non-business* students, before declaring the minor, should consult with an academic advisor *in the School or College of their degree/major* to determine if the minor in Finance is acceptable. If so, neither the advice nor the consent of either the Office of Undergraduate Business Education or the Finance Department is necessary.

The 12-credit-hour minor in Finance consists of the following (all courses must be taken within the current pre-requisite structure):

Code	Title	Credit Hours
Required Courses		
FIN 302	Fundamentals of Finance (part of Business Core for Business students)	3
FIN 303	Intermediate Financial Management ^{1, 2}	3
FIN 320	Investment and Security Markets ¹	3
Choice Course for the Minor		
Select one course (3 credit hours) at the 300 or 400 level from Finance departmental offerings. ³		3
Total Credit Hours		12

- ¹ Pre-requisite is FIN 302
- ² Business students who combine the Entrepreneurship major area of specialization with the Finance minor do not take FIN 303. They are required to take FIN 308 for the Entrepreneurship major and an additional FIN 300 or 400 level course for the Finance minor to replace the FIN 303 requirement.
- ³ excluding FIN 300 and FIN 308
- * **NOTE:** All specific coursework for the minor in Finance must be completed with a grade of "C-" or higher. A minimum cumulative GPA of 2.0 is required for all specific coursework taken in the minor area of specialization.

Minor in Real Estate

Minor Area of Specialization in Real Estate (STEM)

The Miami Business School's Real Estate minor is for business students seeking to apply the theoretical and analytical concepts of finance to real estate lending, investment, and development.

The importance of understanding developments in real estate and mortgage markets and the integration of real estate investments into the national and international economy have led to increased interest in this important field. The Real Estate minor strengthens ties with important segments of the business community.

The Real Estate minor consists of the following classes:

Code	Title	Credit Hours
Required Courses		
FIN 302	Fundamentals of Finance (taken as part of the Business Core for Business students)	3
FIN 303 or FIN 320	Intermediate Financial Management (pre-requisite FIN 302) Investment and Security Markets	3
FIN 344	Real Estate Investment Analysis (pre-requisite FIN 302 & pre- or co-requisite FIN 303 or FIN 320; offered in fall)	3
FIN 445	Real Estate Finance (pre-requisite FIN 344; offered in spring)	3
FIN 446	Real Estate Market Analysis (pre-requisite FIN 344; offered in spring)	3
The following one-credit hour courses are strongly recommended, though not required:		
FIN 347	Introduction to ARGUS (pre-requisite FIN 302)	
FIN 348	Advanced ARGUS (pre-requisite FIN 347)	
Total Credit Hours		15

- * **NOTE:** All specific coursework for the minor in Real Estate must be completed with a grade of "C-" or higher. A minimum cumulative GPA of 2.0 is required for all specific coursework taken in the minor area of specialization.

Health Management and Policy

Department Code: HSM

*The department name change from Health Sector Management and Policy to Health Management and Policy is pending Board of Trustee Approval

Introduction

The Health Sector Management and Policy major area of specialization is designed for Miami Business School students seeking to pursue careers in health management and policy in any of a variety of health care organizations and public settings. The curriculum enables students to gain skills and understanding in the specialized language of health care and to comprehend concepts of management, financing, politics, law, and ethics as applied to the health care sector. The major area of specialization is also ideal for students aspiring to earn advanced degrees in health administration, health economics, medical sociology, public health, or law.

Educational Objectives

The purpose of the major area of specialization in Health Sector Management and Policy is to provide the business student with a basic understanding of the management, economic and financial structure, as well as the legal, ethical, and governmental policy aspects of the health care industry. Appropriate candidates for the major area of specialization in Health Sector Management and Policy include Miami Business School students interested in exploring the health care sector, working in the legal, management, or policy-making aspects of the health care sector or those wanting to have an augmentation to their pre-med, pre-law or pre-MBA, MPA or MPH studies, as well as those who expect to pursue a Ph.D. The minor

area of specialization in Health Sector Management and Policy is available to students from all University of Miami schools and colleges. Members of the Department are prepared to counsel students in the selection of courses and in other matters relating to the preparation for careers.

Major in Health Sector Management and Policy

- B.B.A. in Health Sector Management and Policy (p. 436)
- B.S.B.A. in Health Sector Management and Policy (p. 439)

Minor in Health Sector Management and Policy

- Health Sector Management and Policy (p. 442)

B.B.A. in Health Sector Management and Policy

Curriculum Requirements

Major Area of Specialization in Health Sector Management and Policy (People & Society)

In addition to satisfying the University General Education Requirements and Electives, students pursuing the BBA in Health Sector Management and Policy must complete the BBA Business Core and the specific coursework for the Health Sector Management and Policy major area of specialization as follows:

Code	Title	Credit Hours
University General Education Requirements ¹		
ENG 105	English Composition I	3
ENG 106	English Composition II	3
UMX 100	The University of Miami Experience	0
Arts and Humanities Cognate Courses		9
STEM Cognate Courses		9
Electives ²		21
BBA Business Core Requirements ¹		
ACC 211	Principles of Financial Accounting	3
ACC 212	Managerial Accounting	3
BSL 212	Introduction to Business Law	3
BTE 210	Fundamentals of Business Technology and Innovation	3
BUS 101	First Step: Freshman Integrity, Responsibility, and Success through Teamwork	3
BUS 150	Business Analytics	3
BUS 300	Critical Thinking and Persuasion for Business ³	3
ECO 211	Principles of Microeconomics (Microeconomics)	3
ECO 212	Principles of Macroeconomics (Macroeconomics)	3
FIN 302	Fundamentals of Finance	3
MAS 110	Quantitative Applications in Business (minimum grade of C- required)	3
or MTH 161	Calculus I	
MAS 201	Introduction to Business Statistics (minimum grade of C- required)	3
MAS 202	Intermediate Business Statistics	3
MGT 303	Operations Management	3
MGT 304	Organizational Behavior	3
MGT 401	Strategic Management (must be taken in the final semester)	3
MKT 201	Foundations of Marketing	3
or MKT 301	Marketing Foundations	
Major Area of Specialization in Health Sector Management and Policy ^{4, 5}		
HSM 270/	Introduction to Health Sector Management and Policy (pre-requisite for all HSM courses)	3
or MGT 270	Introduction to Health Sector Organization and Management	
ACC 315	Accounting for Health Care Organizations.	3

BSL 460	Health Care Law and Ethics (pre-requisite BSL 212)	3
BTE 450	Introduction to Health Informatics	3
HSM 310	Population Health (pre-requisite HSM 270 or MGT 270)	3
HSM 350	Production and Consumption of Health and Health Care (pre-requisites HSM 270 or MGT 270 & ECO 211 & ECO 212)	3
MKT 388	Health Care Marketing (pre-requisite MKT 201 or MKT 301)	3
Major Choice Course - Select one course (3 credit hours) from the following (check pre-requisites):		3
BPH 206	Introduction to Public Health	
BPH 305	Issues in Health Disparities	
BPH 309	Health and Environment	
BPH 310	Global Health	
BPH 322	Introduction to Health Policy	
HSM 498	Special Topics in Health Sector Management and Policy	
HSM 499	Special Topics in Health Sector Management and Policy	
INS 570	Globalization and Health	
INS 571	International Development and Human Welfare	
INS 572	Global Health Policy and Ethics	
INS 573	Disasters, Terrorism and Global Public Health	
POL 536	U.S. Health Care Crisis: Politics and Policies (pre-requisite Junior standing)	
SOC 321	Applied Health Policy	
SOC 351	Business and Society	
Total Credit Hours		120

- 1 **NOTE:** ENG 105 and ENG 106, or their equivalents, must be completed prior to attaining junior year classification, per the University General Education Requirements. Additionally, all 100 and 200-level Business Core courses must be completed by the end of the fifth semester of college work or during the semester in which the student is completing 75 credit hours.
- 2 At least one course with an international focus must be completed within the degree requirements. The appropriateness of the course is determined by the academic advisor.
- 3 Students who do not earn at least a C- in ENG 106 must either repeat ENG 106 and earn at least a C- or complete ENG 230 with at least a C- before enrolling in BUS 300.
- 4 All specific coursework for the major area of specialization in Health Sector Management and Policy must be completed with a grade of "C" or higher. A minimum cumulative GPA of 2.5 is required for all specific coursework taken in the major area of specialization. All courses must be taken within the current pre-requisite structure.
- 5 No one course may count toward more than one major or minor area of specialization.

Sample Plan of Study

This Sample Plan of Study represents one possible version of a new freshman Business student's 8-semester plan. The individual student's plan may vary depending upon the initial placement into English Composition and mathematics. Moreover, numerous plan variations are possible if a student enters the University with advanced college credits, wishes to participate in study abroad, chooses a special program option, or selects additional majors or minors.

Note that each major/minor at the University of Miami satisfies a particular "Area of Knowledge" within the general education requirements of the University. This means that it is possible to pursue two majors or a major and a minor within the Business School and fulfill both the STEM and People and Society Areas of Knowledge; a separate cognate in these areas would not be required. The only remaining general education Area of Knowledge would be Arts and Humanities, which must be completed through a major, minor, or cognate outside of the Business School.

Students construct their individualized plans in collaboration with their assigned academic advisor.

Course	Title	Credit Hours
Freshman Year		
Fall		
BSL 212	Introduction to Business Law	3
BUS 101	First Step: Freshman Integrity, Responsibility, and Success through Teamwork	3
ENG 105	English Composition I	3

MAS 110 or MTH 161	Quantitative Applications in Business or Calculus I	3
UMX 100	The University of Miami Experience	0
Arts and Humanities Cognate Course		3
Credit Hours		15
Spring		
BUS 150	Business Analytics	3
ENG 106	English Composition II	3
MAS 201	Introduction to Business Statistics	3
MKT 201	Foundations of Marketing	3
Arts and Humanities Cognate Course		3
Credit Hours		15
Sophomore Year		
Fall		
ACC 211	Principles of Financial Accounting	3
BTE 210	Fundamentals of Business Technology and Innovation	3
ECO 211	Principles of Microeconomics	3
MAS 202	Intermediate Business Statistics	3
Arts and Humanities Cognate Course		3
Credit Hours		15
Spring		
ACC 212	Managerial Accounting	3
ECO 212	Principles of Macroeconomics	3
FIN 302	Fundamentals of Finance	3
HSM 270 or MGT 270	Introduction to Health Sector Management and Policy or Introduction to Health Sector Organization and Management	3
Elective		3
Credit Hours		15
Junior Year		
Fall		
ACC 315	Accounting for Health Care Organizations.	3
BUS 300	Critical Thinking and Persuasion for Business	3
HSM 310	Population Health	3
MGT 304	Organizational Behavior	3
Elective		3
Credit Hours		15
Spring		
HSM 350	Production and Consumption of Health and Health Care	3
MGT 303	Operations Management	3
MKT 388	Health Care Marketing	3
STEM Cognate Course		3
Elective		3
Credit Hours		15
Senior Year		
Fall		
BSL 460	Health Care Law and Ethics	3
BTE 450	Introduction to Health Informatics	3
STEM Cognate Course		3
Elective		3
Elective		3
Credit Hours		15

Spring		
MGT 401	Strategic Management	3
Health Sector Management and Policy Major Choice		3
STEM Cognate Course		3
Elective		3
Elective		3
Credit Hours		15
Total Credit Hours		120

B.S.B.A. in Health Sector Management and Policy

Curriculum Requirements

Major Area of Specialization in Health Sector Management and Policy (People & Society)

In addition to satisfying the University General Education Requirements and Electives, students pursuing the BSBA in Health Sector Management and Policy must complete the BSBA Business Core and the specific coursework for the Health Sector Management and Policy major area of specialization as follows:

Code	Title	Credit Hours
University General Education Requirements ¹		
ENG 105	English Composition I	3
ENG 106	English Composition II	3
UMX 100	The University of Miami Experience	0
Arts and Humanities Cognate Courses		9
STEM Cognate Courses		9
Electives ²		10
BSBA Business Core Requirements ¹		
ACC 221 or ACC 211	Accelerated Principles of Financial Accounting Principles of Financial Accounting	3
ACC 222 or ACC 212	Accelerated Managerial Accounting Managerial Accounting	3
BSL 212	Introduction to Business Law	3
BTE 210	Fundamentals of Business Technology and Innovation	3
BTE 320	Introduction to Programming	3
BUS 101	First Step: Freshman Integrity, Responsibility, and Success through Teamwork	3
BUS 150	Business Analytics	3
BUS 300	Critical Thinking and Persuasion for Business ³	3
ECO 211	Principles of Microeconomics	3
ECO 212	Principles of Macroeconomics	3
FIN 302	Fundamentals of Finance	3
MAS 311	Applied Probability and Statistics (minimum grade of C- required)	3
MAS 312	Statistical Methods and Quality Control	3
MTH 161	Calculus I (minimum grade of C- required)	4
MTH 162	Calculus II	4
MGT 303	Operations Management	3
MGT 304	Organizational Behavior	3
MGT 401	Strategic Management (must be taken in the final semester)	3
MKT 201 or MKT 301	Foundations of Marketing Marketing Foundations	3
Quantitative Choice - Select one of these suggested courses approved by the academic advisor - check pre-requisites:		3
BTE 324	Object-Oriented Programming	
BTE 423	Database Management Systems	
ECO 430	Applied Econometrics	

ECO 510	Mathematical Economics and Applications	
MAS 342	Introduction to Optimization and Decision Making	
MAS 442	Stochastic Models in Operations Research	
MAS 547	Computer Simulation Systems	
MGT 445	Supply Chain Modeling and Analysis	
MGT 446	Supply Chain Strategy	
Major Area of Specialization in Health Sector Management and Policy ^{4, 5}		
HSM 270	Introduction to Health Sector Management and Policy (pre-requisite for all HSM courses)	3
or MGT 270	Introduction to Health Sector Organization and Management	
ACC 315	Accounting for Health Care Organizations.	3
BSL 460	Health Care Law and Ethics (pre-requisite BSL 212)	3
BTE 450	Introduction to Health Informatics	3
HSM 310	Population Health (pre-requisite HSM 270 or MGT 270)	3
HSM 350	Production and Consumption of Health and Health Care (pre-requisites HSM 270 or MGT 270 & ECO 211 & ECO 212)	3
MKT 388	Health Care Marketing (pre-requisite MKT 201 or MKT 301)	3
Major Choice Course - Select one course (3 credit hours) from the following (check pre-requisites):		3
BPH 206	Introduction to Public Health	
BPH 305	Issues in Health Disparities	
BPH 309	Health and Environment	
BPH 310	Global Health	
BPH 322	Introduction to Health Policy	
HSM 498	Special Topics in Health Sector Management and Policy	
HSM 499	Special Topics in Health Sector Management and Policy	
INS 570	Globalization and Health	
INS 571	International Development and Human Welfare	
INS 572	Global Health Policy and Ethics	
INS 573	Disasters, Terrorism and Global Public Health	
POL 536	U.S. Health Care Crisis: Politics and Policies (pre-requisite Junior standing)	
SOC 321	Applied Health Policy	
SOC 351	Business and Society	
Total Credit Hours		120

¹ **NOTE:** ENG 105 and ENG 106, or their equivalents, must be completed prior to attaining junior year classification, per the University General Education Requirements. Additionally, all 100 and 200-level Business Core courses must be completed by the end of the fifth semester of college work or during the semester in which the student is completing 75 credit hours.

² At least one course with an international focus must be completed within the degree requirements. The appropriateness of the course is determined by the academic advisor.

³ Students who do not earn at least a C- in ENG 106 must either repeat ENG 106 and earn at least a C- or complete ENG 230 with at least a C- before enrolling in BUS 300.

⁴ All specific coursework for the major area of specialization in Health Sector Management and Policy must be completed with a grade of "C" or higher. A minimum cumulative GPA of 2.5 is required for all specific coursework taken in the major area of specialization. All courses must be taken within the current pre-requisite structure.

⁵ No one course may count toward more than one major or minor area of specialization.

Sample Plan of Study

This Sample Plan of Study represents one possible version of a new freshman business student's 8-semester plan. The individual student's plan may vary depending upon the initial placement into English Composition and mathematics. Moreover, numerous plan variations are possible if a student enters the University with advanced college credits, wishes to participate in study abroad, chooses a special program option, or selects additional majors or minors.

Note that each major/minor at the University of Miami satisfies a particular "Area of Knowledge" within the general education requirements of the University. This means that it is possible to pursue two majors, or a major and a minor, within Miami Business School and fulfill both the STEM and People and Society Areas of Knowledge; a separate cognate in these areas would not be required. The only remaining general education Area of Knowledge is Arts and Humanities, which must be completed through a major, minor, or cognate outside of the Business School.

Students construct their individualized plans in collaboration with their assigned academic advisor.

Course	Title	Credit Hours
Freshman Year		
Fall		
BSL 212	Introduction to Business Law	3
BUS 101	First Step: Freshman Integrity, Responsibility, and Success through Teamwork	3
ENG 105	English Composition I	3
MKT 201	Foundations of Marketing	3
MTH 161	Calculus I	4
UMX 100	The University of Miami Experience	0
	Credit Hours	16
Spring		
ACC 221	Accelerated Principles of Financial Accounting	3
BUS 150	Business Analytics	3
ENG 106	English Composition II	3
MTH 162	Calculus II	4
Arts and Humanities Cognate Course		3
	Credit Hours	16
Sophomore Year		
Fall		
ACC 222	Accelerated Managerial Accounting	3
BTE 210	Fundamentals of Business Technology and Innovation	3
ECO 211	Principles of Microeconomics	3
MAS 311	Applied Probability and Statistics	3
Arts and Humanities Cognate Course		3
	Credit Hours	15
Spring		
ECO 212	Principles of Macroeconomics	3
FIN 302	Fundamentals of Finance	3
HSM 270 or MGT 270	Introduction to Health Sector Management and Policy or Introduction to Health Sector Organization and Management	3
MAS 312	Statistical Methods and Quality Control	3
Arts and Humanities Cognate Course		3
	Credit Hours	15
Junior Year		
Fall		
ACC 315	Accounting for Health Care Organizations.	3
BUS 300	Critical Thinking and Persuasion for Business	3
HSM 310	Population Health	3
MGT 304	Organizational Behavior	3
STEM Cognate Course		3
	Credit Hours	15
Spring		
BTE 320	Introduction to Programming	3
HSM 350	Production and Consumption of Health and Health Care	3
MGT 303	Operations Management	3
MKT 388	Health Care Marketing	3

STEM Cognate Course		3
	Credit Hours	15
Senior Year		
Fall		
BSL 460	Health Care Law and Ethics	3
BTE 450	Introduction to Health Informatics	3
Quantitative Choice Course		3
STEM Cognate Course		3
Elective		3
	Credit Hours	15
Spring		
MGT 401	Strategic Management	3
Health Sector Management and Policy Major Choice		3
Elective		3
Elective		3
Elective		1
	Credit Hours	13
	Total Credit Hours	120

Minor in Health Sector Management and Policy

Minor Area of Specialization in Health Sector Management and Policy (People & Society)

The purpose of the minor in Health Sector Management and Policy is to provide the student with a basic understanding of the organizational, management, economic, and financial structure, as well as the legal, ethical, and governmental policy of the health care industry. Appropriate candidates for this minor will include students interested in: exploring the health care sector; working in the legal, management, or policy making aspects of the health care sector; or those wanting to have an augmentation to their health sciences, nursing, pre-med, pre-law or pre-MBA/MPA studies.

Miami Business School students, as well as students in the other schools and colleges of the University of Miami, may pursue the minor in Health Sector Management and Policy by officially declaring the minor at their home school or college and completing the coursework specified below. Interested *non-business* students, before declaring the minor, should consult with an academic advisor *in the School or College of their degree/major* to determine if the minor in Health Sector Management and Policy is acceptable. If so, neither advice nor consent from either the Office of Undergraduate Business Education or the Department of Health Management and Policy is necessary.

The 12-credit-hour minor in Health Sector Management and Policy consists of four courses— three required and one minor choice course as indicated below (all courses must be taken within the current pre-requisite structure):

Code	Title	Credit Hours
Foundational Course		
HSM 270 or MGT 270	Introduction to Health Sector Management and Policy ¹ Introduction to Health Sector Organization and Management	3
Required Courses		
BSL 460 or HSM 460	Health Care Law and Ethics ² Health Care Law and Ethics	3
HSM 320 or HSM 350	Health Care Demand and Supply (pre-requisite HSM 270 or MGT 270) ³ Production and Consumption of Health and Health Care	3
Choice Course for the Minor		
Select one course (3 credit hours) from the following:		3
HSM 310	Population Health (pre-requisite HSM 270 or MGT 270)	
HSM 498	Special Topics in Health Sector Management and Policy	
HSM 499	Special Topics in Health Sector Management and Policy	
INS 570	Globalization and Health	
INS 571	International Development and Human Welfare	
INS 572	Global Health Policy and Ethics	

INS 573	Disasters, Terrorism and Global Public Health	
MKT 388 or HSM 388	Health Care Marketing ² Health Care Marketing	
SOC 321	Applied Health Policy	
Total Credit Hours		12

- ¹ HSM 270/MGT 270, foundational for the Health Sector Management and Policy minor, is a pre-requisite for all other HSM courses. Non-Business students should take HSM 270 rather than MGT 270 as the foundational course.
- ² BSL 460 and MKT 388 are intended for Business students who have declared the HSMP minor and have the BSL 212 and MKT 201 or MKT 301 pre-requisites. HSM 460 and HSM 388 are intended for Non-Business students who have declared the HSMP minor.
- ³ All Business students who choose to minor in HSMP should take HSM 350 instead of HSM 320. The pre-requisites for HSM 350 are HSM 270/MGT 270, ECO 211, and ECO 212.
- * **Note:** All specific coursework for the minor in Health Sector Management and Policy must be completed with a grade of "C" or higher. A minimum cumulative GPA of 2.5 is required for all specific coursework taken in the minor area of specialization. No one course may count toward more than one major or minor area of specialization.

Management

Department Code: MGT

Introduction

The Department of Management at the University of Miami Business School is heterogeneous with respect to both research and teaching areas. Faculty are specialized in and teach courses that span a number of fields including entrepreneurship, human resources, international management, leadership, operations management, organizational behavior, strategic management, supply chain management, and teams. Given both the multinational context and diversity present in twenty-first century organizations, coursework in the Department of Management is focused on preparing business students to be productive and effective contributors to the various communities they are embedded within or impact. Students who select any of the Management major areas of specialization pursue a variety of careers after graduation including starting businesses, running family businesses, accepting management positions in domestic or international organizations, attending law school, or pursuing other advanced graduate degrees.

Educational Objectives

- The development of critical thinking skills to evaluate decision choices, challenges, and issues confronting managers today;
- The improvement of interpersonal skills and learning to work effectively in teams; and
- An understanding of the tools, methods, and procedures used to successfully lead people and organizations.

Note: No one course may be applied toward more than one major and/or minor area of specialization in the Department of Management. All area specific coursework for any major and/or minor in the Department of Management must be completed with a grade of "C" or higher. A minimum cumulative GPA of 2.5 is required for all specific coursework taken in the major and/or minor area of specialization.

Majors in Entrepreneurship, Human Resource Management, and Management

- B.B.A. in Entrepreneurship (p. 443)
- B.S.B.A. in Entrepreneurship (p. 452)
- B.B.A. in Human Resource Management (p. 447)
- B.S.B.A. in Human Resource Management (p. 455)
- B.B.A. in Management (p. 449)
- B.S.B.A. in Management (p. 458)

Minors in Entrepreneurship and Management

- Entrepreneurship for Business Students (p. 461)
- Entrepreneurship for Non-Business Students (p. 462)
- Management for Business Students (p. 463)
- Management for Non-Business Students (p. 463)

B.B.A. in Entrepreneurship

Curriculum Requirements

Major Area of Specialization in Entrepreneurship (People & Society)

The Entrepreneurship major prepares Miami Business School students to engage in the process of value creation, regardless of organizational context. Students will develop a holistic view of organizational creation and change that is applicable to either starting a new venture (for profit or nonprofit), or working effectively within an existing organization.

In addition to satisfying the University General Education Requirements and Electives, students pursuing the BBA in Entrepreneurship must complete the BBA Business Core and the specific coursework for the Entrepreneurship major area of specialization as follows:

Code	Title	Credit Hours
University General Education Requirements ¹		
ENG 105	English Composition I	3
ENG 106	English Composition II	3
UMX 100	The University of Miami Experience	0
Arts and Humanities Cognate Courses		9
STEM Cognate Courses		9
Electives ²		21
BBA Business Core Requirements ¹		
ACC 211	Principles of Financial Accounting	3
ACC 212	Managerial Accounting	3
BSL 212	Introduction to Business Law	3
BTE 210	Fundamentals of Business Technology and Innovation	3
BUS 101	First Step: Freshman Integrity, Responsibility, and Success through Teamwork	3
BUS 150	Business Analytics	3
BUS 300	Critical Thinking and Persuasion for Business ³	3
ECO 211	Principles of Microeconomics (Microeconomics)	3
ECO 212	Principles of Macroeconomics (Macroeconomics)	3
FIN 302	Fundamentals of Finance	3
MAS 110	Quantitative Applications in Business (Minimum grade of C- required)	3
or MTH 161	Calculus I	
MAS 201	Introduction to Business Statistics (Minimum grade of C- required)	3
MAS 202	Intermediate Business Statistics	3
MGT 303	Operations Management	3
MGT 304	Organizational Behavior	3
MGT 401	Strategic Management (must be taken in the final semester)	3
MKT 201	Foundations of Marketing	3
or MKT 301	Marketing Foundations	
Major Area of Specialization in Entrepreneurship ^{4, 5}		
FIN 308	Intermediate Financial Management for Entrepreneurs (pre-requisite FIN 302)	3
MGT 253	Introduction to Entrepreneurship	3
MGT 354	Growing the New Venture	3
MGT 455	Entrepreneurial Consulting	3
MKT 340	Professional Selling (pre-requisite MKT 201 or MKT 301)	3
MKT 385	Marketing for Entrepreneurs (pre-requisite MKT 201 or MKT 301)	3
Major Choice Courses - Select two courses (6 credit hours) from the following:		6
BSL 324	Negotiation	
or MGT 324	Negotiation Strategies	
BSL 424	Intellectual Property Law (recommended)	
BSL 435	Law of Entrepreneurship	
BTE 320	Introduction to Programming	

BTE 324	Object-Oriented Programming
BTE 389	Launching HighTechnology Ventures
BTE 524	Mobile Apps Development
FIN 320	Investment and Security Markets
FIN 410	Financial Institutions and Markets
FIN 425	Business and Security Valuation
MGT 251	Nature and Foundations of Entrepreneurship
MGT 349	International Business
MGT 357	Entrepreneurship Simulation Experience: Inside the Mind of the Entrepreneurial CEO
MGT 360	Effective Leadership (pre-requisite MGT 304)
MGT 445	Supply Chain Modeling and Analysis (pre-requisite MGT 303)
MGT 446	Supply Chain Strategy (pre-requisite MGT 303)
MGT 498	Special Topics in Management (Families in Business; Innovators for the Americas; or Social Entrepreneurship)
MKT 302	Marketing Research and Market Analysis
MKT 310	Consumer Behavior and Marketing Strategy
MKT 320	Retailing
MKT 380	New Product Development
MKT 387	Digital Marketing
MKT 388	Health Care Marketing
MKT 389	Fundamentals of Digital Marketing Analytics
Total Credit Hours	120

- ¹ **NOTE:** ENG 105 and ENG 106 , or their equivalents, must be completed prior to attaining junior year classification, per the University General Education Requirements. Additionally, all 100 and 200-level Business Core courses must be completed by the end of the fifth semester of college work or during the semester in which the student is completing 75 credit hours.
- ² At least one course with an international focus must be completed within the degree requirements. The appropriateness of the course is determined by the academic advisor.
- ³ Students who do not earn at least a C- in ENG 106 must either repeat ENG 106 and earn at least a C- or complete ENG 230 with at least a C- before enrolling in BUS 300.
- ⁴ All specific coursework for the major area of specialization in Entrepreneurship must be completed with a grade of "C" or higher. A minimum cumulative GPA of 2.5 is required for all specific coursework taken in the major area of specialization. All courses must be taken within the current pre-requisite structure.
- ⁵ No one course may be applied toward more than one major and/or minor area of specialization in the Department of Management.

Sample Plan of Study

This Sample Plan of Study represents one possible version of a new freshman Business student's 8-semester plan. The individual student's plan may vary depending upon the initial placement into English Composition and mathematics. Moreover, numerous plan variations are possible if a student enters the University with advanced college credits, wishes to participate in study abroad, chooses a special program option, or selects additional majors or minors.

Note that each major/minor at the University of Miami satisfies a particular "Area of Knowledge" within the general education requirements of the University. This means that it is possible to pursue two majors or a major and a minor within the Business School and fulfill both the STEM and People and Society Areas of Knowledge; a separate cognate in these areas would not be required. The only remaining general education Area of Knowledge would be Arts and Humanities, which must be completed through a major, minor, or cognate outside of the Business School.

Students construct their individualized plans in collaboration with their assigned academic advisor.

Course	Title	Credit Hours
Freshman Year		
Fall		
BSL 212	Introduction to Business Law	3
BUS 101	First Step: Freshman Integrity, Responsibility, and Success through Teamwork	3
ENG 105	English Composition I	3

MAS 110 or MTH 161	Quantitative Applications in Business or Calculus I	3
UMX 100	The University of Miami Experience	0
Arts and Humanities Cognate Course		3
	Credit Hours	15
Spring		
BUS 150	Business Analytics	3
ENG 106	English Composition II	3
MAS 201	Introduction to Business Statistics	3
MKT 201	Foundations of Marketing	3
Arts and Humanities Cognate Course		3
	Credit Hours	15
Sophomore Year		
Fall		
ACC 211	Principles of Financial Accounting	3
BTE 210	Fundamentals of Business Technology and Innovation	3
ECO 211	Principles of Microeconomics	3
MAS 202	Intermediate Business Statistics	3
Arts and Humanities Cognate Course		3
	Credit Hours	15
Spring		
ACC 212	Managerial Accounting	3
ECO 212	Principles of Macroeconomics	3
FIN 302	Fundamentals of Finance	3
MGT 253	Introduction to Entrepreneurship	3
MGT 304	Organizational Behavior	3
	Credit Hours	15
Junior Year		
Fall		
BUS 300	Critical Thinking and Persuasion for Business	3
MGT 354	Growing the New Venture	3
MKT 340	Professional Selling	3
STEM Cognate Course		3
Elective		3
	Credit Hours	15
Spring		
FIN 308	Intermediate Financial Management for Entrepreneurs	3
MGT 303	Operations Management	3
MKT 385	Marketing for Entrepreneurs	3
STEM Cognate Course		3
Elective		3
	Credit Hours	15
Senior Year		
Fall		
Entrepreneurship Major Choice		3
Entrepreneurship Major Choice		3
STEM Cognate Course		3
Elective		3
Elective		3
	Credit Hours	15
Spring		
MGT 401	Strategic Management	3

MGT 455	Entrepreneurial Consulting	3
Elective		3
Elective		3
Elective		3
	Credit Hours	15
	Total Credit Hours	120

B.B.A. in Human Resource Management

Curriculum Requirements

Major Area of Specialization in Human Resource Management (People & Society)

The Human Resource Management major area of specialization is designed for Miami Business School students who intend to pursue a career in human resources or personnel.

In addition to satisfying the University General Education Requirements and Electives, students pursuing the BBA in Human Resource Management must complete the BBA Business Core and the specific coursework for the Human Resource Management major area of specialization as follows:

Code	Title	Credit Hours
University General Education Requirements ¹		
ENG 105	English Composition I	3
ENG 106	English Composition II	3
UMX 100	The University of Miami Experience	0
Arts and Humanities Cognate Courses		9
STEM Cognate Courses		9
Electives ²		30
BBA Business Core Requirements ¹		
ACC 211	Principles of Financial Accounting	3
ACC 212	Managerial Accounting	3
BSL 212	Introduction to Business Law	3
BTE 210	Fundamentals of Business Technology and Innovation	3
BUS 101	First Step: Freshman Integrity, Responsibility, and Success through Teamwork	3
BUS 150	Business Analytics	3
BUS 300	Critical Thinking and Persuasion for Business ³	3
ECO 211	Principles of Microeconomics (Microeconomics)	3
ECO 212	Principles of Macroeconomics (Macroeconomics)	3
FIN 302	Fundamentals of Finance	3
MAS 110	Quantitative Applications in Business (Minimum grade of C- required)	3
or MTH 161	Calculus I	
MAS 201	Introduction to Business Statistics (Minimum grade of C- required)	3
MAS 202	Intermediate Business Statistics	3
MGT 303	Operations Management	3
MGT 304	Organizational Behavior	3
MGT 401	Strategic Management (must be taken in the final semester)	3
MKT 201	Foundations of Marketing	3
or MKT 301	Marketing Foundations	
Major Area of Specialization in Human Resource Management ^{4, 5}		
MGT 302	Human Resource Management	3
MGT 307	Advanced Organizational Behavior	3
Major Choice Courses - Select three courses (9 credit hours) from the following:		9
MGT 308	Training and Development	
MGT 360	Effective Leadership	

MGT 422	Leading Teams	
MGT 428	Compensation and Benefits Design	
MGT 480	Organizational Development and Change	
Total Credit Hours		120

- 1 **NOTE:** ENG 105 and ENG 106 , or their equivalents, must be completed prior to attaining junior year classification, per the University General Education Requirements. Additionally, all 100 and 200-level Business Core courses must be completed by the end of the fifth semester of college work or during the semester in which the student is completing 75 credit hours.
- 2 At least one course with an international focus must be completed within the degree requirements. The appropriateness of the course is determined by the academic advisor.
- 3 Students who do not earn at least a C- in ENG 106 must either repeat ENG 106 and earn at least a C- or complete ENG 230 with at least a C- before enrolling in BUS 300.
- 4 All specific coursework for the major area of specialization in Human Resource Management must be completed with a grade of "C" or higher. A minimum cumulative GPA of 2.5 is required for all specific coursework taken in the major area of specialization. All courses must be taken within the current pre-requisite structure.
- 5 No one course may be applied toward more than one major and/or minor area of specialization in the Department of Management.

Sample Plan of Study

This Sample Plan of Study represents one possible version of a new freshman Business student's 8-semester plan. The individual student's plan may vary depending upon the initial placement into English Composition and mathematics. Moreover, numerous plan variations are possible if a student enters the University with advanced college credits, wishes to participate in study abroad, chooses a special program option, or selects additional majors or minors.

Note that each major/minor at the University of Miami satisfies a particular "Area of Knowledge" within the general education requirements of the University. This means that it is possible to pursue two majors or a major and a minor within the Business School and fulfill both the STEM and People and Society Areas of Knowledge; a separate cognate in these areas would not be required. The only remaining general education Area of Knowledge would be Arts and Humanities, which must be completed through a major, minor, or cognate outside of the Business School.

Students construct their individualized plans in collaboration with their assigned academic advisor.

Course	Title	Credit Hours
Freshman Year		
Fall		
BSL 212	Introduction to Business Law	3
BUS 101	First Step: Freshman Integrity, Responsibility, and Success through Teamwork	3
ENG 105	English Composition I	3
MAS 110 or MTH 161	Quantitative Applications in Business or Calculus I	3
UMX 100	The University of Miami Experience	0
Arts and Humanities Cognate Course		3
	Credit Hours	15
Spring		
BUS 150	Business Analytics	3
ENG 106	English Composition II	3
MAS 201	Introduction to Business Statistics	3
MKT 201	Foundations of Marketing	3
Arts and Humanities Cognate Course		3
	Credit Hours	15
Sophomore Year		
Fall		
ACC 211	Principles of Financial Accounting	3
BTE 210	Fundamentals of Business Technology and Innovation	3
ECO 211	Principles of Microeconomics	3
MAS 202	Intermediate Business Statistics	3

Arts and Humanities Cognate Course		3
	Credit Hours	15
Spring		
ACC 212	Managerial Accounting	3
ECO 212	Principles of Macroeconomics	3
FIN 302	Fundamentals of Finance	3
MGT 304	Organizational Behavior	3
Elective		3
	Credit Hours	15
Junior Year		
Fall		
BUS 300	Critical Thinking and Persuasion for Business	3
MGT 302	Human Resource Management	3
Human Resource Management Major Choice		3
Elective		3
Elective		3
	Credit Hours	15
Spring		
MGT 307	Advanced Organizational Behavior	3
Human Resource Management Major Choice		3
STEM Cognate Course		3
Elective		3
Elective		3
	Credit Hours	15
Senior Year		
Fall		
MGT 303	Operations Management	3
Human Resource Management Major Choice		3
STEM Cognate Course		3
Elective		3
Elective		3
	Credit Hours	15
Spring		
MGT 401	Strategic Management	3
STEM Cognate Course		3
Elective		3
Elective		3
Elective		3
	Credit Hours	15
	Total Credit Hours	120

B.B.A. in Management

Major Area of Specialization in Management (People & Society)

Business students who pursue the Management major will be prepared for future careers in all areas of management, including small business and corporate levels. The Management major also provides a solid preparation for the pursuit of other graduate degree programs, particularly in law and business.

Curriculum Requirements

In addition to satisfying the University General Education Requirements and Electives, students pursuing the BBA in Management must complete the BBA Business Core and the specific coursework for the Management major area of specialization as follows:

Code	Title	Credit Hours
University General Education Requirements ¹		
ENG 105	English Composition I	3
ENG 106	English Composition II	3
UMX 100	The University of Miami Experience	0
Arts and Humanities Cognate Courses		9
STEM Cognate Courses		9
Electives ²		30
BBA Business Core Requirements ¹		
ACC 211	Principles of Financial Accounting	3
ACC 212	Managerial Accounting	3
BSL 212	Introduction to Business Law	3
BTE 210	Fundamentals of Business Technology and Innovation	3
BUS 101	First Step: Freshman Integrity, Responsibility, and Success through Teamwork	3
BUS 150	Business Analytics	3
BUS 300	Critical Thinking and Persuasion for Business ³	3
ECO 211	Principles of Microeconomics (Microeconomics)	3
ECO 212	Principles of Macroeconomics (Macroeconomics)	3
FIN 302	Fundamentals of Finance	3
MAS 110	Quantitative Applications in Business (Minimum grade of C- required)	3
or MTH 161	Calculus I	
MAS 201	Introduction to Business Statistics (Minimum grade of C- required)	3
MAS 202	Intermediate Business Statistics	3
MGT 303	Operations Management	3
MGT 304	Organizational Behavior	3
MGT 401	Strategic Management (must be taken in the final semester)	3
MKT 201	Foundations of Marketing	3
or MKT 301	Marketing Foundations	
Major Area of Specialization in Management ^{4, 5}		
MGT 303	Operations Management (taken as part of the Business Core)	
MGT 304	Organizational Behavior (taken as part of the Business Core)	
MGT 302	Human Resource Management	3
MGT 307	Advanced Organizational Behavior	3
Major Choice Courses - Select three courses (9 credit hours) from the Department of Management ⁶		9
Total Credit Hours		120

¹ **NOTE:** ENG 105 and ENG 106, or their equivalents, must be completed prior to attaining junior year classification, per the University General Education Requirements. Additionally, all 100 and 200-level Business Core courses must be completed by the end of the fifth semester of college work or during the semester in which the student is completing 75 credit hours.

² At least one course with an international focus must be completed within the degree requirements. The appropriateness of the course is determined by the academic advisor.

³ Students who do not earn at least a C- in ENG 106 must either repeat ENG 106 and earn at least a C- or complete ENG 230 with at least a C- before enrolling in BUS 300.

⁴ All specific coursework for the major area of specialization in Management must be completed with a grade of "C" or higher. A minimum cumulative GPA of 2.5 is required for all specific coursework taken in the major area of specialization.

⁵ No one course may be applied toward more than one major and/or minor area of specialization in the Department of Management.

⁶ Excluding any 100-level Management courses and MGT 401

Sample Plan of Study

This Sample Plan of Study represents one possible version of a new freshman business student's 8-semester plan. The individual student's plan may vary depending upon the initial placement into English Composition and mathematics. Moreover, numerous plan variations are possible if a student

enters the University with advanced college credits, wishes to participate in study abroad, chooses a special program option, or selects additional majors or minors.

Note that each major/minor at the University of Miami satisfies a particular "Area of Knowledge" within the general education requirements of the University. This means that it is possible to pursue two majors or a major and a minor within Miami Business School and fulfill both the STEM and People and Society Areas of Knowledge; a separate cognate in these areas would not be required. The only remaining general education Area of Knowledge would be Arts and Humanities, which must be completed through a major, minor, or cognate outside of Miami Business School.

Students construct their individualized plans in collaboration with their assigned academic advisor.

Course	Title	Credit Hours
Freshman Year		
Fall		
BSL 212	Introduction to Business Law	3
BUS 101	First Step: Freshman Integrity, Responsibility, and Success through Teamwork	3
ENG 105	English Composition I	3
MAS 110 or MTH 161	Quantitative Applications in Business or Calculus I	3
UMX 100	The University of Miami Experience	0
Arts and Humanities Cognate Course		3
Credit Hours		15
Spring		
BUS 150	Business Analytics	3
ENG 106	English Composition II	3
MAS 201	Introduction to Business Statistics	3
MKT 201	Foundations of Marketing	3
Arts and Humanities Cognate Course		3
Credit Hours		15
Sophomore Year		
Fall		
ACC 211	Principles of Financial Accounting	3
BTE 210	Fundamentals of Business Technology and Innovation	3
ECO 211	Principles of Microeconomics	3
MAS 202	Intermediate Business Statistics	3
Arts and Humanities Cognate Course		3
Credit Hours		15
Spring		
ACC 212	Managerial Accounting	3
ECO 212	Principles of Macroeconomics	3
FIN 302	Fundamentals of Finance	3
MGT 304	Organizational Behavior	3
Elective		3
Credit Hours		15
Junior Year		
Fall		
BUS 300	Critical Thinking and Persuasion for Business	3
MGT 302	Human Resource Management	3
MGT 303	Operations Management	3
STEM Cognate Course		3
Elective		3
Credit Hours		15
Spring		
MGT 307	Advanced Organizational Behavior	3

Management Major Choice		3
STEM Cognate Course		3
Elective		3
Elective		3
	Credit Hours	15
Senior Year		
Fall		
Management Major Choice		3
STEM Cognate Course		3
Elective		3
Elective		3
Elective		3
	Credit Hours	15
Spring		
MGT 401	Strategic Management	3
Management Major Choice		3
Elective		3
Elective		3
Elective		3
	Credit Hours	15
	Total Credit Hours	120

B.S.B.A. in Entrepreneurship

Curriculum Requirements

Major Area of Specialization in Entrepreneurship (People & Society)

The Entrepreneurship major prepares Miami Business School students to engage in the process of value creation, regardless of organizational context. Students pursuing this major will develop a holistic view of organizational creation and change that is applicable to either starting a new venture (for profit or nonprofit) or working effectively within an existing organization.

In addition to satisfying the University General Education Requirements and Electives, students pursuing the BSBA in Entrepreneurship must complete the BSBA Business Core and the specific coursework for the Entrepreneurship major area of specialization as follows:

Code	Title	Credit Hours
University General Education Requirements ¹		
ENG 105	English Composition I	3
ENG 106	English Composition II	3
UMX 100	The University of Miami Experience	0
Arts and Humanities Cognate Courses		9
STEM Cognate Courses		9
Electives ²		10
BSBA Business Core Requirements ¹		
ACC 221 or ACC 211	Accelerated Principles of Financial Accounting Principles of Financial Accounting	3
ACC 222 or ACC 212	Accelerated Managerial Accounting Managerial Accounting	3
BSL 212	Introduction to Business Law	3
BTE 210	Fundamentals of Business Technology and Innovation	3
BTE 320	Introduction to Programming	3
BUS 101	First Step: Freshman Integrity, Responsibility, and Success through Teamwork	3
BUS 150	Business Analytics	3
BUS 300	Critical Thinking and Persuasion for Business ³	3

ECO 211	Principles of Microeconomics	3
ECO 212	Principles of Macroeconomics	3
FIN 302	Fundamentals of Finance	3
MAS 311	Applied Probability and Statistics (minimum grade of C- required)	3
MAS 312	Statistical Methods and Quality Control	3
MTH 161	Calculus I (minimum grade of C- required)	4
MTH 162	Calculus II	4
MGT 303	Operations Management	3
MGT 304	Organizational Behavior	3
MGT 401	Strategic Management (must be taken in the final semester)	3
MKT 201	Foundations of Marketing	3
or MKT 301	Marketing Foundations	
Quantitative Choice - Select one of these suggested courses approved by the academic advisor - check pre-requisites:		3
BTE 324	Object-Oriented Programming (may not double count for both the quantitative elective and ENTR major elective)	
BTE 423	Database Management Systems	
ECO 430	Applied Econometrics	
ECO 510	Mathematical Economics and Applications	
MAS 342	Introduction to Optimization and Decision Making	
MAS 442	Stochastic Models in Operations Research	
MAS 547	Computer Simulation Systems	
MGT 445	Supply Chain Modeling and Analysis (may not double count for both the Quantitative Choice and ENTR major choice unless ENTR is an additional major)	
MGT 446	Supply Chain Strategy (may not double count for both the Quantitative choice and ENTR major choice unless ENTR is an additional major)	
Major Area of Specialization in Entrepreneurship ^{4, 5}		
FIN 308	Intermediate Financial Management for Entrepreneurs (pre-requisite FIN 302)	3
MGT 253	Introduction to Entrepreneurship	3
MGT 354	Growing the New Venture	3
MGT 455	Entrepreneurial Consulting	3
MKT 340	Professional Selling (pre-requisite MKT 201 or MKT 301)	3
MKT 385	Marketing for Entrepreneurs (pre-requisite MKT 201 or MKT 301)	3
Major Choice Courses - Select two courses (6 credit hours) from the following:		6
BSL 324	Negotiation	
or MGT 324	Negotiation Strategies	
BSL 424	Intellectual Property Law (recommended)	
BSL 435	Law of Entrepreneurship	
BTE 324	Object-Oriented Programming	
BTE 389	Launching HighTechnology Ventures	
BTE 524	Mobile Apps Development	
FIN 320	Investment and Security Markets	
FIN 410	Financial Institutions and Markets	
FIN 425	Business and Security Valuation	
MGT 251	Nature and Foundations of Entrepreneurship	
MGT 349	International Business	
MGT 357	Entrepreneurship Simulation Experience: Inside the Mind of the Entrepreneurial CEO	
MGT 360	Effective Leadership (pre-requisite MGT 304)	
MGT 445	Supply Chain Modeling and Analysis (pre-requisite MGT 303)	
MGT 446	Supply Chain Strategy (pre-requisite MGT 303)	

MGT 498	Special Topics in Management (Families in Business; Innovators for the Americas; or Social Entrepreneurship)
MKT 302	Marketing Research and Market Analysis
MKT 310	Consumer Behavior and Marketing Strategy
MKT 320	Retailing
MKT 380	New Product Development
MKT 387	Digital Marketing
MKT 388	Health Care Marketing
MKT 389	Fundamentals of Digital Marketing Analytics
Total Credit Hours	
120	

- 1 **NOTE:** ENG 105 and ENG 106, or their equivalents, must be completed prior to attaining junior year classification, per the University General Education Requirements. Additionally, all 100 and 200-level Business Core courses must be completed by the end of the fifth semester of college work or during the semester in which the student is completing 75 credit hours.
- 2 At least one course with an international focus must be completed within the degree requirements. The appropriateness of the course is determined by the academic advisor.
- 3 Students who do not earn at least a C- in ENG 106 must either repeat ENG 106 and earn at least a C- or complete ENG 230 with at least a C- before enrolling in BUS 300.
- 4 All specific coursework for the major area of specialization in Entrepreneurship must be completed with a grade of "C" or higher. A minimum cumulative GPA of 2.5 is required for all specific coursework taken in the major area of specialization. All courses must be taken within the current pre-requisite structure.
- 5 No one course may be applied toward more than one major and/or minor area of specialization in the Department of Management.

Sample Plan of Study

This Sample Plan of Study represents one possible version of a new freshman business student's 8-semester plan. The individual student's plan may vary depending upon the initial placement into English Composition and mathematics. Moreover, numerous plan variations are possible if a student enters the University with advanced college credits, wishes to participate in study abroad, chooses a special program option, or selects additional majors or minors.

Note that each major/minor at the University of Miami satisfies a particular "Area of Knowledge" within the general education requirements of the University. This means that it is possible to pursue two majors, or a major and a minor, within Miami Business School and fulfill both the STEM and People and Society Areas of Knowledge; a separate cognate in these areas would not be required. The only remaining general education Area of Knowledge is Arts and Humanities, which must be completed through a major, minor, or cognate outside of the Business School.

Students construct their individualized plans in collaboration with their assigned academic advisor.

Course	Title	Credit Hours
Freshman Year		
Fall		
BSL 212	Introduction to Business Law	3
BUS 101	First Step: Freshman Integrity, Responsibility, and Success through Teamwork	3
ENG 105	English Composition I	3
MKT 201	Foundations of Marketing	3
MTH 161	Calculus I	4
UMX 100	The University of Miami Experience	0
Credit Hours		16
Spring		
ACC 221	Accelerated Principles of Financial Accounting	3
BUS 150	Business Analytics	3
ENG 106	English Composition II	3
MTH 162	Calculus II	4
Arts and Humanities Cognate Course		3
Credit Hours		16

Sophomore Year		
Fall		
ACC 222	Accelerated Managerial Accounting	3
BTE 210	Fundamentals of Business Technology and Innovation	3
ECO 211	Principles of Microeconomics	3
MAS 311	Applied Probability and Statistics	3
Arts and Humanities Cognate Course		3
	Credit Hours	15
Spring		
ECO 212	Principles of Macroeconomics	3
FIN 302	Fundamentals of Finance	3
MAS 312	Statistical Methods and Quality Control	3
MGT 253	Introduction to Entrepreneurship	3
Arts and Humanities Cognate Course		3
	Credit Hours	15
Junior Year		
Fall		
BUS 300	Critical Thinking and Persuasion for Business	3
MGT 303	Operations Management	3
MGT 354	Growing the New Venture	3
MKT 340	Professional Selling	3
STEM Cognate Course		3
	Credit Hours	15
Spring		
BTE 320	Introduction to Programming	3
FIN 308	Intermediate Financial Management for Entrepreneurs	3
MGT 304	Organizational Behavior	3
MKT 385	Marketing for Entrepreneurs	3
STEM Cognate Course		3
	Credit Hours	15
Senior Year		
Fall		
Entrepreneurship Major Choice		3
Entrepreneurship Major Choice		3
Quantitative Choice Course		3
STEM Cognate Course		3
Elective		3
	Credit Hours	15
Spring		
MGT 401	Strategic Management	3
MGT 455	Entrepreneurial Consulting	3
Elective		3
Elective		3
Elective		1
	Credit Hours	13
	Total Credit Hours	120

B.S.B.A. in Human Resource Management

Curriculum Requirements

Major Area of Specialization in Human Resource Management (People & Society)

The Human Resource Management major area of specialization is designed for business students intending to pursue careers in human resources or personnel management.

In addition to satisfying the University General Education Requirements and Electives, students pursuing the BSBA in Human Resource Management must complete the BSBA Business Core and the specific coursework for the Human Resource Management major area of specialization as follows:

Code	Title	Credit Hours
University General Education Requirements ¹		
ENG 105	English Composition I	3
ENG 106	English Composition II	3
UMX 100	The University of Miami Experience	0
Arts and Humanities Cognate Courses		9
STEM Cognate Courses		9
Electives ²		19
BSBA Business Core Requirements ¹		
ACC 221 or ACC 211	Accelerated Principles of Financial Accounting Principles of Financial Accounting	3
ACC 222 or ACC 212	Accelerated Managerial Accounting Managerial Accounting	3
BSL 212	Introduction to Business Law	3
BTE 210	Fundamentals of Business Technology and Innovation	3
BTE 320	Introduction to Programming	3
BUS 101	First Step: Freshman Integrity, Responsibility, and Success through Teamwork	3
BUS 150	Business Analytics	3
BUS 300	Critical Thinking and Persuasion for Business ³	3
ECO 211	Principles of Microeconomics	3
ECO 212	Principles of Macroeconomics	3
FIN 302	Fundamentals of Finance	3
MAS 311	Applied Probability and Statistics (minimum grade of C- required)	3
MAS 312	Statistical Methods and Quality Control	3
MTH 161	Calculus I (minimum grade of C- required)	4
MTH 162	Calculus II	4
MGT 303	Operations Management	3
MGT 304	Organizational Behavior	3
MGT 401	Strategic Management (must be taken in the final semester)	3
MKT 201 or MKT 301	Foundations of Marketing Marketing Foundations	3
Quantitative Choice - Select one of these suggested courses approved by the academic advisor - check pre-requisites:		3
BTE 324	Object-Oriented Programming	
BTE 423	Database Management Systems	
ECO 430	Applied Econometrics	
ECO 510	Mathematical Economics and Applications	
MAS 342	Introduction to Optimization and Decision Making	
MAS 442	Stochastic Models in Operations Research	
MAS 547	Computer Simulation Systems	
MGT 445	Supply Chain Modeling and Analysis	
MGT 446	Supply Chain Strategy	
Major Area of Specialization in Human Resource Management ^{4,5}		
MGT 302	Human Resource Management	3
MGT 307	Advanced Organizational Behavior	3
Major Choice Courses - Select three courses (9 credit hours) from the following:		9
MGT 308	Training and Development	
MGT 360	Effective Leadership	

MGT 422	Leading Teams	
MGT 428	Compensation and Benefits Design	
MGT 480	Organizational Development and Change	
Total Credit Hours		120

- 1 **NOTE:** ENG 105 and ENG 106 , or their equivalents, must be completed prior to attaining junior year classification, per the University General Education Requirements. Additionally, all 100 and 200-level Business Core courses must be completed by the end of the fifth semester of college work or during the semester in which the student is completing 75 credit hours.
- 2 At least one course with an international focus must be completed within the degree requirements. The appropriateness of the course is determined by the academic advisor.
- 3 Students who do not earn at least a C- in ENG 106 must either repeat ENG 106 and earn at least a C- or ENG 230 with at least a C- before enrolling in BUS 300.
- 4 All specific coursework for the major area of specialization in Human Resource Management must be completed with a grade of "C" or higher. A minimum cumulative GPA of 2.5 is required for all specific coursework taken in the major area of specialization. All courses must be taken within the current pre-requisite structure.
- 5 No one course may be applied toward more than one major and/or minor area of specialization in the Department of Management.

Sample Plan of Study

This Sample Plan of Study represents one possible version of a new freshman business student's 8-semester plan. The individual student's plan may vary depending upon the initial placement into English Composition and mathematics. Moreover, numerous plan variations are possible if a student enters the University with advanced college credits, wishes to participate in study abroad, chooses a special program option, or selects additional majors or minors.

Note that each major/minor at the University of Miami satisfies a particular "Area of Knowledge" within the general education requirements of the University. This means that it is possible to pursue two majors, or a major and a minor, within Miami Business School and fulfill both the STEM and People and Society Areas of Knowledge; a separate cognate in these areas would not be required. The only remaining general education Area of Knowledge is Arts and Humanities, which must be completed through a major, minor, or cognate outside of the Business School.

Students construct their individualized plans in collaboration with their assigned academic advisor.

Course	Title	Credit Hours
Freshman Year		
Fall		
BSL 212	Introduction to Business Law	3
BUS 101	First Step: Freshman Integrity, Responsibility, and Success through Teamwork	3
ENG 105	English Composition I	3
MKT 201	Foundations of Marketing	3
MTH 161	Calculus I	4
UMX 100	The University of Miami Experience	0
Credit Hours		16
Spring		
ACC 221	Accelerated Principles of Financial Accounting	3
BUS 150	Business Analytics	3
ENG 106	English Composition II	3
MTH 162	Calculus II	4
Arts and Humanities Cognate Course		3
Credit Hours		16
Sophomore Year		
Fall		
ACC 222	Accelerated Managerial Accounting	3
BTE 210	Fundamentals of Business Technology and Innovation	3
ECO 211	Principles of Microeconomics	3
MAS 311	Applied Probability and Statistics	3

Arts and Humanities Cognate Course		3
	Credit Hours	15
Spring		
ECO 212	Principles of Macroeconomics	3
FIN 302	Fundamentals of Finance	3
MAS 312	Statistical Methods and Quality Control	3
MGT 304	Organizational Behavior	3
Arts and Humanities Cognate Course		3
	Credit Hours	15
Junior Year		
Fall		
BTE 320	Introduction to Programming	3
BUS 300	Critical Thinking and Persuasion for Business	3
MGT 302	Human Resource Management	3
Human Resource Management Major Choice		3
Elective		3
	Credit Hours	15
Spring		
MGT 303	Operations Management	3
MGT 307	Advanced Organizational Behavior	3
Human Resource Management Major Choice		3
STEM Cognate Course		3
Elective		3
	Credit Hours	15
Senior Year		
Fall		
Human Resource Management Major Choice		3
Quantitative Choice Course		3
STEM Cognate Course		3
Elective		3
Elective		3
	Credit Hours	15
Spring		
MGT 401	Strategic Management	3
STEM Cognate Course		3
Elective		3
Elective		3
Elective		1
	Credit Hours	13
	Total Credit Hours	120

B.S.B.A. in Management

Curriculum Requirements

Major Area of Specialization in Management (People & Society)

Business students who pursue the Management major area of specialization will be prepared for future careers in all areas of management, including small business and corporate levels. The study of Management also provides a solid preparation for the pursuit of other graduate degree programs, particularly in law and business.

In addition to satisfying the University General Education Requirements and Electives, students pursuing the BSBA in Management must complete the BSBA Business Core and the specific coursework for the Management major area of specialization as follows:

Code	Title	Credit Hours
University General Education Requirements ¹		
ENG 105	English Composition I	3
ENG 106	English Composition II	3
UMX 100	The University of Miami Experience	0
Arts and Humanities Cognate Courses		9
STEM Cognate Courses		9
Electives ²		19
BSBA Business Core Requirements ¹		
ACC 221 or ACC 211	Accelerated Principles of Financial Accounting Principles of Financial Accounting	3
ACC 222 or ACC 212	Accelerated Managerial Accounting Managerial Accounting	3
BSL 212	Introduction to Business Law	3
BTE 210	Fundamentals of Business Technology and Innovation	3
BTE 320	Introduction to Programming	3
BUS 101	First Step: Freshman Integrity, Responsibility, and Success through Teamwork	3
BUS 150	Business Analytics	3
BUS 300	Critical Thinking and Persuasion for Business ³	3
ECO 211	Principles of Microeconomics	3
ECO 212	Principles of Macroeconomics	3
FIN 302	Fundamentals of Finance	3
MAS 311	Applied Probability and Statistics (minimum grade of C- required)	3
MAS 312	Statistical Methods and Quality Control	3
MTH 161	Calculus I (minimum grade of C- required)	4
MTH 162	Calculus II	4
MGT 303	Operations Management	3
MGT 304	Organizational Behavior	3
MGT 401	Strategic Management (must be taken in the final semester)	3
MKT 201 or MKT 301	Foundations of Marketing Marketing Foundations	3
Quantitative Choice - Select one of these suggested courses approved by the academic advisor - check pre-requisites:		3
BTE 324	Object-Oriented Programming	
BTE 423	Database Management Systems	
ECO 430	Applied Econometrics	
ECO 510	Mathematical Economics and Applications	
MAS 342	Introduction to Optimization and Decision Making	
MAS 442	Stochastic Models in Operations Research	
MAS 547	Computer Simulation Systems	
MGT 445	Supply Chain Modeling and Analysis (may not double count as both the Quantitative Choice and a major choice unless Management is an additional major)	
MGT 446	Supply Chain Strategy (may not double count as both the Quantitative Choice and a major choice unless Management is an additional major)	
Major Area of Specialization in Management ^{4, 5}		
MGT 303	Operations Management (taken as part of the Business Core)	
MGT 304	Organizational Behavior (taken as part of the Business Core)	
MGT 302	Human Resource Management	3
MGT 307	Advanced Organizational Behavior	3

Major Choice Courses - Select three courses (9 credit hours) from the Department of Management ⁶	9
Total Credit Hours	120

- ¹ **NOTE:** ENG 105 and ENG 106, or their equivalents, must be completed prior to attaining junior year classification, per the University General Education Requirements. Additionally, all 100 and 200-level Business Core courses must be completed by the end of the fifth semester of college work or during the semester in which the student is completing 75 credit hours.
- ² At least one course with an international focus must be completed within the degree requirements. The appropriateness of the course is determined by the academic advisor.
- ³ Students who do not earn at least a C- in ENG 106 must either repeat ENG 106 and earn at least a C- or complete ENG 230 with at least a C- before enrolling in BUS 300.
- ⁴ All specific coursework for the major area of specialization in Management must be completed with a grade of "C" or higher. A minimum cumulative GPA of 2.5 is required for all courses taken in the major area of specialization.
- ⁵ No one course may be applied toward more than one major and/or minor area of specialization in the Department of Management.
- ⁶ Excluding any 100-level Management courses and MGT 401

Sample Plan of Study

This Sample Plan of Study represents one possible version of a new freshman business student's 8-semester plan. The individual student's plan may vary depending upon the initial placement into English Composition and mathematics. Moreover, numerous plan variations are possible if a student enters the University with advanced college credits, wishes to participate in study abroad, chooses a special program option, or selects additional majors or minors.

Note that each major/minor at the University of Miami satisfies a particular "Area of Knowledge" within the general education requirements of the University. This means that it is possible to pursue two majors, or a major and a minor, within Miami Business School and fulfill both the STEM and People and Society Areas of Knowledge; a separate cognate in these areas would not be required. The only remaining general education Area of Knowledge is Arts and Humanities, which must be completed through a major, minor, or cognate outside of the Business School.

Students construct their individualized plans in collaboration with their assigned academic advisor.

Course	Title	Credit Hours
Freshman Year		
Fall		
BSL 212	Introduction to Business Law	3
BUS 101	First Step: Freshman Integrity, Responsibility, and Success through Teamwork	3
ENG 105	English Composition I	3
MKT 201	Foundations of Marketing	3
MTH 161	Calculus I	4
UMX 100	The University of Miami Experience	0
	Credit Hours	16
Spring		
ACC 221	Accelerated Principles of Financial Accounting	3
BUS 150	Business Analytics	3
ENG 106	English Composition II	3
MTH 162	Calculus II	4
Arts and Humanities Cognate Course		3
	Credit Hours	16
Sophomore Year		
Fall		
ACC 222	Accelerated Managerial Accounting	3
BTE 210	Fundamentals of Business Technology and Innovation	3
ECO 211	Principles of Microeconomics	3
MAS 311	Applied Probability and Statistics	3
Arts and Humanities Cognate Course		3
	Credit Hours	15

Spring		
ECO 212	Principles of Macroeconomics	3
FIN 302	Fundamentals of Finance	3
MAS 312	Statistical Methods and Quality Control	3
MGT 304	Organizational Behavior	3
Arts and Humanities Cognate Course		3
Credit Hours		15
Junior Year		
Fall		
BUS 300	Critical Thinking and Persuasion for Business	3
MGT 302	Human Resource Management	3
MGT 303	Operations Management	3
STEM Cognate Course		3
Elective		3
Credit Hours		15
Spring		
BTE 320	Introduction to Programming	3
MGT 307	Advanced Organizational Behavior	3
Management Major Choice		3
STEM Cognate Course		3
Elective		3
Credit Hours		15
Senior Year		
Fall		
Management Major Choice		3
Quantitative Choice Course		3
STEM Cognate Course		3
Elective		3
Elective		3
Credit Hours		15
Spring		
MGT 401	Strategic Management	3
Management Major Choice		3
Elective		3
Elective		3
Elective		1
Credit Hours		13
Total Credit Hours		120

Minor in Entrepreneurship for Business Students

Minor Area of Specialization in Entrepreneurship for Business Students (People & Society)

This minor in Entrepreneurship is intended to acquaint Miami Business School students with the essential business tools and perspective of the entrepreneur. Eligible business students must have a declared business major other than Entrepreneurship.

The requirements of the 15-credit-hour minor in Entrepreneurship are the following:

Code	Title	Credit Hours
Required Courses ¹		
MGT 253	Introduction to Entrepreneurship	3
MGT 354	Growing the New Venture	3
MGT 455	Entrepreneurial Consulting	3
MKT 385	Marketing for Entrepreneurs (pre-requisite MKT 201 or MKT 301)	3

Choice Course for the Minor ¹		
Select one course (3 credit hours) from the following:		3
BSL 324 or MGT 324	Negotiation Negotiation Strategies	
BSL 424	Intellectual Property Law	
BSL 435	Law of Entrepreneurship	
BTE 320	Introduction to Programming	
BTE 324	Object-Oriented Programming	
BTE 389	Launching HighTechnology Ventures	
BTE 524	Mobile Apps Development	
FIN 320	Investment and Security Markets	
FIN 410	Financial Institutions and Markets	
FIN 425	Business and Security Valuation	
MGT 251	Nature and Foundations of Entrepreneurship	
MGT 349	International Business	
MGT 357	Entrepreneurship Simulation Experience: Inside the Mind of the Entrepreneurial CEO	
MGT 360	Effective Leadership	
MGT 445	Supply Chain Modeling and Analysis	
MGT 446	Supply Chain Strategy	
MGT 498	Special Topics in Management (Families in Business; Innovators for the Americas; or Social Entrepreneurship)	
MKT 302	Marketing Research and Market Analysis	
MKT 310	Consumer Behavior and Marketing Strategy	
MKT 320	Retailing	
MKT 340	Professional Selling	
MKT 380	New Product Development	
MKT 387	Digital Marketing	
MKT 388	Health Care Marketing	
MKT 389	Fundamentals of Digital Marketing Analytics	
Total Credit Hours		15

¹ All courses must be taken within the current pre-requisite structure.

* No one course may be applied toward more than one major or minor area of specialization.

** All specific coursework taken for any minor in the Department of Management must be completed with a grade of "C" or higher. A minimum cumulative GPA of 2.5 is required for all specific coursework taken in the minor area of specialization.

Minor in Entrepreneurship for Non-Business Students

Minor Area of Specialization in Entrepreneurship for Non-Business Students (People & Society)

This minor is for non-business students who seek to learn about developing business plans or how to initiate and manage small business enterprises. Interested students should consult with an academic advisor *in the School or College of their degree/major* to determine if a minor in Entrepreneurship is acceptable. If so, neither advice nor consent from either the Office of Undergraduate Business Education or the Department of Management is necessary. Instead the non-business student should simply declare the minor and complete the required six courses, or 18 credit hours, as follows:

Code	Title	Credit Hours
Required Courses ¹		
ACC 211	Principles of Financial Accounting	3
ECO 211	Principles of Microeconomics	3
FIN 300	Fundamentals of Finance for Non-Finance Majors	3
MGT 253	Introduction to Entrepreneurship	3
MKT 301	Marketing Foundations	3
Choice Course for the Minor ¹		

Select one course (3 credit hours) from the following:	3
BSL 435	Law of Entrepreneurship
MGT 251	Nature and Foundations of Entrepreneurship
MGT 354	Growing the New Venture
MGT 357	Entrepreneurship Simulation Experience: Inside the Mind of the Entrepreneurial CEO
MGT 498	Special Topics in Management (related to entrepreneurship)
MKT 385	Marketing for Entrepreneurs (pre-requisite MKT 301)
Total Credit Hours	18

¹ All courses must be taken within the current pre-requisite structure.

Note: No one course may be applied toward more than one minor area of specialization and/or cognate. All coursework taken for any minor in the Department of Management must be completed with a grade of "C" or higher. A minimum cumulative GPA of 2.5 is required for all specific coursework taken in the minor area of specialization.

Minor in Management for Business Students

Minor Area of Specialization in Management for Business Students (People & Society)

A minor in Management for business students consists of 12 credit hours in Management courses beyond the required courses in the BBA or BSBA Business Core. All courses must be taken within the current pre-requisite structure.

Code	Title	Credit Hours
Core Courses		
MGT 303	Operations Management (taken as part of the Business Core)	
MGT 304	Organizational Behavior (taken as part of the Business Core)	
Choice Courses for the Minor		
Select four courses (12 credit hours) from the Department of Management ¹		12
Total Credit Hours		12

¹ excluding any 100-level Management courses and MGT 401.

* **Note:** No one course may be applied toward more than one major and/or minor area of specialization in the Department of Management. All specific coursework for any minor in the Department of Management must be completed with a grade of "C" or higher. A minimum cumulative GPA of 2.5 is required for all specific coursework taken in the minor area of specialization.

Minor in Management for Non-Business Students

Minor Area of Specialization in Management for Non-Business Students (People & Society)

Non-Business students in any school or college may pursue a minor in Management. Interested students should consult with an academic advisor *in the School or College of their degree/major* to determine if a minor in Management is acceptable. If so, neither advice nor consent from either the Office of Undergraduate Business Education or the Management Department is necessary for a student to choose or complete a minor in Management. Instead the non-business student should simply declare the Management minor and complete the required 12 credit hours of Management courses, as follows:

Code	Title	Credit Hours
Required Courses ¹		
MGT 302	Human Resource Management	3
MGT 303	Operations Management ²	3
MGT 304	Organizational Behavior	3
Choice Course for the Minor ¹		
Select one course (3 credit hours) at the 300 - 400 level from the Department of Management. ³		3
Total Credit Hours		12

¹ All courses must be taken within the current pre-requisite structure.

² pre-requisite of a Statistics 1 course, such as MAS 201, MAS 311, IEN 311, MTH 224, or the equivalent.

³ excluding MGT 401

Note: No one course may be applied toward more than one minor area of specialization in the Department of Management. All specific coursework for any minor in the Department of Management must be completed with a grade of “C” or higher. A minimum cumulative GPA of 2.5 is required for all specific coursework taken in the minor area of specialization.

Management Science

Department Code: MAS

Introduction

Management Science uses the ideas and methods of science, mathematics, statistics, and computing, which collectively are often referred to as Business Analytics, to help managers make better business decisions. Management science techniques have been applied in a wide variety of areas including financial modeling, marketing research, organizational theory, transportation and logistics, health care, environmental protection, and manufacturing. Almost any decision can benefit from the methods of management science/analytics.

Educational Objectives

The Department of Management Science offers a major area of specialization in Business Analytics as well as a minor in Business Analytics. The Business Analytics curriculum is designed to give Miami Business School students the necessary educational background and experience to allow them to work as successful business analytics professionals. In addition to the general education, business, and economics courses of the Bachelor of Science in Business Administration degree program, the major in Business Analytics requires a solid background in the sciences and mathematics. Additionally, students are required to take sequences of courses in optimization, decision science, and data analytics. A number of the courses in the Business Analytics curriculum require projects, in which the student evaluates a real-world system or process. As the system is studied and modeled, the student applies management science methods to find ways to improve the process. In such a course, written and oral presentation of findings is part of the learning and evaluation process. A major or minor area of specialization in Business Analytics is recommended to qualified students as preparation for direct entry into the field of Analytics or as preparation for future graduate studies.

Major in Business Analytics

- B.S.B.A. in Business Analytics (p. 464)

Minor in Business Analytics

- Business Analytics (p. 467)

B.S.B.A. in Business Analytics

Curriculum Requirements

Major Area of Specialization in Business Analytics (STEM)

The Department of Management Science offers a major area of specialization in Business Analytics for students pursuing the Bachelor of Science in Business Administration degree. Students who choose the major area of specialization in Business Analytics are trained to combine quantitative, statistical, and computational tools and techniques to help companies understand, predict, and act on large amounts of data, improving decision-making in increasingly complex and interconnected business environments.

In addition to satisfying the University General Education Requirements and Electives, students pursuing the BSBA in Business Analytics must complete the BSBA Business Core and the specific coursework for the Business Analytics major area of specialization as follows:

Code	Title	Credit Hours
University General Education Requirements ¹		
ENG 105	English Composition I	3
ENG 106	English Composition II	3
UMX 100	The University of Miami Experience	0
Arts and Humanities Cognate Courses		9
People and Society Cognate Courses		9
Electives ²		16
BSBA Business Core Requirements ¹		
ACC 221 or ACC 211	Accelerated Principles of Financial Accounting Principles of Financial Accounting	3
ACC 222 or ACC 212	Accelerated Managerial Accounting Managerial Accounting	3
BSL 212	Introduction to Business Law	3

BTE 210	Fundamentals of Business Technology and Innovation	3
BTE 320	Introduction to Programming	3
BUS 101	First Step: Freshman Integrity, Responsibility, and Success through Teamwork	3
BUS 150	Business Analytics	3
BUS 300	Critical Thinking and Persuasion for Business ³	3
ECO 211	Principles of Microeconomics	3
ECO 212	Principles of Macroeconomics	3
FIN 302	Fundamentals of Finance	3
MAS 311	Applied Probability and Statistics (minimum grade of C- required)	3
MAS 312	Statistical Methods and Quality Control	3
MTH 161	Calculus I (minimum grade of C- required)	4
MTH 162	Calculus II	4
MGT 303	Operations Management	3
MGT 304	Organizational Behavior	3
MGT 401	Strategic Management (must be taken in the final semester)	3
MKT 201 or MKT 301	Foundations of Marketing Marketing Foundations	3
Quantitative Choice - Select one of these suggested courses approved by the academic advisor - check pre-requisites:		3
BTE 324	Object-Oriented Programming ⁵	
BTE 423	Database Management Systems ⁵	
ECO 430	Applied Econometrics	
ECO 510	Mathematical Economics and Applications	
MAS 342	Introduction to Optimization and Decision Making ⁶	
MAS 442	Stochastic Models in Operations Research ⁶	
MAS 547	Computer Simulation Systems ⁵	
MGT 445	Supply Chain Modeling and Analysis	
MGT 446	Supply Chain Strategy	
Major Area of Specialization in Business Analytics⁴		
MAS 332	Data Acquisition, Preparation and Visualization (pre-requisite MAS 202 or MAS 312; offered in the fall semester)	3
MAS 342	Introduction to Optimization and Decision Making (pre-requisites MTH 162 or MTH 172 & MAS 201 or MAS 311; offered in the fall semester) ⁶	3
MAS 432	Data Analysis (pre-requisite MAS 202 or MAS 312; offered in the spring semester)	3
MAS 442	Stochastic Models in Operations Research (pre-requisite MAS 311; offered in the spring semester) ⁶	3
Major Choice Courses - Select two courses (6 credit hours) from the following:		6
At least one course must be selected from MAS 547 or MAS 548.		
BTE 324	Object-Oriented Programming (pre-requisite BTE 320) ⁵	
BTE 423	Database Management Systems (pre-requisite BTE 320) ⁵	
MAS 547	Computer Simulation Systems (pre-requisite MAS 311; offered in the fall semester) ⁵	
MAS 548	Data Mining and Knowledge Acquisition (pre-requisite MAS 312; offered in the spring semester)	
Total Credit Hours		120

¹ **NOTE:** ENG 105 and ENG 106, or their equivalents, must be completed prior to attaining junior year classification, per the University General Education Requirements. Additionally, all 100 and 200-level Business Core courses must be completed by the end of the fifth semester of college work or during the semester in which the student is completing 75 credit hours.

² At least one course with an international focus must be completed within the degree requirements. The appropriateness of the course is determined by the academic advisor.

³ Students who do not earn at least a C- in ENG 106 must either repeat ENG 106 and earn at least a C- or complete ENG 230 with at least a C- before enrolling in BUS 300.

⁴ All specific coursework for the major area of specialization in Business Analytics must be completed with a grade of "C-" or higher. A minimum cumulative GPA of 2.5 is required for all specific coursework taken in the major area of specialization. All courses must be taken within the current pre-requisite structure.

⁵ may not double count as both the Quantitative Choice and a Major Choice unless Business Analytics is an additional major

⁶ may not double count as both the Quantitative Choice and the major requirement unless Business Analytics is an additional major

Sample Plan of Study

This Sample Plan of Study represents one possible version of a new freshman business student's 8-semester plan. The individual student's plan may vary depending upon the initial placement into English Composition and mathematics. Moreover, numerous plan variations are possible if a student enters the University with advanced college credits, wishes to participate in study abroad, chooses a special program option, or selects additional majors or minors.

Note that each major/minor at the University of Miami satisfies a particular "Area of Knowledge" within the general education requirements of the University. This means that it is possible to pursue two majors, or a major and a minor, within the Business School and fulfill both the STEM and People and Society Areas of Knowledge; a separate cognate in these areas would not be required. The only remaining general education Area of Knowledge is Arts and Humanities, which must be completed through a major, minor, or cognate outside of the Business School.

Students construct their individualized plans in collaboration with their assigned academic advisor.

Course	Title	Credit Hours
Freshman Year		
Fall		
BUS 101	First Step: Freshman Integrity, Responsibility, and Success through Teamwork	3
BUS 150	Business Analytics	3
ENG 105	English Composition I	3
MKT 201	Foundations of Marketing	3
MTH 161	Calculus I	4
UMX 100	The University of Miami Experience	0
	Credit Hours	16
Spring		
ACC 221	Accelerated Principles of Financial Accounting	3
BSL 212	Introduction to Business Law	3
ENG 106	English Composition II	3
MTH 162	Calculus II	4
Arts and Humanities Cognate Course		3
	Credit Hours	16
Sophomore Year		
Fall		
ACC 222	Accelerated Managerial Accounting	3
BTE 210	Fundamentals of Business Technology and Innovation	3
ECO 211	Principles of Microeconomics	3
MAS 311	Applied Probability and Statistics	3
Arts and Humanities Cognate Course		3
	Credit Hours	15
Spring		
ECO 212	Principles of Macroeconomics	3
FIN 302	Fundamentals of Finance	3
MAS 312	Statistical Methods and Quality Control	3
MGT 304	Organizational Behavior	3
Arts and Humanities Cognate Course		3
	Credit Hours	15

Junior Year		
Fall		
BUS 300	Critical Thinking and Persuasion for Business	3
MAS 332	Data Acquisition, Preparation and Visualization	3
MAS 342	Introduction to Optimization and Decision Making	3
People and Society Cognate Course		3
Elective		3
Credit Hours		15
Spring		
BTE 320	Introduction to Programming	3
MAS 432	Data Analysis	3
MAS 442	Stochastic Models in Operations Research	3
People and Society Cognate Course		3
Elective		3
Credit Hours		15
Senior Year		
Fall		
MGT 303	Operations Management	3
Business Analytics Major Choice		3
People and Society Cognate Course		3
Elective		3
Elective		3
Credit Hours		15
Spring		
MGT 401	Strategic Management	3
Business Analytics Major Choice		3
Quantitative Choice Course		3
Elective		3
Elective		1
Credit Hours		13
Total Credit Hours		120

Minor in Business Analytics

Minor Area of Specialization in Business Analytics (STEM)

Miami Business School students who choose the minor area of specialization in Business Analytics are trained to combine quantitative, statistical, and computational tools and techniques to help companies understand, predict, and act on large amounts of data, improving decision-making in increasingly complex and interconnected business environments.

The 12-credit-hour minor in Business Analytics consists of the following:

Code	Title	Credit Hours
Required Courses ¹		
MAS 332	Data Acquisition, Preparation and Visualization (pre-requisite MAS 202 or MAS 312 or equivalent) ²	3
MAS 342	Introduction to Optimization and Decision Making (pre-requisites MTH 162 or equivalent & MAS 201 or MAS 311 or equivalent) ²	3
MAS 432	Data Analysis (pre-requisite MAS 202 or MAS 312 or equivalent) ³	3
MAS 442	Stochastic Models in Operations Research (pre-requisite MAS 311 or equivalent) ³	3
Total Credit Hours		12

¹ All courses must be taken within the current pre-requisite structure. In order to complete this minor, students will need pre-requisite courses of MTH 162, MAS 311, and MAS 312 or their equivalents.

² offered in fall semester

³ offered in spring semester

* **Note:** All specific coursework for the minor in Business Analytics must be completed with a grade of “C-” or better. In addition, a minimum cumulative GPA of 2.5 is required for all specific coursework taken in the minor area of specialization.

Marketing

Department Code: MKT

Introduction

Rapidly increasing global competition, emergence of new markets, and technological advancements make today’s marketplace a highly dynamic and challenging environment for companies. Effective marketing is therefore crucial for organizations to survive and prosper in such an environment. Marketing is the process through which organizations develop and distribute products and services that satisfy the needs of customers. Customer satisfaction is critical to the profitable operations and growth of organizations and, as such, an integral component of modern-day marketing.

Educational Objectives

The primary goals of the Department of Marketing are:

1. to contribute to marketing knowledge through conducting scholarly research and disseminating the research findings through leading journals;
2. to excel in imparting marketing knowledge to students and honing their critical-thinking skills so as to prepare them for potentially successful careers in an increasingly competitive, dynamic, global, and service-and technology-oriented environment; and
3. to be of service to the business and professional communities at large.

The marketing curriculum offers courses and programs to undergraduate and graduate students for their professional development in domestic and world business.

A program of study in marketing offers students better understanding of and insights into:

- Marketing’s role within the organization and society;
- The various “markets” for goods and services through better identification and analysis of consumer needs, wants, and interests;
- Marketers’ legal and ethical responsibility to society;
- Methods, procedures, and techniques used in planning and managing marketing decisions.

Major in Marketing

- B.B.A. in Marketing (p. 468)
- B.S.B.A. in Marketing (p. 471)

Minor in Marketing

- Marketing for Business Students (p. 475)
- Marketing for Non-Business Students (p. 475)

B.B.A. in Marketing

The Marketing major area of specialization provides business students with an understanding of the basic concepts of marketing with an emphasis on emerging techniques and technologies. This major area of specialization prepares students to practice marketing in a changing competitive environment. Specifically, it covers the 4 Ps of marketing (i.e., product/service, price, promotion and place/distribution) from a managerial perspective.

Additionally, the marketing program of study is flexible, allowing students to concentrate on specific areas of professional pursuit such as sales management, advertising, retailing, or marketing research.

A program of study in marketing offers business students a comprehensive understanding of such topics as:

- Marketing’s critical role within organizations;
- Identification of markets for products and services through better understanding and analysis of consumers’ wants and needs;
- The nature of global competition and identification of viable competitive strategies;
- Methods used in planning and implementing marketing strategies;
- The legal and ethical responsibilities of marketers.

Curriculum Requirements

Major Area of Specialization in Marketing (People & Society)

In addition to satisfying the University General Education Requirements and Electives, students pursuing the BBA in Marketing must complete the BBA Business Core and the specific coursework for the Marketing major area of specialization as follows:

Code	Title	Credit Hours
University General Education Requirements ¹		
ENG 105	English Composition I	3
ENG 106	English Composition II	3
UMX 100	The University of Miami Experience	0
Arts and Humanities Cognate Courses		9
STEM Cognate Courses		9
Electives ²		30
BBA Business Core Requirements ¹		
ACC 211	Principles of Financial Accounting	3
ACC 212	Managerial Accounting	3
BSL 212	Introduction to Business Law	3
BTE 210	Fundamentals of Business Technology and Innovation	3
BUS 101	First Step: Freshman Integrity, Responsibility, and Success through Teamwork	3
BUS 150	Business Analytics	3
BUS 300	Critical Thinking and Persuasion for Business ³	3
ECO 211	Principles of Microeconomics (Microeconomics)	3
ECO 212	Principles of Macroeconomics (Macroeconomics)	3
FIN 302	Fundamentals of Finance	3
MAS 110	Quantitative Applications in Business (Minimum grade of C- required)	3
or MTH 161	Calculus I	
MAS 201	Introduction to Business Statistics (Minimum grade of C- required)	3
MAS 202	Intermediate Business Statistics	3
MGT 303	Operations Management	3
MGT 304	Organizational Behavior	3
MGT 401	Strategic Management (must be taken in the final semester)	3
MKT 201	Foundations of Marketing	3
or MKT 301	Marketing Foundations	
Major Area of Specialization in Marketing ^{4, 5}		
MKT 201	Foundations of Marketing (taken as part of the Business Core; pre-requisite for all other MKT courses) ⁶	
or MKT 301	Marketing Foundations	
MKT 302	Marketing Research and Market Analysis (pre-requisites MKT 201/ MKT 301 & MAS 202 or MAS 312)	3
MKT 403	Marketing Management (pre-requisite FIN 302 and pre- or co-requisite of MKT 302)	3
Major Choice Courses - Select three MKT courses (9 credit hours). At most, one course (3 credit hours) identified as STEM may be selected from the available choice courses.		9
MKT 310	Consumer Behavior and Marketing Strategy	
MKT 320	Retailing	
MKT 340	Professional Selling	
MKT 350	Luxury Marketing	
MKT 360	International Marketing	
MKT 380	New Product Development	
MKT 385	Marketing for Entrepreneurs	
MKT 386	Advertising Management	

MKT 387	Digital Marketing	
MKT 388	Health Care Marketing	
MKT 389	Fundamentals of Digital Marketing Analytics	
MKT 469	International Marketing Management (pre-requisite MKT 360 and pre- or co-requisite of MKT 302)	
MKT 498	Special Topics in Marketing (People and Society Topics)	
MKT 499	Special Topics in Marketing (STEM topics - only 3 credit hours permitted from this area)	
Total Credit Hours		120

- 1 **NOTE:** ENG 105 and ENG 106 , or their equivalents, must be completed prior to attaining junior year classification, per the University General Education Requirements. Additionally, all 100 and 200-level Business Core courses must be completed by the end of the fifth semester of college work or during the semester in which the student is completing 75 credit hours.
- 2 At least one course with an international focus must be completed within the degree requirements. The appropriateness of the course is determined by the academic advisor.
- 3 Students who do not earn at least a C- in ENG 106 must either repeat ENG 106 and earn at least a C- or complete ENG 230 with at least a C- before enrolling in BUS 300.
- 4 In order to pursue a major area of specialization in Marketing, a student must earn a grade of "B" (grade point of 3.0) or higher in MKT 201/MKT 301 (note that a grade of B- does not qualify).
- 5 All specific coursework for the major area of specialization in Marketing must be completed with a grade of "C-" or higher (except for the minimum "B" grade required for MKT 201/MKT 301 as noted). A minimum cumulative GPA of 2.5 is required for all specific coursework taken in the major area of specialization. All graded departmental courses in Marketing will be calculated into the major GPA. All courses must be completed within the current pre-requisite structure.
- 6 MKT 201 is intended for freshman business students only. MKT 301 is an equivalent course, but is intended for students at the sophomore level or higher. Students may not take both MKT 201 and MKT 301.

Sample Plan of Study

This Sample Plan of Study represents one possible version of a new freshman business student's 8-semester plan. The individual student's plan may vary depending upon the initial placement into English Composition and mathematics. Moreover, numerous plan variations are possible if a student enters the University with advanced college credits, wishes to participate in study abroad, chooses a special program option, or selects additional majors or minors.

Note that each major/minor at the University of Miami satisfies a particular "Area of Knowledge" within the general education requirements of the University. This means that it is possible to pursue two majors, or a major and a minor, within Miami Business School and fulfill both the STEM and People and Society Areas of Knowledge; a separate cognate in these areas would not be required. The only remaining general education Area of Knowledge is Arts and Humanities, which must be completed through a major, minor, or cognate outside of Miami Business School.

Students construct their individualized plans in collaboration with their assigned academic advisor.

Course	Title	Credit Hours
Freshman Year		
Fall		
BUS 101	First Step: Freshman Integrity, Responsibility, and Success through Teamwork	3
ENG 105	English Composition I	3
MAS 110 or MTH 161	Quantitative Applications in Business or Calculus I	3
MKT 201	Foundations of Marketing	3
UMX 100	The University of Miami Experience	0
Arts and Humanities Cognate Course		3
		Credit Hours
		15
Spring		
BSL 212	Introduction to Business Law	3
BUS 150	Business Analytics	3
ENG 106	English Composition II	3
MAS 201	Introduction to Business Statistics	3

Arts and Humanities Cognate Course		3
	Credit Hours	15
Sophomore Year		
Fall		
ACC 211	Principles of Financial Accounting	3
BTE 210	Fundamentals of Business Technology and Innovation	3
ECO 211	Principles of Microeconomics	3
MAS 202	Intermediate Business Statistics	3
Arts and Humanities Cognate Course		3
	Credit Hours	15
Spring		
ACC 212	Managerial Accounting	3
ECO 212	Principles of Macroeconomics	3
FIN 302	Fundamentals of Finance	3
MGT 304	Organizational Behavior	3
Marketing Major Choice		3
	Credit Hours	15
Junior Year		
Fall		
BUS 300	Critical Thinking and Persuasion for Business	3
Marketing Major Choice		3
STEM Cognate Course		3
Elective		3
Elective		3
	Credit Hours	15
Spring		
MGT 303	Operations Management	3
Marketing Major Choice		3
STEM Cognate Course		3
Elective		3
Elective		3
	Credit Hours	15
Senior Year		
Fall		
MKT 302	Marketing Research and Market Analysis	3
STEM Cognate Course		3
Elective		3
Elective		3
Elective		3
	Credit Hours	15
Spring		
MGT 401	Strategic Management	3
MKT 403	Marketing Management	3
Elective		3
Elective		3
Elective		3
	Credit Hours	15
	Total Credit Hours	120

B.S.B.A. in Marketing

The Marketing major area of specialization provides business students with an understanding of the basic concepts of marketing with an emphasis on emerging techniques and technologies. This major area of specialization prepares students to practice marketing in a changing competitive

environment. Specifically, it covers the 4 Ps of marketing (i.e., product/service, price, promotion and place/distribution) from a managerial perspective. Additionally, the marketing program of study is flexible, allowing business students to concentrate on specific areas of professional pursuit such as sales management, advertising, retailing, or marketing research.

A program of study in marketing offers students a comprehensive understanding of such topics as:

- The critical role within organizations;
- Identification of markets for products and services through better understanding and analysis of consumers' wants and needs;
- The nature of global competition and identification of viable competitive strategies;
- Methods used in planning and implementing marketing strategies;
- The legal and ethical responsibilities of marketers.

Curriculum Requirements

Major Area of Specialization in Marketing (People & Society)

In addition to satisfying the University General Education Requirements and Electives, students pursuing the BSBA in Marketing must complete the BSBA Business Core and the specific coursework for the Marketing major area of specialization as follows:

Code	Title	Credit Hours
University General Education Requirements ¹		
ENG 105	English Composition I	3
ENG 106	English Composition II	3
UMX 100	The University of Miami Experience	0
Arts and Humanities Cognate Courses		9
STEM Cognate Courses		9
Electives ²		19
BSBA Business Core Requirements ¹		
ACC 221 or ACC 211	Accelerated Principles of Financial Accounting Principles of Financial Accounting	3
ACC 222 or ACC 212	Accelerated Managerial Accounting Managerial Accounting	3
BSL 212	Introduction to Business Law	3
BTE 210	Fundamentals of Business Technology and Innovation	3
BTE 320	Introduction to Programming	3
BUS 101	First Step: Freshman Integrity, Responsibility, and Success through Teamwork	3
BUS 150	Business Analytics	3
BUS 300	Critical Thinking and Persuasion for Business ³	3
ECO 211	Principles of Microeconomics	3
ECO 212	Principles of Macroeconomics	3
FIN 302	Fundamentals of Finance	3
MAS 311	Applied Probability and Statistics (minimum grade of C- required)	3
MAS 312	Statistical Methods and Quality Control	3
MTH 161	Calculus I (minimum grade of C- required)	4
MTH 162	Calculus II	4
MGT 303	Operations Management	3
MGT 304	Organizational Behavior	3
MGT 401	Strategic Management (must be taken in the final semester)	3
MKT 201 or MKT 301	Foundations of Marketing Marketing Foundations	3
Quantitative Choice - Select one of these suggested courses approved by the academic advisor - check pre-requisites:		3
BTE 324	Object-Oriented Programming	
BTE 423	Database Management Systems	
ECO 430	Applied Econometrics	
ECO 510	Mathematical Economics and Applications	

MAS 342	Introduction to Optimization and Decision Making	
MAS 442	Stochastic Models in Operations Research	
MAS 547	Computer Simulation Systems	
MGT 445	Supply Chain Modeling and Analysis	
MGT 446	Supply Chain Strategy	
Major Area of Specialization in Marketing ^{4, 5}		
MKT 201	Foundations of Marketing (taken as part of the Business Core; pre-requisite for all other MKT courses) ⁶	
or MKT 301	Marketing Foundations	
MKT 302	Marketing Research and Market Analysis (pre-requisites MKT 201/ MKT 301 & MAS 202 or MAS 312)	3
MKT 403	Marketing Management (pre-requisite FIN 302 and pre- or co-requisite of MKT 302)	3
Major Choice Courses - Select three MKT courses (9 credit hours). At most, one course (3 credit hours) identified as STEM may be selected from the available choice courses.		9
MKT 310	Consumer Behavior and Marketing Strategy	
MKT 320	Retailing	
MKT 340	Professional Selling	
MKT 350	Luxury Marketing	
MKT 360	International Marketing	
MKT 380	New Product Development	
MKT 385	Marketing for Entrepreneurs	
MKT 386	Advertising Management	
MKT 387	Digital Marketing	
MKT 388	Health Care Marketing	
MKT 389	Fundamentals of Digital Marketing Analytics	
MKT 469	International Marketing Management (pre-requisite of MKT 360 and pre- or co-requisite of MKT 302)	
MKT 498	Special Topics in Marketing (People and Society)	
MKT 499	Special Topics in Marketing (STEM Topics - only 3 credit hours permitted from this area)	
Total Credit Hours		120

¹ **NOTE:** ENG 105 and ENG 106, or their equivalents, must be completed prior to attaining junior year classification, per the University General Education Requirements. Additionally, all 100 and 200-level Business Core courses must be completed by the end of the fifth semester of college work or during the semester in which the student is completing 75 credit hours.

² At least one course with an international focus must be completed within the degree requirements. The appropriateness of the course is determined by the academic advisor.

³ Students who do not earn at least a C- in ENG 106 must either repeat ENG 106 and earn at least a C- or complete ENG 230 with at least a C- before enrolling in BUS 300.

⁴ In order to pursue a major area of specialization in Marketing, a student must earn a grade of "B" (grade point of 3.0) or higher in MKT 201/MKT 301 (note that a grade of B- does not qualify).

⁵ All specific coursework for the major area of specialization in Marketing must be completed with a grade of "C-" or higher (except for the minimum "B" grade required for MKT 201/MKT 301 as noted). A minimum cumulative GPA of 2.5 is required for all specific coursework taken in the major area of specialization. All graded departmental courses in Marketing will be calculated into the major GPA. All courses must be completed within the current pre-requisite structure.

⁶ MKT 201 is intended for freshman business students only. MKT 301 is an equivalent course, but is intended for students at the sophomore level or higher. Students may not take both MKT 201 and MKT 301.

Sample Plan of Study

This Sample Plan of Study represents one possible version of a new freshman business student's 8-semester plan. The individual student's plan may vary depending upon the initial placement into English Composition and mathematics. Moreover, numerous plan variations are possible if a student enters the University with advanced college credits, wishes to participate in study abroad, chooses a special program option, or selects additional majors or minors.

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Students construct their individualized plans in collaboration with their assigned academic advisor.

Course	Title	Credit Hours
Freshman Year		
Fall		
BSL 212	Introduction to Business Law	3
BUS 101	First Step: Freshman Integrity, Responsibility, and Success through Teamwork	3
ENG 105	English Composition I	3
MKT 201	Foundations of Marketing	3
MTH 161	Calculus I	4
UMX 100	The University of Miami Experience	0
	Credit Hours	16
Spring		
ACC 221	Accelerated Principles of Financial Accounting	3
BUS 150	Business Analytics	3
ENG 106	English Composition II	3
MTH 162	Calculus II	4
Arts and Humanities Cognate Course		3
	Credit Hours	16
Sophomore Year		
Fall		
ACC 222	Accelerated Managerial Accounting	3
BTE 210	Fundamentals of Business Technology and Innovation	3
ECO 211	Principles of Microeconomics	3
MAS 311	Applied Probability and Statistics	3
Arts and Humanities Cognate Course		3
	Credit Hours	15
Spring		
ECO 212	Principles of Macroeconomics	3
FIN 302	Fundamentals of Finance	3
MAS 312	Statistical Methods and Quality Control	3
Arts and Humanities Cognate Course		3
Marketing Major Choice		3
	Credit Hours	15
Junior Year		
Fall		
BTE 320	Introduction to Programming	3
BUS 300	Critical Thinking and Persuasion for Business	3
MGT 304	Organizational Behavior	3
Marketing Major Choice		3
Elective		3
	Credit Hours	15
Spring		
MGT 303	Operations Management	3
Marketing Major Choice		3
STEM Cognate Course		3
Elective		3

Elective		3
	Credit Hours	15
Senior Year		
Fall		
MKT 302	Marketing Research and Market Analysis	3
Quantitative Choice Course		3
STEM Cognate Course		3
Elective		3
Elective		3
	Credit Hours	15
Spring		
MGT 401	Strategic Management	3
MKT 403	Marketing Management	3
STEM Cognate Course		3
Elective		3
Elective		1
	Credit Hours	13
	Total Credit Hours	120

Minor in Marketing for Business Students

Minor Area of Specialization in Marketing for Business Students (People & Society)

The 12-credit-hour minor in Marketing for Miami Business School students consists of 9 credit hours of Marketing courses beyond the core course MKT 201/MKT 301, as follows:

Code	Title	Credit Hours
Core Course		
MKT 201/ or MKT 301	Foundations of Marketing (taken as part of the Business Core; pre-requisite for all other MKT courses) ^{1, 2} Marketing Foundations	
Choice Courses for the Minor		
Select three courses (9 credit hours) from the Department of Marketing ³		9
Total Credit Hours		9

¹ **Important Note:** In order to pursue the minor in Marketing, a student must earn a grade of "B" (grade point average of 3.0) or higher in MKT 201/MKT 301 (note that a grade of "B-" does not qualify).

² MKT 201 is intended for freshman business students. MKT 301 is an equivalent course, but is intended for students at the sophomore level or higher. Students may not take both MKT 201 and MKT 301.

³ All courses must be taken within the current pre-requisite structure.

* **Note:** All specific coursework for the minor in Marketing must be completed with a grade of "C-" or higher (except for the minimum "B" grade required for MKT 201/MKT 301, as noted). A minimum cumulative GPA of 2.5 is required for all specific coursework taken in this minor area of specialization. All graded departmental courses in Marketing will be calculated into the minor GPA.

Minor in Marketing for Non-Business Students

Minor Area of Specialization in Marketing for Non-Business Students (People & Society)

Non-Business students in any school or college may pursue a minor in Marketing. Interested students should consult with an academic advisor *in the School or College of their degree/major* to determine if a minor in Marketing is acceptable. If so, neither advice nor consent from either the Office of Undergraduate Business Education or the Marketing Department is necessary for a student to choose or complete a Marketing minor. Instead the non-business student should simply declare the minor and complete the required 12 credit hours of Marketing courses, as follows:

Code	Title	Credit Hours
Required Course		
MKT 301	Marketing Foundations (pre-requisite for all other MKT courses) ¹	3
Choice Courses for the Minor		

Select three courses (9 credit hours) from the Department of Marketing. ²	9
Total Credit Hours	12

- ¹ **Important Note:** In order to pursue the minor in Marketing, a student must earn a grade of "B" (grade point average of 3.0) or higher in MKT 301 (note that a grade of "B-" does not qualify).
- ² All courses must be taken within the current pre-requisite structure.
- * **Note:** All specific coursework for the minor in Marketing must be completed with a grade of "C-" or higher (except for the minimum "B" grade required for MKT 301, as noted). A minimum cumulative GPA of 2.5 is required for all specific coursework taken in this minor area of specialization. All graded departmental courses in Marketing will be calculated into the minor GPA.

Communication

<http://www.com.miami.edu/>

Introduction

The School of Communication houses four departments that offer courses in nine majors leading to the Bachelor of Science in Communication degree. The departments are: Cinema and Interactive Media (Motion Pictures, Interactive Media), Communication Studies (Communication Studies), Journalism and Media Management (Broadcast Journalism, Electronic Media, Journalism, Media Management), and Strategic Communication (Advertising, Public Relations). In addition, the Master of Arts, Master of Fine Arts, and Doctor of Philosophy degrees are offered in the School.

Students engage with a diverse faculty of communication scholars, artists and professionals in a variety of hands-on learning experiences embracing research, writing, production, creative problem-solving and multimedia storytelling. On-campus television and radio facilities, soundstages and multimedia labs are available for academic and extra curricular student projects. Students utilize contemporary digital imaging technology and learn skills that cut across a variety of media platforms. Digital editing, recording and mixing facilities are available. New media technology is incorporated throughout the curriculum and the School has numerous computer labs and digitally “smart” classrooms.

The School houses a film soundstage and two fully digital, high-definition television studios and state of the art control rooms. Two video-conference centers with broadcast-quality interactive capability for remote interviews and programming support the School's mission. In addition, a fiber-optic linked studio allows for real-time, broadcast-quality transmissions to sites around the world. Under Communication faculty supervision, student-produced programming is distributed through the University's cable facility and carried throughout the community by the local cable operator and is available through online streaming. The School operates several online sites that afford students outlets for multimedia, interactive and cross-platform writing, research, reporting and creative work.

The University's FM radio station, and student online and print newspapers and magazines, offer additional opportunities for career development. The Bill Cosford Cinema, a 240-seat movie theatre, supports the Motion Picture Program and offers film programming for the Miami community. The School's Norton Herrick Center for Motion Picture Studies is dedicated to research into the history and aesthetics of motion pictures and their social and cultural impact.

The School's Center for Communication, Culture, and Change focuses on promoting positive social and behavioral change through communication research. The Center seeks to address urgent social issues, and make a positive difference in people's lives.

The Koenigsberg & Nadal Interactive Media Center facilitates collaborative education for School of Communication students. With the latest technology seamlessly integrated into a flexible co-working space, students in the Interactive Media Center can easily work together and share their knowledge with one another. Whether students are using the dry erase walls to strategize a research project or touch-screen monitor to showcase their creative concepts to a client, the Interactive Media Center provides a student-driven and innovative experiential learning ecosystem unique to the School of Communication. In this space, groundbreaking ideas are born and innovative visions are able to come to life across all disciplines.

The School supports student chapters of the American Advertising Association, the Public Relations Society of America, the Society of Professional Journalists, the National Broadcasting Society, the University Film and Video Association and other professional organizations. In addition, the School sponsors a nationally competitive intercollegiate debate team, which annually produces several members of the All American Debate Team.

Internships in professional settings are available to Communication students at the sophomore, junior and senior levels. Professionals at daily and weekly newspapers, magazines, news bureaus, cable systems, radio and television stations and networks, production houses and motion picture studios cooperate in faculty-supervised internships. Executives of city and county governments, advertising agencies, public relations firms and other business and nonprofit organizations join in providing internship opportunities. The Stein Family Office of Career Services and Internships assists students seeking internships and offers career planning services. Summer and semester-length study abroad opportunities are also available.

Mission

The School of Communication is dedicated to a global educational perspective and is committed to providing a socially responsible and ethically grounded learning environment guided by a diverse faculty of scholars, artists and professionals. The School is committed to quality undergraduate and graduate programs in communication that emphasize the relationship between theory and practice. We believe in freedom of expression and creativity, and encourage both collaboration and independent thinking as we prepare future scholars, professionals and leaders for a lifetime of service and learning.

Accreditation

The University of Miami is accredited by:

The Southern Association of Colleges and Schools
1866 Southern Lane
Decatur, GA 30033-4097

Academic Policies

Internal Transfer into the School of Communication

A student enrolled at the University of Miami in a School or College other than the School of Communication may apply for admission into the School. Applications are accepted throughout the year. A minimum overall grade point average of 2.5 is necessary for consideration. Applications are available in the Admissions, Academic & Alumni Services Office of the School of Communication (2037 Wolfson Building) and must be submitted prior to the end of each semester. Admission decisions will be made promptly after semester grades are final. Students will be notified in writing of the School's decision.

Transfer Students

A transfer student must complete in residence a minimum of 18 credit hours toward a Communication major or a minimum of 9 credit hours toward a Communication minor. Courses taken elsewhere in Communication or related disciplines are not automatically accepted toward a major or minor at the University of Miami. Students who have obtained the written approval of the the appropriate department chair to use transfer credit hours to satisfy one or more requirements of that major may be required to complete additional courses in residence at the University before being admitted to that major. Students should consult a School of Communication advisor to determine whether the transfer of Communication courses will increase beyond 120 the total number of credit hours required for a degree. In general, transfer credit hours will not be accepted to satisfy requirements for any course in any major or minor at the 300-level or above. Student petitions to transfer credit hours will be considered on an individual basis.

Transfer credit hours may not be used to satisfy requirements for any major or minor in Communication without the written approval of the Chair of the program concerned.

Academic Progress & Probation/Dismissal

Students must maintain a grade point average (GPA) of 2.5 or higher in courses taken in residence and submitted for their School of Communication major. Following the first semester in which any student's GPA in the major falls below a 2.5, the School may issue a warning to that student that his or her work does not meet School expectations. Should that student's GPA in the major be below a 2.5 in any subsequent semester, he or she may be placed on Academic Probation. The School may dismiss from the University any student who is on probation a total of two semesters (not necessarily consecutive). A student who has been dismissed from the School may apply for admission to one of the other Schools or Colleges within the University, but will not be readmitted to the School of Communication.

Those who wish to appeal their probation or dismissal must do so in writing to the Dean within 30 days of the notice of probation or dismissal.

Internship Credit Hours

All programs allow students to complete multiple internships for academic credit. Students should consult with their faculty advisor or the School's academic advising office for their department's specific internship credit hour policies.

Credit Hours and Advanced Placement Credit

Credit hours may be earned through Advanced Placement, IB, CLEP Examinations and Advanced Placement by Proficiency Examinations. These credit hours may be applied to the appropriate General Education Required Areas of Study or as electives except:

1. where prohibited by the University or a specific program area; or
2. if the course is remedial (e.g., ENG 103, MTH 099).

To earn credit hours, each student must pay a recording fee and have exempted course credit hours entered on his or her University transcript. An exemption may be granted for ENG 105 by the Department of English, but this exemption will not earn credit hours toward the 120 University credit hours required for graduation.

Grade Point Average

A candidate for the Bachelor of Science in Communication (B.S.C.) must complete the credit hours and achieve the grade point average specified for students in the University at large as stated in the section titled ACADEMIC PROCEDURES AND INFORMATION, subject to additional requirements specified in School and Program sections.

General Education Requirements

In April 2012, the University of Miami Faculty Senate adopted a new set of General Education Requirements (GERs). The new Cognate Program of General Education was implemented in the 2013-2014 academic year (AY 2014).

Please note, students completing majors and minors within the same department may only satisfy one required cognate area of study.

See GENERAL EDUCATIONAL REQUIREMENTS.

Degree Programs

The School of Communication offers courses in nine programs of study leading to the degree Bachelor of Science in Communication. The programs are Advertising, Public Relations, Communication Studies, Electronic Media, Broadcast Journalism, Journalism, Media Management, Interactive Media, and Motion Pictures.

Minors

The School of Communication offers minors in its nine programs of study and a general minor in Communication (COM). School of Communication students may complete a minor in a specific program of study, but are not eligible for the general minor in Communication.

Concentrations

Most degree programs offer concentrations or tracks of study in specialty areas. See the individual program sections for details on these concentrations.

Requirements for Graduation with a Bachelor of Science Degree in Communication

Required University General Education Requirements

The General Education Requirements provide students with the opportunity to study methodologies and achievements in all areas of human inquiry and creative endeavor, and to cultivate abilities essential for the acquisition of knowledge. The Areas of Proficiency requirements ensure that students either already possess, or develop at the University, the ability to express themselves effectively, to use mathematics with facility, and to reason cogently. The Areas of Knowledge requirement is designed to help students understand and appreciate intellectual achievements in major areas of human inquiry and creative endeavor.

All School of Communication students must complete the University's General Education Requirements. These requirements can be found in the General Education Requirements section. Note that the General Education Requirements differ for incoming freshmen and transfer students.

Completion of each School of Communication major or minor fulfills one of the three cognate areas required by the University: People & Society, Arts & Humanities and STEM. (See individual program descriptions below identifying the specific cognate area covered.)

Students completing a second major or minor in the School which fulfills a cognate area different from their first major, and offered in a different department, may apply the second major or minor toward a second cognate area. No course submitted toward a School of Communication major or minor used to fulfill a University cognate may be applied toward any other cognate area. No more than two cognate areas may be completed in the School of Communication.

Students should meet with their advisors for assistance in completing all University and School requirements.

Developing Proficiency in Advanced Writing and Communication Skills

By their nature, Schools of Communication aspire to help students understand communication processes and develop high-level skills in writing, oral presentation and the use of digital communication technologies for crafting meaningful and effective messages. To fulfill the University's Advanced Writing and Communication Skills requirement, all students enrolled in one of the eight undergraduate majors offered by the School will be required to complete their program's core writing course, at least one public speaking/presentational skills course, and one digital skills course.

Major/Minor Requirements

In addition to completing a major in the School of Communication, students must also complete a minor (or a second major) in either a second Program of Study within the School or in an academic program outside of the School. Students completing majors and/or minors in the School must complete all School of Communication courses with grades of C or higher (a grade of C- or lower is not acceptable.) Students may not enroll in a School of Communication course without grades of C or higher in prerequisite courses. Students completing a minor or second major outside the School of Communication should consult this Bulletin for minimum grade requirements.

The Major in the School of Communication

Majors in the School of Communication leading to a Bachelor of Science in Communication require between 36 and 42 credit hours in School of Communication courses specified in Program Statements (below). Courses within each major must be completed with a grade of C or higher (a grade of C- or lower is not acceptable.) In addition, students must maintain a grade point average of 2.5 or higher in courses taken in residence and submitted for their School of Communication majors.

The Minor

Each Communication student, in addition to completing requirements for a Communication major, must complete a minor field in either a second Program of Study within the School or in an academic program outside the School. Each course submitted for a minor offered in the School of Communication must be completed with a grade of C or higher (a grade of C- or lower is not acceptable). To find the requirements for a given minor, students should consult this Bulletin and confer with the appropriate department representative.

School of Communication advisors will aid students in identifying appropriate minors. The candidate for a Communication degree may choose from among any of the disciplines offering minors at the University for which they may qualify. The choice of a minor should be made no later than the beginning of the junior year and must be approved by the discipline concerned.

The Second Major Option

Students may choose to complete a second major, either within the School or in an academic program outside the School, in place of the minor requirement. Some second majors are impractical within the minimum 120 credit hours degree program. Students should consult with a Communication advisor before selecting a second major. The choice of a second major should be made no later than the beginning of the junior year and must be approved by the discipline concerned.

Double Counting

Students completing a major and a minor in the School of Communication, or two majors within the School of Communication, may count only COM 250 toward both Programs of Study. No other course duplication is allowed. Students should consult with the Department Chair of the minor or second major for acceptable course substitutions where appropriate.

Upper Division Credit Hours

In earning a Bachelor of Science in Communication, each School of Communication student must complete a minimum of 36 credit hours of course work at the 300-level or above. Upper division transfer credit hours also apply if completed at a four-year institution and if approved by the Department Chair.

Electives

Only Free Elective courses may be taken under the University's Credit Only option. Free Electives are defined as courses not taken to fulfill the requirements of the major within the School of Communication, of the second major or minor, or of the School's General Education Requirements. Free Electives are courses that are not taken to meet any of the above requirements or their prerequisites, but taken solely to meet the requirement of a minimum total of 120 credit hours for the degree.

General Electives

A sufficient number of University electives must be completed to fulfill a minimum total of 120 credit hours. Electives may be chosen from any course offered by the University except certain unapproved courses such as:

Code	Title	Credit Hours
DAN 102	Stretching and Body Work	1
ENG 103	Basic Academic Writing	3
MTH 099	Intermediate Algebra	3
UMI Toppel Internship at any level		1

Students should consult a School of Communication advisor before selecting elective courses. Because specific courses are required in some School of Communication majors, students are advised to read Program Statements carefully and seek the advice of a School of Communication advisor prior to taking general University electives.

Schedules

Fifteen to sixteen credit hours constitute a normal semester schedule in the School of Communication. Students who wish to register for more than 18 credit hours must obtain prior approval from the Office of Admissions, Academic & Alumni Services (2037 Wolfson Building). Students who are on academic probation will be limited to a maximum of 13 credit hours.

Honors

School of Communication students may graduate with School Honors in Communication noted upon their diplomas and transcripts. Students must contact the School's Office of Admissions, Academic & Alumni Services (2037 Wolfson Building) for details about the School of Communication Honors Program.

Students may receive recognition as graduates cum laude, magna cum laude, or summa cum laude if they meet the requirements set forth under graduation honors.

General Information

The Foote Fellows Honors Program recognizes the most educationally accomplished incoming students at the University of Miami. Foote Fellows have distinguished themselves both in and out of the classroom at their previous schools, are self-motivated, and think independently. Admission to the Foote Fellows Honors Program is by invitation.

Foote Fellows are exempt from the Cognates Program of General Education requirements. Within the curricular framework of their school or college, Foote Fellows enjoy unmatched freedom and flexibility to explore a multitude of educational resources. Many Foote Fellows leverage this opportunity to take additional majors and/or minors and to study abroad.

At each of the nine undergraduate schools at the University of Miami, a dedicated advisor helps Foote Fellows chart their academic path and attain access to distinctive learning opportunities at the University, such as special school-based seminars, faculty-mentored research, networking opportunities, and off-campus internships.

Foote Fellows also will be invited to join advanced, interdisciplinary Foote Fellow seminars taught by leading faculty members from across the University. An example is Books That Matter, a rigorous seminar in non-fiction reading that is offered in sessions for first-year and for upper-class students. Freshman Foote Fellows benefit from early move-in to the residential colleges. Further, Foote Fellows receive focused advising on post-baccalaureate distinguished fellowships and awards.

The Foote Fellows Honors Program reflects the educational vision of former University of Miami President Edward T. Foote, who retired in 2000 after serving the University for twenty years.

Foote Fellows in the School of Communication

The School of Communication hosts several activities geared for our Foote Fellows throughout the academic year. School of Communication Foote Fellows will be receiving information from Assistant Dean Luis Herrera regarding our specific programs. For further inquiries, please contact him at lherrera@miami.edu.

SCHOOL OF COMMUNICATION HONORS PROGRAM

Admission to the School's Honors Program is contingent upon admission to the Communication Honors Program as an incoming freshman. Transfer or continuing students may apply for admission to the School of Communication Honors Program after completion of their first full semester at UM. Admission into the School of Communication Honors Program is contingent upon:

1. a freshman student admitted in the fall semester attaining at least a 3.5 overall grade point average and a 3.75 cumulative grade point average in all School of Communication classes, or
2. a transfer student with at least a 3.5 overall grade point average at his or her previous school and a 3.75 grade point average in School of Communication classes.

Continuation in the School's Honors Program is contingent upon satisfying the criteria set forth below over the student's academic career. Students enrolled in the School of Communication Honors Program may choose from two academic paths: (1) an individualized major in communication created in consultation with the School's Director of Honors or, (2) a concentrated major in one of the School's programs of study.

Students admitted to the School of Communication Honors Program must maintain a minimum 3.5 grade point average in all university coursework and a minimum 3.6 cumulative grade point average in all School of Communication Honors Program classes (at least 15 credits of such course work must be completed). All Honors students must complete the following Honors-designated courses with grades of "B" or higher (grades of "B-" will not be acceptable):

Code	Title	Credit Hours
Required School of Communication Honors Core		
COM 101	Mass Media Communication in Society (or approved alternate for transfer honors students)	3
COM 250	Freedom of Expression and Communication Ethics	3
COM 395	Honors Seminar in Communication	3
COM 401	Honors Communication Colloquium	3
COM 499	Senior Honors Project/Thesis	3

All School Honors students must have worked out by the end of their second semester of UM enrollment a plan of studies, under the direction of the School's Director of Honors.

In conducting a Senior Honors Project/Thesis the student, under the direction of an approved faculty mentor, will produce an original communication thesis/project. This project may take the form of original research, a theoretical examination of communication phenomena, a film or motion picture script, a radio or video drama or documentary, a teleplay, or a visual communication project incorporating web interactive design, photography, and multi-media.

Inquiries regarding the School of Communication Honors Program should be made through the School's Office of Admissions, Academic & Alumni Services (2037 Wolfson Building).

Minor in Communication

A student seeking a minor in the general area of Communication must complete 15 credit hours, at least six of which must be at the 300-level or above.

- Students in the School of Communication cannot minor in Communication.
- Courses for this minor must be taken from the departments of Cinema and Interactive Media, Communication Studies, Journalism and Media Management and Strategic Communication. Course prefixes include: CIM, COM, COS, JMM and STC.
- Each course taken for a Communication minor must be completed with a grade of C or higher (a grade of C- or lower is not acceptable).
- At least 9 credit hours towards the minor must be completed at UM.

Sample Communication Minor

Code	Title	Credit Hours
Must complete a maximum of 9 credits at the 100 or 200 level in School of Communication electives: ¹		9
Department of Cinema & Interactive Media (CIM)		
CIM 103	Survey of Motion Pictures	
CIM 111	Web Lab	
CIM 126	Introduction to Screenwriting	
CIM 151	Introduction to Digital Filmmaking	
CIM 211	Interaction Design	
School of Communication (COM)		
COM 101	Mass Media Communication in Society	
COM 250	Freedom of Expression and Communication Ethics	
Department of Communication Studies (COS)		
COS 112	Interpersonal Communication	
COS 211	Public Speaking	
COS 220	Communication Theory	3
Department of Journalism & Media Management (JMM)		
JMM 102	Understanding Media and Content in the Digital Age	
JMM 106	Visual Design	
JMM 108	Writing for the Digital Age	
JMM 221	Introduction to Documentary Photography	
JMM 233	Television Performance	
JMM 245	Introduction to Electronic Media Production	
JMM 285	Applied Statistics for Journalism and Media Management	
Department of Strategic Communication (STC)		
STC 102	Graphic Design for Strategic Communication	
STC 103	Statistical Reasoning for Strategic Communication	
STC 114	Principles of Advertising	
STC 116	Principles of Public Relations	
STC 200	Advertising Strategy Development	
STC 201	Public Relations Strategy Development	
STC 202	Advanced Graphic Design for Advertising	
STC 203	Advanced Graphic Design for Public Relations	
STC 231	Advertising Copywriting and Concept	
STC 232	Writing for Public Relations	
STC 233	Writing for Advertising Account Management	
Must complete a minimum of 6 credits at the 300 level or above in School of Communication courses ^{2,3}		6
Department of Cinema & Interactive Media (CIM)		
CIM 310	Introduction to Game Design	
CIM 326	Intermediate Screenwriting	
CIM 329	Writing for Series Television	
CIM 355	Essentials of Documentary Film	
CIM 364	Business of Motion Pictures	

CIM 394	Special Topics in Motion Pictures
CIM 401	Nonfiction Film and Digital Media
CIM 402	Global Issues and Filmmaking: An Interdisciplinary Approach
CIM 403	Film Directors
CIM 404	Aspects of Contemporary Cinema
CIM 405	Representations of Sport in Popular Culture
CIM 406	Genres
CIM 407	National Cinemas
CIM 408	Women, Media, and Popular Culture
CIM 409	Legal Aspects of Motion Pictures
CIM 444	Internet and Media Activism
CIM 455	Science Documentary: Autism
CIM 458	Documentary Production
CIM 471	Social Impact Games
CIM 526	Adaptation
CIM 594	Special Topics in Cinema and Interactive Media
Department of Communication Studies (COS)	
COS 311	Advanced Oral Advocacy
COS 314	The Power of Dialogue
COS 316	Small Group Communication
COS 318	Nonverbal Communication
COS 324	Health Communication
COS 325	Communication in Health Organization
COS 328	Sports As Communication
COS 330	Conflict Management
COS 333	Business Communication
COS 336	Political Communication
COS 343	Introduction to Intercultural Communication
COS 377	Argumentation and Critical Thinking
COS 391	Undergraduate Special Topics in Communication Studies
COS 418	Organizational Communication
COS 426	Patient-Provider Communication
COS 427	Health Behavior and Risk
COS 472	Persuasion
COS 545	Intercultural Communication: International Perspectives
COS 546	Intercultural Communication: Domestic Perspectives
COS 591	Advanced Special Topics in Communication Studies
Department of Journalism & Media Management (JMM)	
JMM 300	Journalism Practicum (Must take 3 times with permission of instructor)
JMM 304	Web and Media Analytics
JMM 306	Special Topics in Journalism and Media Management II
JMM 307	Mobile Journalism
JMM 309	Data Journalism
JMM 319	History of Journalism
JMM 331	Information Graphics and Visualization
JMM 341	Web Design
JMM 404	Latinos and the Media
JMM 448	Sports and the Media
JMM 592	Special Topics in Journalism and Media Management
Department of Strategic Communication (STC)	
STC 330	Travel and Tourism

STC 334	Social Media Messaging and Strategies	
STC 340	Interactive, Digital, and Social Media in Advertising	
STC 350	International and Cross-cultural Advertising	
STC 401	Seminar in Advertising and Society	
STC 416	Public Relations Ethics	
STC 423	Crisis Communication and Management	
STC 424	Media Relations	
STC 425	Cases in Public Relations Administration	
STC 426	Sports, Publicity, and Promotions	
STC 428	Public Relations Management	
STC 460	Corporate Communication and Public Relations	
STC 481	Public Relations Experience Program (Prep) (Must take 3 times with permission of instructor)	
STC 482	International Public Relations	
STC 483	Integrated Marketing Communication	
STC 490	Special Topics in Advertising	
STC 493	Special Topics in Public Relations	
Total Credit Hours		18

- 1 STC 200 requires STC 114, STC 201 requires STC 116 and STC 202 requires STC 102. These courses cannot be taken concurrently. Any exceptions must be made by the STC Department Chair.
- 2 Please consult each department's bulletin listing for course requirements. No exceptions, substitutions or waivers will be given if student does not meet requirements for a course.
- 3 Most 300 level or above Communication courses require at least junior standing and one or more of the following survey courses: CIM 103, CIM 126, CIM 151, COS 220, JMM 102, JMM 108, STC 102, STC 114, or STC 116. Please consult the Bulletin for course prerequisites.

Cinema and Interactive Media

<http://com.miami.edu/programs>

The Department of Cinema and Interactive Media offers majors in Motion Pictures and Interactive Media and minors in Motion Pictures (CMPT), Game Design (GAME) and Interactive Media (CIMI).

A Motion Pictures major selects from the following tracks: Studio, Production, Screenwriting, Business, or Critical Studies.

The Department of Cinema and Interactive Media prepares the next generation of storytellers, innovators, filmmakers, designers, creators, researchers, and entrepreneurs for the abundance of opportunities in world of film, digital media, and emerging technologies.

Design:

The majors and minors offered by the Department of Cinema and Interactive are designed to enable you to customize your education, within a learning environment that is collaborative and conducive to the pursuit, development, and exchange of ideas and information. The curriculum provides students with the training necessary to succeed in a range of careers defined by a rapidly changing media landscape, and equips them to best leverage emerging technologies and innovative developments in the field.

Goals of the Program are:

- To furnish students with the technical and practical skills needed to make them career-ready through hands-on learning, problem-solving based inquiry, and advanced study.
- To nurture the individual talent, creativity, and discovery process of every student by fostering principles of collaboration, professionalism, and intellectual curiosity.
- To support the educational process through mentoring and advising by renowned faculty and seasoned professionals.
- To encourage students to integrate theory and practice, to cultivate the capacity to think critically, and to connect technology and art and/or design.
- To familiarize students with theoretical, historical, and cultural approaches and expose them to a range of traditions within the field of study.
- To provide access to state of the art facilities, the most technologically advanced tools, and the latest technology.

--To continue to build on our reputation as a place of innovation and interdisciplinarity, as we educate students according to the highest professional and ethical standards

Major Cognate Area

- Motion Pictures – Arts and Humanities
- Interactive Media – STEM

Minor Cognate Areas

- Motion Pictures – Arts and Humanities
- Game Design – Arts and Humanities
- Interactive Media – STEM

Please note: students completing majors and minors within the same department may only satisfy one required cognate area of study.

Dept. Code: CIM

Requirements for the Majors in Motion Pictures and Interactive Media

Each candidate for the degree of Bachelor of Science in Communication will complete School of Communication requirements including courses in the School's General Education Required Areas of Study. Motion Pictures majors must also complete a separate minor or a second major in either a second Program of Study within the School or in an academic program outside the School.

Before admission as a Motion Pictures (CMPT) major or Interactive Media (CIMI), a student must:

- Complete the Core courses in residence at the University, all with grades of C or higher (C- is not acceptable).
- Students who have obtained the written approval of the Chair of Cinema and Interactive Media to use transfer credit hours to satisfy one or more requirements of that major may be required to complete additional courses in residence at the University before being admitted to that major.
- Upon completion of a student's first 45 University credit hours while enrolled in the School of Communication, all University credit hours earned toward the major will be used in computing a student's major cumulative grade point average; only those students with a cumulative average of 2.5 or higher will be admitted to the major.
- A student who has completed 45 credit hours while enrolled in the School of Communication, but who has not been admitted to one of the Communication majors, may be dismissed from the School. A student who has completed 60 University credit hours while enrolled in the School, but who has not been admitted to one of the Communication majors, will be dismissed from the School.

Opportunities

As a major or minor in the CIM department, many opportunities await you, including access to the following facilities and equipment: digital cameras; grip and electrical equipment; a soundstage; digital post-production image and sound facilities; a digital animation studio; a VR Lab, User Experience Lab, and a New Experience Research and Design Lab (NERDLab).

The department offers a Semester in Los Angeles Program each spring as well as summer sessions in Prague (FAMU), Greece, and Spain.

In addition to the chance to work on numerous student projects, there is an array of extracurricular activities in the School of Communication, including the award-winning cable channel UMTV and Delta Kappa Alpha, the National Professional Co-Ed Cinematic Arts Fraternity.

The Bill Cosford Cinema, a state-of-the-art movie theater exhibits first-run alternative, foreign and classic films and hosts numerous guest filmmakers and special events throughout the year. The Cosford Cinema serves as a venue for local film festivals as well as the annual Canes Film Festival featuring UM undergraduate and graduate work.

Students have the opportunity to compete in the UM Canes Film Festival to earn the chance to take their work to a professional showcase screening, held annually in Los Angeles.

Majors in Cinema and Interactive Media

- B.S.C. in Interactive Media (p. 486)
- B.S.C. in Motion Pictures - Business Track (p. 488)
- B.S.C. in Motion Pictures - Critical Studies Track (p. 491)
- B.S.C. in Motion Pictures - General Track (p. 494)
- B.S.C. in Motion Pictures - Production Track (p. 498)
- B.S.C. in Motion Pictures - Screenwriting Track (p. 501)

Minors in Cinema and Interactive Media

- Motion Pictures (p. 505)
- Interactive Media (p. 504)
- Game Design (p. 504)

B.S.C. in Interactive Media Curriculum Requirements

Code	Title	Credit Hours
Core Courses		
CIM 111	Web Lab	3
CIM 120	Internet, Media, and Society	3
CIM 211	Interaction Design	3
COM 250	Freedom of Expression and Communication Ethics	3
CIM 540	Intro to Creative Coding	3
CIM 542	Physical Computing	3
CIM 593	Dynamic Data	3
Advanced Writing and Communication Skills Requirement		
COS 211 or COS 333	Public Speaking Business Communication	3
CIM 126 or JMM 108	Introduction to Screenwriting Writing for the Digital Age	3
Electives		
Select 9-10 credits from list		9-10
CIM 151	Introduction to Digital Filmmaking	
CIM 310	Introduction to Game Design	
CIM 360	360 Immersive Storytelling	
CIM 413	Mobile Application Development	
CIM 444	Internet and Media Activism	
CIM 471	Social Impact Games	
CIM 494	Internship in Cinema and Interactive Media	
CIM 499	Projects and Directed Research	
CIM 513	UX Research Methods	
CIM 523	Advanced 3D Character Design and Motion Capture	
JMM 106 or STC 102	Visual Design Graphic Design for Strategic Communication	
JMM 304	Web and Media Analytics	
JMM 331	Information Graphics and Visualization	
JMM 435	Media Technology	
ART 294	Multimedia II/ Animation	
ART 392	Multimedia III	
CSC 116	Cybersecurity: An Introduction to Security in Cyberspace	
CSC 120	Computer Programming I	
Additional electives and special topics courses may be substituted with approval of departmental adviser or department chair.		
Portfolio Requirement		3
CIM 515	Interactive Media Studio	
Additional Requirements		
ENG 105 & ENG 106		6
Arts & Humanities Cognate		9
People & Society Cognate		9

Minor, Second Major and Electives	57
Total Credit Hours	120-121

- ¹ School of Communication students are required to complete a minimum of a minor (inside or outside of the school) in addition to their Communication major to graduate. For an optional 2nd major, please see your advisor.
- ² School of Communication students must complete 6 credits of English Composition unless exempt based on SAT/ACT score or AP/IB exam, 3-6 credits of Mathematics, University Cognates (<http://www.miami.edu/cognates>) and the Advanced Writing and Communication Skills Proficiency requirement.

Upper Level Elective Requirement

36 credits at the 300 level or higher are required for graduation. These credits may be earned from your major, minor and/or second major, and electives.

*This program is Pending Board of Trustee Approval

Course	Title	Credit Hours
Freshman Year		
Fall		
CIM 111	Web Lab	3
CIM 120	Internet, Media, and Society	3
ENG 105	English Composition I	3
MTH 113, JMM 285, or STC 103	Finite Mathematics or Applied Statistics for Journalism and Media Management or Statistical Reasoning for Strategic Communication	3
Arts & Humanities Cognate		3
	Credit Hours	15
Spring		
CIM 211	Interaction Design	3
CIM 540	Intro to Creative Coding	3
ENG 106	English Composition II	3
Arts & Humanities Cognate		3
People & Society Cognate		3
	Credit Hours	15
Sophomore Year		
Fall		
CIM 593	Dynamic Data	3
COM 250	Freedom of Expression and Communication Ethics	3
Arts & Humanities Cognate		3
People & Society Cognate		3
Minor, Second Major or Elective		3
	Credit Hours	15
Spring		
CIM 126 or JMM 108	Introduction to Screenwriting or Writing for the Digital Age	3
CIM 542	Physical Computing	3
People & Society Cognate		3
Minor, Second Major or Elective		3
Minor, Second Major or Elective		3
	Credit Hours	15
Junior Year		
Fall		
Select 3 credits Interactive Media Electives from UM Bulletin		3
Minor, Second Major or Elective		3
Minor, Second Major or Elective		3

Minor, Second Major or Elective		3
Minor, Second Major or Elective		3
	Credit Hours	15
Spring		
Select 3 credits in Interactive Media Electives from UM Bulletin		3
Minor, Second Major or Elective		3
Minor, Second Major or Elective		3
Minor, Second Major or Elective		3
Minor, Second Major or Elective		3
	Credit Hours	15
Senior Year		
Fall		
Select 3 credits Interactive Media Electives from UM Bulletin		3
Minor, Second Major or Elective		3
Minor, Second Major or Elective		3
Minor, Second Major or Elective		3
Minor, Second Major or Elective		3
	Credit Hours	15
Spring		
CIM 515	Interactive Media Studio	3
Minor, Second Major or Elective		3
Minor, Second Major or Elective		3
Minor, Second Major or Elective		3
Minor, Second Major or Elective		3
	Credit Hours	15
	Total Credit Hours	120

*This program is Pending Board of Trustee Approval

B.S.C. Motion Pictures - Business Track

Intended for students interested in media industries, this track offers an in-depth view from a decision-making perspective. You will learn how content is made, while attaining advanced business skills in many aspects from traditional movie outlets to new distribution opportunities, defined by multi-platforms and omni-channels.

You will discover motives, tactics and tools for content creation as well as strategies for choosing which platform best serves a particular story. This track is an excellent choice for students who strive to think critically about the environment the industry operates in and how it can inform your own business strategy.

You will be encouraged to develop your individual talent in a nurturing and collaborative environment, where you begin learning through practical, problem-solving based classes from your first semester on.

Internships, extra-curricular organizations, guest master classes, CIM project-based, study-abroad programs (in Prague, Greece, and Barcelona), and the Semester in Los Angeles Program, give you ample opportunity to further your education in business outside of the classroom.

Curriculum Requirements

Code	Title	Credit Hours
Core Courses		
CIM 103	Survey of Motion Pictures	3
CIM 126	Introduction to Screenwriting	3
CIM 151	Introduction to Digital Filmmaking	3
CIM 206	History of International Cinema	3
COM 250	Freedom of Expression and Communication Ethics	3
Advanced Writing and Communication Skills Requirement		
COS 211	Public Speaking	3

or COS 333 or JMM 233	Business Communication Television Performance	
Required Track Core		
CIM 364	Business of Motion Pictures	3
CIM 409	Legal Aspects of Motion Pictures	3
CIM 465	Creative Producing	3
Select two of the following:		6
CIM 462 or JMM 434	Motion Picture Marketing and Distribution ¹ Media Distribution for Film and Television	
CIM 494	Internship in Cinema and Interactive Media	
CIM 499	Projects and Directed Research	
CIM 594	Special Topics in Cinema and Interactive Media	
JMM Business Focus Elective may count towards this requirement. Please check with CIM advisor		
Select one of the following:		3
CIM 401	Nonfiction Film and Digital Media	
CIM 403	Film Directors	
CIM 404	Aspects of Contemporary Cinema	
CIM 405	Representations of Sport in Popular Culture	
CIM 406	Genres	
CIM 407	National Cinemas	
CIM 408	Women, Media, and Popular Culture	
CIM 444	Internet and Media Activism	
Portfolio Requirement		
CIM 514	Motion Picture Studio	3
Additional Requirements ^{1,2}		
ENG 105 & ENG 106		6
MTH 113 or JMM 285 or STC 103		3
People and Society Cognate		9
STEM Cognate		9
Minor, Second Major and Electives		54
Total Credit Hours		120

School of Communication students are required to complete a minimum of a minor (inside or outside of the school) in addition to their Communication major to graduate. For an optional 2nd major, please see your advisor.

School of Communication students must complete 6 credits of English Composition unless exempt based on SAT/ACT score or AP/IB exam, 3-6 credits of Mathematics, University Cognates (<http://www.miami.edu/cognates>) and the Advanced Writing and Communication Skills Proficiency requirement.

Upper Level Elective Requirement

36 credits at the 300 level or higher are required for graduation. These credits may be earned from your major, minor and/or second major, and electives.

¹ Students may only take CIM 462 or JMM 434. Both courses will not count for the major.

Suggested Plan of Study

Course	Title	Credit Hours
Freshman Year		
Fall		
CIM 103	Survey of Motion Pictures ¹	3
CIM 151	Introduction to Digital Filmmaking	3
ENG 105	English Composition I	3
MTH 113, JMM 285, or STC 103	Finite Mathematics or Applied Statistics for Journalism and Media Management or Statistical Reasoning for Strategic Communication	3

People and Society Cognate		3
	Credit Hours	15
Spring		
CIM 126	Introduction to Screenwriting	3
CIM 206	History of International Cinema	3
ENG 106	English Composition II	3
People and Society Cognate		3
STEM Cognate		3
	Credit Hours	15
Sophomore Year		
Fall		
CIM 364	Business of Motion Pictures	3
COM 250	Freedom of Expression and Communication Ethics	3
People and Society Cognate		3
STEM Cognate		3
Minor, Second Major or Electives		3
	Credit Hours	15
Spring		
COS 211, 333, or JMM 233	Public Speaking or Business Communication or Television Performance	3
STEM Cognate		3
Minor, Second Major or Elective		3
Minor, Second Major or Elective		3
Minor, Second Major or Elective		3
	Credit Hours	15
Junior Year		
Fall		
CIM 462 or JMM 434	Motion Picture Marketing and Distribution or Media Distribution for Film and Television	3
Minor, Second Major or Elective		3
Minor, Second Major or Elective		3
Minor, Second Major or Elective		3
Minor, Second Major or Elective		3
	Credit Hours	15
Spring		
CIM 409	Legal Aspects of Motion Pictures	3
Select one of the following:		3
CIM 401	Nonfiction Film and Digital Media	
CIM 403	Film Directors	
CIM 404	Aspects of Contemporary Cinema	
CIM 405	Representations of Sport in Popular Culture	
CIM 406	Genres	
CIM 407	National Cinemas	
CIM 408	Women, Media, and Popular Culture	
CIM 444	Internet and Media Activism	
CIM 594	Special Topics in Cinema and Interactive Media	
Minor, Second Major or Elective		3
Minor, Second Major or Elective		3
Minor, Second Major or Elective		3
	Credit Hours	15

Senior Year		
Fall		
CIM 465	Creative Producing	3
CIM 494 or 499	Internship in Cinema and Interactive Media or Projects and Directed Research	3
Minor, Second Major or Elective		3
Minor, Second Major or Elective		3
Minor, Second Major or Elective		3
Credit Hours		15
Spring		
CIM 514	Motion Picture Studio	3
Minor, Second Major or Elective		3
Minor, Second Major or Elective		3
Minor, Second Major or Elective		3
Minor, Second Major or Elective		3
Credit Hours		15
Total Credit Hours		120

¹ This course is a prerequisite.

B.S.C. Motion Pictures - Critical Studies Track

For students excited by the study of film and media, the Critical Studies track offers the opportunity to consider a wide range of perspectives on culturally, historically, and artistically significant works. You will engage with the aesthetic, political, and moral issues that inevitably arise when closely looking at examples, while broadening your horizons as you learn about the contexts in which they were produced.

You will cultivate analytical, conceptual, communication, and writing skills and gain research tools, all of which provide a strong foundation for media-related fields. Students in the Critical Studies track may go on to pursue graduate study. They are also well-positioned to choose creative careers or work in the media industry.

Curriculum Requirements

Code	Title	Credit Hours
Core Courses		
CIM 103	Survey of Motion Pictures	3
CIM 126	Introduction to Screenwriting	3
CIM 151	Introduction to Digital Filmmaking	3
CIM 206	History of International Cinema	3
COM 250	Freedom of Expression and Communication Ethics	3
Advanced Writing and Communication Skills Requirement		
COS 211 or COS 333 or JMM 233	Public Speaking Business Communication Television Performance	3
Other Required Courses		
CIM 401	Nonfiction Film and Digital Media	3
CIM 403	Film Directors	3
CIM 406	Genres	3
Select three of the following:		9
CIM 404	Aspects of Contemporary Cinema	
CIM 405	Representations of Sport in Popular Culture	
CIM 407	National Cinemas	
CIM 408	Women, Media, and Popular Culture	
CIM 444	Internet and Media Activism	
Portfolio Requirement		
CIM 514	Motion Picture Studio	3

Additional Requirements ^{1,2}	
ENG 105 & ENG 106	6
MTH 113 or JMM 285 or STC 103	3
People and Society Cognate	9
STEM Cognate	9
Minor, Second Major and Electives	54
Total Credit Hours	120

³ If these electives are outside the Motion Pictures major (but within the School of Communication) they must be approved by the chair.

School of Communication students are required to complete a minimum of a minor (inside or outside of the school) in addition to their Communication major to graduate. For an optional 2nd major, please see your advisor.

School of Communication students must complete 6 credits of English Composition unless exempt based on SAT/ACT score or AP/IB exam, 3-6 credits of Mathematics, University Cognates (<http://www.miami.edu/cognates>) and the Advanced Writing and Communication Skills Proficiency requirement.

Upper Level Elective Requirement

36 credits at the 300 level or higher are required for graduation. These credits may be earned from your major, minor and/or second major, and electives.

Suggested Plan of Study

Course	Title	Credit Hours
Freshman Year		
Fall		
CIM 103	Survey of Motion Pictures	3
ENG 105	English Composition I	3
MTH 113, JMM 285, or STC 103	Finite Mathematics or Applied Statistics for Journalism and Media Management or Statistical Reasoning for Strategic Communication	3
People and Society Cognate		3
STEM Cognate		3
	Credit Hours	15
Spring		
CIM 126	Introduction to Screenwriting	3
CIM 206	History of International Cinema	3
People and Society Cognate		3
STEM Cognate		3
Minor, Second Major or Elective		3
	Credit Hours	15
Sophomore Year		
Fall		
CIM 151	Introduction to Digital Filmmaking	3
COM 250	Freedom of Expression and Communication Ethics	3
People and Society Cognate		3
STEM Cognate		3
Minor, Second Major or Elective		3
	Credit Hours	15
Spring		
COS 211, 333, or JMM 233	Public Speaking or Business Communication or Television Performance	3
Choose one of the following:		3
CIM 401	Nonfiction Film and Digital Media	
CIM 403	Film Directors	

CIM 406	Genres	
Minor, Second Major or Elective		3
Minor, Second Major or Electives		3
Minor, Second Major or Elective		3
	Credit Hours	15
Junior Year		
Fall		
Select one of the following:		3
CIM 401	Nonfiction Film and Digital Media	
CIM 403	Film Directors	
CIM 406	Genres	
Minor, Second Major or Elective		3
Minor, Second Major or Elective		3
Minor, Second Major or Elective		3
Minor, Second Major or Elective		3
	Credit Hours	15
Spring		
Select 3 credit hours in CIM electives		3
Select one of the following:		3
CIM 401	Nonfiction Film and Digital Media	
CIM 403	Film Directors	
CIM 406	Genres	
Minor, Second Major or Elective		3
Minor, Second Major or Elective		3
Minor, Second Major or Elective		3
	Credit Hours	15
Senior Year		
Fall		
Select one of the following:		3
CIM 404	Aspects of Contemporary Cinema	
CIM 405	Representations of Sport in Popular Culture	
CIM 407	National Cinemas	
CIM 408	Women, Media, and Popular Culture	
CIM 444	Internet and Media Activism	
Minor, Second Major or Elective		3
Minor, Second Major or Elective		3
Minor, Second Major or Elective		3
Minor, Second Major or Elective		3
	Credit Hours	15
Spring		
CIM 514	Motion Picture Studio	3
Select one of the following:		3
CIM 404	Aspects of Contemporary Cinema	
CIM 405	Representations of Sport in Popular Culture	
CIM 407	National Cinemas	
CIM 408	Women, Media, and Popular Culture	
CIM 444	Internet and Media Activism	
Minor, Second Major or Elective		3
Minor, Second Major or Elective		3

Minor, Second Major or Elective	3
Credit Hours	15
Total Credit Hours	120

B.S.C. Motion Pictures - General Track

The general track gives students flexibility and range as well as depth of focus. This track offers a unique edge in today's expanding technological landscape, providing breadth, versatility, and the advanced skills that will position you to succeed in a number of media careers.

Students select a primary specialization from one of the following areas: production, screenwriting, business, documentary, graphics and animation, games, or critical studies. Students choose an additional six credits of electives. It is recommended, though not required, that these six electives be chosen from a single area creating a secondary specialization.

Some students prefer not to check just one box as they go along their academic journey. The general track appeals to students who like to step out of the box and customize the cinema major to their individual goals.

Curriculum Requirements

Code	Title	Credit Hours
Core Courses		
CIM 103	Survey of Motion Pictures	3
CIM 126	Introduction to Screenwriting	3
CIM 151	Introduction to Digital Filmmaking	3
CIM 206	History of International Cinema	3
COM 250	Freedom of Expression and Communication Ethics	3
Advanced Writing and Communication Skills Requirement		
COS 211 or COS 333 or JMM 233	Public Speaking Business Communication Television Performance	3
Select one of the following:		3
CIM 401	Nonfiction Film and Digital Media	
CIM 403	Film Directors	
CIM 404	Aspects of Contemporary Cinema	
CIM 406	Genres	
CIM 407	National Cinemas	
CIM 408	Women, Media, and Popular Culture	
CIM 444	Internet and Media Activism	
CIM 594	Special Topics in Cinema and Interactive Media	
Portfolio Requirement		
CIM 514	Motion Picture Studio	3
Select a primary specialization from one of the following options:		9
Production		
CIM 251	Motion Picture Workshop: Storytelling	
CIM 351	Intermediate Filmmaking	
CIM 451	Advanced Filmmaking Workshop	
Screenwriting		
CIM 326	Intermediate Screenwriting	
CIM 329	Writing for Series Television	
CIM 426	Advanced Screenwriting	
Business		
CIM 364	Business of Motion Pictures	
CIM 465	Creative Producing	
CIM 409	Legal Aspects of Motion Pictures	
Documentary		
CIM 355	Essentials of Documentary Film	

CIM 455	Science Documentary: Autism
CIM 458	Documentary Production
Graphics and Animation	
CIM 416	Building Virtual Worlds
CIM 550	Motion Graphics and Compositing
CIM 594	Special Topics in Cinema and Interactive Media
JMM 550	3D Design and Graphics
Games	
CIM 310	Introduction to Game Design
CIM 471	Social Impact Games
CIM 594	Special Topics in Cinema and Interactive Media
Critical Studies	
CIM 401	Nonfiction Film and Digital Media
CIM 404	Aspects of Contemporary Cinema
CIM 406	Genres
Select 6 elective credits from the following areas: ¹	
6	
Production	
CIM 251	Motion Picture Workshop: Storytelling
CIM 353	Post Production Sound Editing and Design
CIM 356	Cinematography
CIM 357	Editing
CIM 360	360 Immersive Storytelling
CIM 395	Directing Techniques I
CIM 456	Advanced Cinematography
CIM 457	Advanced Editing
CIM 494	Internship in Cinema and Interactive Media
CIM 594	Special Topics in Cinema and Interactive Media
THA 471	Directing the Actor for Film
Screenwriting	
CIM 326	Intermediate Screenwriting
CIM 329	Writing for Series Television
CIM 386	Writing the Feature Film-Online
CIM 429	Advanced Television Writing
CIM 494	Internship in Cinema and Interactive Media
CIM 489	Projects in Screenwriting
CIM 526	Adaptation
CIM 566	Character and Dialogue
CIM 594	Special Topics in Cinema and Interactive Media
Business	
CIM 364	Business of Motion Pictures
CIM 465	Creative Producing
CIM 409	Legal Aspects of Motion Pictures
CIM 462	Motion Picture Marketing and Distribution
CIM 494	Internship in Cinema and Interactive Media
Documentary	
CIM 402	Global Issues and Filmmaking: An Interdisciplinary Approach
CIM 455	Science Documentary: Autism
CIM 458	Documentary Production
CIM 494	Internship in Cinema and Interactive Media
CIM 594	Special Topics in Cinema and Interactive Media
Games	
CIM 211	Interaction Design

CIM 310	Introduction to Game Design	
CIM 413	Mobile Application Development	
CIM 471	Social Impact Games	
CIM 494	Internship in Cinema and Interactive Media	
CIM 540	Intro to Creative Coding	
CIM 594	Special Topics in Cinema and Interactive Media	
Graphics and Animation		
CIM 550	Motion Graphics and Compositing	
CIM 551	Advanced Motion Graphics and Compositing	
CIM 523	Advanced 3D Character Design and Motion Capture	
CIM 494	Internship in Cinema and Interactive Media	
CIM 594	Special Topics in Cinema and Interactive Media	
JMM 550	3D Design and Graphics	
Critical Studies		
CIM 401	Nonfiction Film and Digital Media	
CIM 403	Film Directors	
CIM 404	Aspects of Contemporary Cinema	
CIM 405	Representations of Sport in Popular Culture	
CIM 406	Genres	
CIM 407	National Cinemas	
CIM 408	Women, Media, and Popular Culture	
CIM 444	Internet and Media Activism	
CIM 594	Special Topics in Cinema and Interactive Media	
Additional Requirements ^{1,2}		
ENG 105 & ENG 106		6
MTH 113 or JMM 285 or STC 103		3
People and Society Cognate		9
STEM Cognate		9
Minor, Second Major and Electives		54
Total Credit Hours		120

¹ Majors cannot double count courses without approval from faculty advisor and/or department chair.
CIM 499 and CIM 594 should be selected in consultation with faculty advisor.

School of Communication students are required to complete a minimum of a minor (inside or outside of the school) in addition to their Communication major to graduate. For an optional 2nd major, please see your advisor.

School of Communication students must complete 6 credits of English Composition unless exempt based on SAT/ACT score or AP/IB exam, 3-6 credits of Mathematics, University Cognates (<http://www.miami.edu/cognates>) and the Advanced Writing and Communication Skills Proficiency requirement.

Upper Level Elective Requirement

36 credits at the 300 level or higher are required for graduation. These credits may be earned from your major, minor and/or second major, and electives.

Suggested Plan of Study

Course	Title	Credit Hours
Freshman Year		
Fall		
CIM 103	Survey of Motion Pictures	3
CIM 151	Introduction to Digital Filmmaking	3
ENG 105	English Composition I	3
MTH 113, JMM 285, or STC 103	Finite Mathematics or Applied Statistics for Journalism and Media Management or Statistical Reasoning for Strategic Communication	3

Minor, Second Major or Elective		3
	Credit Hours	15
Spring		
CIM 126	Introduction to Screenwriting	3
ENG 106	English Composition II	3
People and Society Cognate		3
STEM Cognate		3
Minor, Second Major or Elective		3
	Credit Hours	15
Sophomore Year		
Fall		
CIM 206	History of International Cinema	3
COM 250	Freedom of Expression and Communication Ethics	3
People and Society Cognate		3
STEM Cognate		3
Minor, Second Major or Elective		3
	Credit Hours	15
Spring		
CIM Primary Specialization Elective		3
COS 211, 333, or JMM 233	Public Speaking or Business Communication or Television Performance	3
People and Society Cognate		3
STEM Cognate		3
Minor, Second Major or Elective		3
	Credit Hours	15
Junior Year		
Fall		
CIM Primary Specialization Elective		3
Minor, Second Major or Elective		3
Minor, Second Major or Elective		3
Minor, Second Major or Elective		3
Minor, Second Major or Elective		3
	Credit Hours	15
Spring		
CIM Primary Specialization Elective		3
Select one of the following:		3
CIM 401	Nonfiction Film and Digital Media	
CIM 403	Film Directors	
CIM 404	Aspects of Contemporary Cinema	
CIM 405	Representations of Sport in Popular Culture	
CIM 406	Genres	
CIM 407	National Cinemas	
CIM 408	Women, Media, and Popular Culture	
CIM 444	Internet and Media Activism	
CIM 594	Special Topics in Cinema and Interactive Media	
Minor, Second Major or Elective		3
Minor, Second Major or Elective		3
Minor, Second Major or Elective		3
	Credit Hours	15

Senior Year		
Fall		
CIM Secondary Specialization Elective		3
Minor, Second Major or Elective		3
Minor, Second Major or Elective		3
Minor, Second Major or Elective		3
Minor, Second Major or Elective		3
	Credit Hours	15
Spring		
CIM 514	Motion Picture Studio	3
CIM Secondary Specialization Elective		3
Minor, Second Major or Elective		3
Minor, Second Major or Elective		3
Minor, Second Major or Elective		3
	Credit Hours	15
	Total Credit Hours	120

B.S.C. Motion Pictures - Production Track

Intended for students interested in intensive production, this track offers advanced technical skills in directing, cinematography, editing, sound, documentary, immersive storytelling, graphics and animation. You will learn about all stages of the creative process from writing and development, through production and post-production, to all forms of exhibition.

You will be encouraged to develop your individual talent and personal expression in a nurturing and collaborative environment, where you start making films in your first semester and participate in hands-on learning throughout the program.

Internships, extra-curricular organizations, guest master classes, CIM production-based, study-abroad programs (in Prague, Greece, and Barcelona), and the Semester in Los Angeles Program, give you ample opportunity to further your education in production outside of the classroom.

Curriculum Requirements

Code	Title	Credit Hours
Core Courses		
CIM 103	Survey of Motion Pictures	3
CIM 126	Introduction to Screenwriting	3
CIM 151	Introduction to Digital Filmmaking	3
CIM 206	History of International Cinema	3
COM 250	Freedom of Expression and Communication Ethics	3
Advanced Writing and Communication Skills Requirement		
COS 211	Public Speaking	3
or COS 333	Business Communication	
or JMM 233	Television Performance	
Other Required Courses ³		
CIM 251	Motion Picture Workshop: Storytelling	3
CIM 351	Intermediate Filmmaking	3
CIM 451	Advanced Filmmaking Workshop	3
Select two of the following:		6
CIM 353	Post Production Sound Editing and Design	
CIM 355	Essentials of Documentary Film	
CIM 356	Cinematography	
CIM 357	Editing	
CIM 360	360 Immersive Storytelling	
CIM 364	Business of Motion Pictures	
CIM 395	Directing Techniques I	
CIM 455	Science Documentary: Autism	

CIM 456	Advanced Cinematography	
CIM 457	Advanced Editing	
CIM 458	Documentary Production	
CIM 494	Internship in Cinema and Interactive Media	
CIM 499	Projects and Directed Research	
CIM 550	Motion Graphics and Compositing	
CIM 551	Advanced Motion Graphics and Compositing	
CIM 594	Special Topics in Cinema and Interactive Media	
THA 471	Directing the Actor for Film	
CIM courses not on this list must be approved by Motion Pictures advisor.		
Select one of the following:		3
CIM 401	Nonfiction Film and Digital Media	
CIM 403	Film Directors	
CIM 404	Aspects of Contemporary Cinema	
CIM 405	Representations of Sport in Popular Culture	
CIM 406	Genres	
CIM 407	National Cinemas	
CIM 408	Women, Media, and Popular Culture	
CIM 444	Internet and Media Activism	
Portfolio Requirement		
CIM 514	Motion Picture Studio	3
Additional Requirements ^{1,2}		
ENG 105 & ENG 106		6
MTH 113 or JMM 285 or STC 103		3
People and Society Cognate		9
STEM Cognate		9
Minor, Second Major and Electives		54
Total Credit Hours		120

³ Only a maximum of 9 combined credits of internship and/or independent study can be applied towards the major.

School of Communication students are required to complete a minimum of a minor (inside or outside of the school) in addition to their Communication major to graduate. For an optional 2nd major, please see your advisor.

School of Communication students must complete 6 credits of English Composition unless exempt based on SAT/ACT score or AP/IB exam, 3-6 credits of Mathematics, University Cognates (<http://www.miami.edu/cognates>) and the Advanced Writing and Communication Skills Proficiency requirement.

Upper Level Elective Requirement

36 credits at the 300 level or higher are required for graduation. These credits may be earned from your major, minor and/or second major, and electives.

Suggested Plan of Study

Course	Title	Credit Hours
Freshman Year		
Fall		
CIM 103	Survey of Motion Pictures	3
CIM 151	Introduction to Digital Filmmaking	3
ENG 105	English Composition I	3
MTH 113	Finite Mathematics	3
Minor, Second Major or Elective		3
	Credit Hours	15
Spring		
CIM 126	Introduction to Screenwriting	3

CIM 251	Motion Picture Workshop: Storytelling	3
ENG 106	English Composition II	3
People and Society Cognate		3
STEM Cognate		3
	Credit Hours	15
Sophomore Year		
Fall		
CIM 206	History of International Cinema	3
COM 250	Freedom of Expression and Communication Ethics	3
People and Society Cognate		3
STEM Cognate		3
Minor, Second Major or Elective		3
	Credit Hours	15
Spring		
CIM Production Track Elective from Bulletin		3
COS 211, 333, or JMM 233	Public Speaking or Business Communication or Television Performance	3
Minor, Second Major or Elective		3
Minor, Second Major or Elective		3
Minor, Second Major or Elective		3
	Credit Hours	15
Junior Year		
Fall		
CIM 351	Intermediate Filmmaking	3
Minor, Second Major or Elective		3
Minor, Second Major or Elective		3
Minor, Second Major or Elective		3
Minor, Second Major or Elective		3
	Credit Hours	15
Spring		
CIM 451	Advanced Filmmaking Workshop	3
Select CIM Production Elective from Bulletin		3
Minor, Second Major or Elective		3
Minor, Second Major or Elective		3
Minor, Second Major or Elective		3
	Credit Hours	15
Senior Year		
Fall		
CIM 514	Motion Picture Studio	3
Minor, Second Major or Elective		3
Minor, Second Major or Elective		3
Minor, Second Major or Elective		3
Minor, Second Major or Elective		3
	Credit Hours	15
Spring		
Select One of the Following:		3
CIM 401	Nonfiction Film and Digital Media	
CIM 403	Film Directors	
CIM 404	Aspects of Contemporary Cinema	
CIM 406	Genres	
CIM 407	National Cinemas	

CIM 408	Women, Media, and Popular Culture	
CIM 594	Special Topics in Cinema and Interactive Media	
Minor, Second Major or Elective		3
Minor, Second Major or Elective		3
Minor, Second Major or Elective		3
Minor, Second Major or Elective		3
	Credit Hours	15
	Total Credit Hours	120

B.S.C. Motion Pictures - Screenwriting Track

Intended for students interested in intensive scriptwriting, this track provides advanced skills in writing for film and series television. You will gain a familiarity with all stages of the creative process for film and TV (from writing and development, through production and post-production, to exhibition). You will attain advanced writing skills and techniques, such as story development, characterization, structure, and dialogue while acquiring extensive knowledge about the business of scriptwriting (including the submission process, agents, financing, television writers' rooms, etc.).

You will be encouraged to develop your individual talent and personal expression in a nurturing and collaborative environment, where you start writing scripts in your first semester and continue with practical, applied learning throughout the program.

Internships, extra-curricular organizations, guest master classes, CIM project-based, study-abroad programs (in Prague, Greece, and Barcelona), and the Semester in Los Angeles Program, give you ample opportunity to further your education in writing outside of the classroom.

Curriculum Requirements

Code	Title	Credit Hours
Core Courses		
CIM 103	Survey of Motion Pictures	3
CIM 126	Introduction to Screenwriting	3
CIM 151	Introduction to Digital Filmmaking	3
CIM 206	History of International Cinema	3
COM 250	Freedom of Expression and Communication Ethics	3
Advanced Writing and Communication Skills Requirement		
COS 211 or COS 333 or JMM 233	Public Speaking Business Communication Television Performance	3
Other Required Courses		
CIM 326	Intermediate Screenwriting	3
CIM 329	Writing for Series Television	3
CIM 426	Advanced Screenwriting	3
Select two of the following:		6
CIM 386	Writing the Feature Film-Online	
CIM 429	Advanced Television Writing	
CIM 494	Internship in Cinema and Interactive Media	
CIM 499	Projects and Directed Research	
CIM 489	Projects in Screenwriting	
CIM 526	Adaptation	
CIM 594	Special Topics in Cinema and Interactive Media	
Select one of the following:		3
CIM 401	Nonfiction Film and Digital Media	
CIM 403	Film Directors	
CIM 404	Aspects of Contemporary Cinema	
CIM 405	Representations of Sport in Popular Culture	
CIM 406	Genres	
CIM 407	National Cinemas	
CIM 408	Women, Media, and Popular Culture	

CIM 444	Internet and Media Activism	
Portfolio Requirement		
CIM 514	Motion Picture Studio	3
Additional Requirements		
ENG 105 & ENG 106		6
MTH 113, JMM 285 or STC 103		3
People and Society Cognate		9
STEM Cognate		9
Minor, Second Major and Electives		54
Total Credit Hours		120

School of Communication students are required to complete a minimum of a minor (inside or outside of the school) in addition to their Communication major to graduate. For an optional 2nd major, please see your advisor.

School of Communication students must complete 6 credits of English Composition unless exempt based on SAT/ACT score or AP/IB exam, 3-6 credits of Mathematics, University Cognates (<http://www.miami.edu/cognates>) and the Advanced Writing and Communication Skills Proficiency requirement.

Upper Level Elective Requirement

36 credits at the 300 level or higher are required for graduation. These credits may be earned from your major, minor and/or second major, and electives.

Suggested Plan of Study

Course	Title	Credit Hours
Freshman Year		
Fall		
CIM 103	Survey of Motion Pictures	3
CIM 151	Introduction to Digital Filmmaking	3
CIM 126	Introduction to Screenwriting	3
ENG 105	English Composition I	3
MTH 113, JMM 285, or STC 103	Finite Mathematics or Applied Statistics for Journalism and Media Management or Statistical Reasoning for Strategic Communication	3
	Credit Hours	15
Spring		
COM 250	Freedom of Expression and Communication Ethics	3
ENG 106	English Composition II	3
People and Society Cognate		3
STEM Cognate		3
Minor, Second Major or Elective		3
	Credit Hours	15
Sophomore Year		
Fall		
CIM 206	History of International Cinema	3
CIM 326	Intermediate Screenwriting	3
People and Society Cognate		3
STEM Cognate		3
Minor, Second Major or Elective		3
	Credit Hours	15
Spring		
COS 211, 333, or JMM 233	Public Speaking or Business Communication or Television Performance	3
CIM 426	Advanced Screenwriting	3

People and Society Cognate		3
STEM Cognate		3
Minor, Second Major or Elective		3
	Credit Hours	15
Junior Year		
Fall		
CIM 329	Writing for Series Television	3
Select one of the following:		3
CIM 401	Nonfiction Film and Digital Media	
CIM 403	Film Directors	
CIM 404	Aspects of Contemporary Cinema	
CIM 405	Representations of Sport in Popular Culture	
CIM 406	Genres	
CIM 407	National Cinemas	
CIM 408	Women, Media, and Popular Culture	
CIM 444	Internet and Media Activism	
CIM 594	Special Topics in Cinema and Interactive Media	
Minor, Second Major or Elective		3
Minor, Second Major or Elective		3
Minor, Second Major or Elective		3
	Credit Hours	15
Spring		
Select one of the following:		3
CIM 429	Advanced Television Writing	
CIM 489	Projects in Screenwriting	
CIM 499	Projects and Directed Research	
CIM 526	Adaptation	
CIM 594	Special Topics in Cinema and Interactive Media	
Minor, Second Major or Elective		3
Minor, Second Major or Elective		3
Minor, Second Major or Elective		3
Minor, Second Major or Elective		3
	Credit Hours	15
Senior Year		
Fall		
Select one of the following:		3
CIM 489	Projects in Screenwriting	
CIM 499	Projects and Directed Research	
CIM 594	Special Topics in Cinema and Interactive Media	
Minor, Second Major or Elective		3
Minor, Second Major or Elective		3
Minor, Second Major or Elective		3
Minor, Second Major or Elective		3
	Credit Hours	15
Spring		
CIM 514	Motion Picture Studio	3
Minor, Second Major or Elective		3
Minor, Second Major or Elective		3
Minor, Second Major or Elective		3

Minor, Second Major or Elective	3
Credit Hours	15
Total Credit Hours	120

Minor in Game Design

Code	Title	Credit Hours
Core ^{1,2}		
CIM 211	Interaction Design	3
CIM 310	Introduction to Game Design	3
CIM 471	Social Impact Games	3
Choose two from the following:		6
STC 102	Graphic Design for Strategic Communication ³	
JMM 106	Visual Design ³	
CIM 126	Introduction to Screenwriting	
CIM 413	Mobile Application Development	
CIM 523	Advanced 3D Character Design and Motion Capture	
CIM 540	Intro to Creative Coding	
CIM 545	Managing Interactive Media Projects	
Total Credit Hours		15

- ¹ A minimum grade of C or higher is required for all courses taken toward the minor.
- ² Students *cannot double count* any CIM courses from the Game Design minor towards the Motion Pictures major and/or minor or the Interactive Media minor.
- ³ Students may only take one digital design course (JMM 106 or STC 102) towards the minor.
- * Any exceptions or substitutions to the minor must be approved by the Director of the Interactive Media Program or CIM faculty advisor.

Minor in Interactive Media

Code	Title	Credit Hours
Required Core for Interactive Media Minor ¹		
CIM 111	Web Lab	3
CIM 211	Interaction Design	3
CIM 540	Intro to Creative Coding	3
Electives ³		
Choose three of the following:		9
CIM 413	Mobile Application Development	
CIM 513	UX Research Methods	
CIM 542	Physical Computing	
CIM 593	Dynamic Data	
CIM 594	Special Topics in Cinema and Interactive Media ²	
or CIM 513	UX Research Methods	
JMM 331	Information Graphics and Visualization	
STC 102	Graphic Design for Strategic Communication	
Total Credit Hours		18

- ¹ Students *cannot double count* any CIM courses from the Interactive Media minor towards the Motion Pictures major and/or minor or the Game Design minor.
- ² Only UX Design may count as the CIM 594 Special Topics in Motion Pictures elective for the Interactive Media minor. Other electives must be approved by the director or faculty advisor of the Interactive Media program.
- ³ Students, in conjunction with an advisor, can construct an Interactive Media minor focusing on one of these suggested areas: Development, Design and UX Research. These suggested areas listed below are notated on the transcript as an Interactive Media minor.
- * All courses for the minor must be passed with a minimum grade of C or higher.

Suggested Options

Designer Courses

Code	Title	Credit Hours
Select three of the following:		9
STC 102	Graphic Design for Strategic Communication	
JMM 331	Information Graphics and Visualization	
CIM 594 or CIM 513	Special Topics in Cinema and Interactive Media (UX Design) ² UX Research Methods	

Developer Courses

Code	Title	Credit Hours
Select three of the following:		9
CIM 413	Mobile Application Development	
CIM 542	Physical Computing	
CIM 593	Dynamic Data	

Researcher Courses

Code	Title	Credit Hours
Select three of the following:		9
JMM 331	Information Graphics and Visualization	
CIM 513	UX Research Methods	
CIM 594	Special Topics in Cinema and Interactive Media (UX Design) ²	

Minor in Motion Pictures

Code	Title	Credit Hours
CIM 103	Survey of Motion Pictures	3
Select a maximum of 6 credits in CIM at the 100 or 200 level		6
Select a minimum of 6 credits in CIM at the 300 or 400 or 500 level		6
Total Credit Hours		15

¹ A grade of C or higher is required in all courses (a C- is not acceptable).

² Students with minors in Motion Pictures, Game Design and Interactive Media may not double count any CIM courses towards these minors.

Motion Pictures Minor for Journalism Visual and Documentary Track Only

This suggested track will be notated on the transcript as the Motion Pictures minor. Journalism majors must complete CIM 103 and a minimum of 12 credits from the following list:

Code	Title	Credit Hours
CIM 103	Survey of Motion Pictures	3
Select 4 to 5 courses:		12-15
CIM 355	Essentials of Documentary Film	
CIM 353	Post Production Sound Editing and Design ¹	
CIM 357	Editing ¹	
CIM 401	Nonfiction Film and Digital Media ¹	
CIM 458	Documentary Production ¹	
Total Credit Hours		15-18

¹ Journalism majors will need a permission code to enroll in courses. CIM faculty advisor will determine if the student has equivalent JMM course prerequisites before waiving or substituting requirements.

Communication Studies

<http://com.miami.edu/programs>

The Department of Communication Studies offers a major in Communication Studies and minors in Communication Studies (COS) and Health Communication (CHCO).

Introduction

The major in Communication Studies empowers students to acquire advanced skills in many areas involving human interaction, cross-cultural and international communication, advocacy, argumentation, relationship building, leadership, presentation (oral and written), critical thinking, research and writing. Students become familiar with the rich tradition of communication theory and research, investigate emerging knowledge about communication, and contribute to the growth of new understanding by developing and applying their research capabilities. Students also are challenged to employ their communication understanding and skills in meaningful ways through experiential learning, and professional and community involvement. Communication Studies blends a broad-based theoretical understanding of communication principles with specific and concrete applications to particular contexts.

Students are prepared for a variety of career options in health communication, business and the professions, politics and public advocacy, education, training and media, as well as further graduate and professional study in communication, law and other areas.

Major Cognate Area

- Communication Studies
 - People and Society

Minor Cognate Area

- Communication Studies
 - People and Society
- Health Communication
 - People and Society

Degree Programs

The Bachelor of Science in Communication is offered in Communication Studies.

Major in Communication Studies

A major is offered in Communication Studies.

Each candidate for the degree of Bachelor of Science in Communication will complete School of Communication requirements including courses in the School's General Education Required Areas of Study. Communication Studies majors must also complete a separate minor or a second major in either a second Program of Study within the School or in an academic program outside the School.

Admission to the Communication Studies major

Before admission as a Communication Studies (COS) major, a student must:

- Complete the four Core courses listed below, in residence at the University, all with grades of C or higher (C- is not acceptable).
- Students who have obtained the written approval of the Chair of Communication Studies to use transfer credit hours to satisfy one or more requirements of that major may be required to complete additional courses in residence at the University before being admitted to that major.
- Upon completion of a student's first 45 University credit hours while enrolled in the School of Communication, all University credit hours earned toward the major will be used in computing a student's major cumulative grade point average; only those students with a cumulative average of 2.5 or higher will be admitted to the major.
- A student who has completed 45 credit hours while enrolled in the School of Communication, but who has not been admitted to one of the Communication majors, may be dismissed from the School. A student who has completed 60 University credit hours while enrolled in the School, but who has not been admitted to one of the Communication majors, will be dismissed from the School.

Major in Communication Studies

- B.S.C. in Communication Studies - General Track (p. 507)
- B.S.C. in Communication Studies - Intercultural Track (p. 509)
- B.S.C. in Communication Studies - Organizational Track (p. 511)
- B.S.C. in Communication Studies - Public Advocacy Track (p. 513)

Minors in Communication Studies

- Communication Studies (p. 517)
- Health Communication (p. 518)

B.S.C. Communication Studies - General Track

Curriculum Requirements

Code	Title	Credit Hours
Core Courses		
COS 120	Exploring Human Communication	3
COS 220	Communication Theory	3
COM 250	Freedom of Expression and Communication Ethics	3
Advanced Writing and Communication Skills Requirement		
Select one of the following presentational skills courses:		3
COS 211	Public Speaking	
COS 333	Business Communication	
Select one of the following digital skills courses:		3
CIM 111	Web Lab	
CIM 151	Introduction to Digital Filmmaking	
JMM 106	Visual Design	
STC 102	Graphic Design for Strategic Communication	
Majors in Communication Studies - General Track must select one of the following options: Applied or Research & Theory		21
Applied Communication Option		
COS 210 or COS 360	Writing for Communication Studies Speech Writing	
COS 355	Applied Communication Research Methods	
15 credits in COS electives chosen with department advisor		
Research and Theory Option		
COS 210	Writing for Communication Studies	
COS 351	Qualitative Research Methods	
COS 353	Quantitative Communication Research Methods and Analyses	
12 credits in COS electives chosen with department advisor		
Additional Requirements ^{1,2}		
ENG 105 & ENG 106		6
MTH 113 or JMM 285 or STC 103		3
Arts and Humanities Cognate		9
STEM Cognate		9
Minor, Second Major and Electives		57
Total Credit Hours		120

School of Communication students are required to complete a minimum of a minor (inside or outside of the school) in addition to their Communication major to graduate. For an optional 2nd major, please see your advisor.

School of Communication students must complete 6 credits of English Composition unless exempt based on SAT/ACT score or AP/IB exam, 3-6 credits of Mathematics, University Cognates (<http://www.miami.edu/cognates>) and the Advanced Writing and Communication Skills Proficiency requirement.

Upper Level Elective Requirement

36 credits at the 300 level or higher are required for graduation. These credits may be earned from your major, minor and/or second major, and electives.

Suggested Plan of Study (Applied Option)

Course	Title	Credit Hours
Freshman Year		
Fall		
COS 220	Communication Theory	3
ENG 105	English Composition I	3
MTH 113	Finite Mathematics	3

Arts and Humanities Cognate		3
Minor or Second Major or Elective		3
	Credit Hours	15
Spring		
COS 120	Exploring Human Communication	3
COM 250	Freedom of Expression and Communication Ethics	3
ENG 106	English Composition II	3
Arts and Humanities Cognate		3
STEM Cognate		3
	Credit Hours	15
Sophomore Year		
Fall		
COS 211 or 333	Public Speaking or Business Communication	3
Arts and Humanities Cognate		3
STEM Cognate		3
Minor or Second Major		3
Minor or Second Major or Elective		3
	Credit Hours	15
Spring		
COS 210 or 360	Writing for Communication Studies or Speech Writing	3
Select one of the following:		3
CIM 111	Web Lab	
CIM 151	Introduction to Digital Filmmaking	
JMM 106	Visual Design	
STC 102	Graphic Design for Strategic Communication	
COS Elective at the 300 level or above		3
STEM Cognate		3
Minor or Second Major		3
	Credit Hours	15
Junior Year		
Fall		
COS Elective at the 300 level or above		3
Minor or Second Major or Elective		3
Minor or Second Major or Elective		3
Minor or Second Major or Elective		3
Minor or Second Major or Elective		3
	Credit Hours	15
Spring		
COS Elective at the 300 level or above		3
Minor or Second Major or Elective		3
Minor or Second Major or Elective		3
Minor or Second Major or Elective		3
Minor or Second Major or Elective		3
	Credit Hours	15
Senior Year		
Fall		
COS 355	Applied Communication Research Methods	3
COS Elective at the 300 level or above		3
Minor or Second Major or Elective		3
Minor or Second Major or Elective		3

Minor or Second Major or Elective		3
	Credit Hours	15
Spring		
COS Elective at the 300 level or above		3
Minor or Second Major or Elective		3
Minor or Second Major or Elective		3
Minor or Second Major or Elective		3
Minor or Second Major or Elective		3
	Credit Hours	15
	Total Credit Hours	120

B.S.C. Communication Studies - Intercultural Track

Curriculum Requirements

Code	Title	Credit Hours
Core Courses		
COS 120	Exploring Human Communication	3
COS 220	Communication Theory	3
COM 250	Freedom of Expression and Communication Ethics	3
Advanced Writing and Communication Skills Requirement		
Select one of the following presentational skills courses:		3
COS 211	Public Speaking	
COS 333	Business Communication	
Select one of the following digital skills courses:		3
CIM 111	Web Lab	
CIM 151	Introduction to Digital Filmmaking	
JMM 106	Visual Design	
STC 102	Graphic Design for Strategic Communication	
Intercultural Track Courses		9
COS 318	Nonverbal Communication	
COS 343	Introduction to Intercultural Communication	
COS 545	Intercultural Communication: International Perspectives	
or COS 546	Intercultural Communication: Domestic Perspectives	
Majors in Communication Studies - Intercultural Track must select one of the following options: Applied or Research & Theory		12
Applied Communication Option		
COS 210	Writing for Communication Studies	
or COS 360	Speech Writing	
COS 355	Applied Communication Research Methods	
6 credits in additional COS electives chosen with a departmental advisor		
Research and Theory Option		
COS 210	Writing for Communication Studies	
COS 351	Qualitative Research Methods	
COS 353	Quantitative Communication Research Methods and Analyses	
3 credits in additional COS electives chosen with a departmental advisor		
Additional Requirements ^{1,2}		
ENG 105 & ENG 106		6
MTH 113 or JMM 285 or STC 103		3
Arts and Humanities Cognate		9
STEM Cognate		9
Minor, Second Major or Electives		57
Total Credit Hours		120

School of Communication students are required to complete a minimum of a minor (inside or outside of the school) in addition to their Communication major to graduate. For an optional 2nd major, please see your advisor.

School of Communication students must complete 6 credits of English Composition unless exempt based on SAT/ACT score or AP/IB exam, 3-6 credits of Mathematics, University Cognates (<http://www.miami.edu/cognates>) and the Advanced Writing and Communication Skills Proficiency requirement.

Upper Level Elective Requirement

36 credits at the 300 level or higher are required for graduation. These credits may be earned from your major, minor and/or second major, and electives.

Suggested Plan of Study (Applied Option)

Course	Title	Credit Hours
Freshman Year		
Fall		
COS 220	Communication Theory	3
ENG 105	English Composition I	3
MTH 113	Finite Mathematics	3
Arts and Humanities Cognate		3
STEM Cognate		3
		Credit Hours
		15
Spring		
COS 120	Exploring Human Communication	3
COM 250	Freedom of Expression and Communication Ethics	3
ENG 106	English Composition II	3
Arts and Humanities Cognate		3
STEM Cognate		3
Minor, Second Major or Elective		3
		Credit Hours
		18
Sophomore Year		
Fall		
COS 211 or 333	Public Speaking or Business Communication	3
COS 343	Introduction to Intercultural Communication	3
Arts and Humanities		3
STEM Cognate		3
Minor or Second Major or Elective		3
		Credit Hours
		15
Spring		
Select one of the following:		3
CIM 111	Web Lab	
CIM 151	Introduction to Digital Filmmaking	
JMM 106	Visual Design	
STC 102	Graphic Design for Strategic Communication	
Arts and Humanities Cognate		3
STEM Cognate		3
Minor or Second Major or Elective		3
Minor or Second Major or Elective		3
		Credit Hours
		15
Junior Year		
Fall		
COS 318	Nonverbal Communication (or other COS elective at the 300 level or above)	3
COS 545	Intercultural Communication: International Perspectives	3
Minor or Second Major		3

Minor or Second Major		3
Elective		3
	Credit Hours	15
Spring		
COS 210 or 360	Writing for Communication Studies or Speech Writing	3
COS 546	Intercultural Communication: Domestic Perspectives	3
Minor or Second Major or Elective		3
Minor or Second Major or Elective		3
Minor or Second Major or Elective		3
	Credit Hours	15
Senior Year		
Fall		
COS 355	Applied Communication Research Methods	3
Minor or Second Major or Elective		3
Minor or Second Major or Elective		3
Minor or Second Major or Elective		3
Minor or Second Major or Elective		3
	Credit Hours	15
Spring		
COS Elective at the 300 level or above		3
Minor or Second Major or Elective		3
Minor or Second Major or Elective		3
Minor or Second Major or Elective		3
Minor or Second Major or Elective		3
	Credit Hours	15
	Total Credit Hours	123

B.S.C. Communication Studies - Organizational Track

Curriculum Requirements

Code	Title	Credit Hours
Core Courses		
COS 120	Exploring Human Communication	3
COS 220	Communication Theory	3
COM 250	Freedom of Expression and Communication Ethics	3
Advanced Writing and Communication Skills Requirement		
Select one of the following digital skills courses:		3
CIM 111	Web Lab	
CIM 151	Introduction to Digital Filmmaking	
JMM 106	Visual Design	
STC 102	Graphic Design for Strategic Communication	
Organizational Concentration Courses		
COS 316	Small Group Communication	3
COS 330	Conflict Management	3
COS 333	Business Communication	3
COS 418	Organizational Communication	3
Majors in Communication Studies - Organizational Track must select one of the following options: Applied or Research & Theory		12
Applied Communication Option		
COS 210 or COS 360	Writing for Communication Studies Speech Writing	

COS 355	Applied Communication Research Methods	
6 credits of additional COS electives chosen with a departmental advisor		
Research and Theory Option		
COS 210	Writing for Communication Studies	
COS 351	Qualitative Research Methods	
COS 353	Quantitative Communication Research Methods and Analyses	
3 credits of additional COS electives chosen with a departmental advisor		
Additional Requirements ^{1,2}		
ENG 105 & ENG 106		6
MTH 113 or JMM 285 or STC 103		3
Arts and Humanities Cognate		9
STEM Cognate		9
Minor or Second Major and Electives		57
Total Credit Hours		120

School of Communication students are required to complete a minimum of a minor (inside or outside of the school) in addition to their Communication major to graduate. For an optional 2nd major, please see your advisor.

School of Communication students must complete 6 credits of English Composition unless exempt based on SAT/ACT score or AP/IB exam, 3-6 credits of Mathematics, University Cognates (<http://www.miami.edu/cognates>) and the Advanced Writing and Communication Skills Proficiency requirement.

Upper Level Elective Requirement

36 credits at the 300 level or higher are required for graduation. These credits may be earned from your major, minor and/or second major, and electives.

Suggested Plan of Study (Applied Option)

Course	Title	Credit Hours
Freshman Year		
Fall		
COS 220	Communication Theory	3
ENG 105	English Composition I	3
MTH 113	Finite Mathematics	3
Arts and Humanities Cognate		3
STEM Cognate		3
	Credit Hours	15
Spring		
COS 120	Exploring Human Communication	3
COM 250	Freedom of Expression and Communication Ethics	3
ENG 106	English Composition II	3
Arts and Humanities Cognate		3
STEM Cognate		3
	Credit Hours	15
Sophomore Year		
Fall		
COS 333	Business Communication	3
Arts and Humanities Cognate		3
STEM Cognate		3
Minor or Second Major or Elective		3
Minor or Second Major or Elective		3
	Credit Hours	15
Spring		
Select one of the following:		3
CIM 111	Web Lab	

CIM 151	Introduction to Digital Filmmaking	
JMM 106	Visual Design	
STC 102	Graphic Design for Strategic Communication	
COS Elective at the 300 level or above		3
Minor or Second Major or Elective		3
Minor or Second Major or Elective		3
Minor or Second Major or Elective		3
Credit Hours		15
Junior Year		
Fall		
COS 316	Small Group Communication	3
COS Elective at the 300 level or above		3
Minor or Second Major or Elective		3
Minor or Second Major or Elective		3
Minor or Second Major or Elective		3
Credit Hours		15
Spring		
COS 210 or 360	Writing for Communication Studies or Speech Writing	3
Minor or Second Major or Elective		3
Minor or Second Major or Elective		3
Minor or Second Major or Elective		3
Minor or Second Major or Elective		3
Credit Hours		15
Senior Year		
Fall		
COS 355	Applied Communication Research Methods	3
COS 418	Organizational Communication	3
Minor or Second Major or Elective		3
Minor or Second Major or Elective		3
Minor or Second Major or Elective		3
Credit Hours		15
Spring		
COS 330	Conflict Management	3
Minor or Second Major or Elective		3
Minor or Second Major or Elective		3
Minor or Second Major or Elective		3
Minor or Second Major or Elective		3
Credit Hours		15
Total Credit Hours		120

B.S.C. Communication Studies - Public Advocacy Track

Curriculum Requirements

Code	Title	Credit Hours
Core Courses		
COS 120	Exploring Human Communication	3
COS 220	Communication Theory	3
COM 250	Freedom of Expression and Communication Ethics	3
Advanced Writing and Communication Skills Requirement		
Select one of the following presentational skills courses:		3
COS 211	Public Speaking	

or COS 333	Business Communication	
Select one of the following digital skills courses:		3
CIM 111	Web Lab	
CIM 151	Introduction to Digital Filmmaking	
JMM 106	Visual Design	
STC 102	Graphic Design for Strategic Communication	
Select 9 credits from the following for the Public Advocacy Track:		9
COS 304	Intercollegiate Debate Theory and Practice (Must complete 3 credit hours)	
COS 311	Advanced Oral Advocacy	
COS 314	The Power of Dialogue	
COS 316	Small Group Communication	
COS 318	Nonverbal Communication	
COS 330	Conflict Management	
COS 336	Political Communication	
COS 354	Organizing for Action	
COS 377	Argumentation and Critical Thinking	
COS 472	Persuasion	
COS 473	Words that Shaped the World	
COS 474	Presidential Debates	
Majors in Communication Studies - Public Advocacy Track must select one of the following options: Applied Communication or Research & Theory		12
Applied Communication Option		
COS 210	Writing for Communication Studies	
or COS 360	Speech Writing	
COS 355	Applied Communication Research Methods	
6 credits of additional COS electives chosen with department advisor		
Research and Theory Option		
COS 210	Writing for Communication Studies	
COS 351	Qualitative Research Methods	
COS 353	Quantitative Communication Research Methods and Analyses	
3 credits of additional COS electives chosen with department advisor		
Additional Requirements ^{1,2}		
ENG 105 & ENG 106		6
MTH 113 or JMM 285 or STC 103		3
Arts and Humanities Cognate		9
STEM Cognate		9
Minor, Second Major and Electives		57
Total Credit Hours		120

School of Communication students are required to complete a minimum of a minor (inside or outside of the school) in addition to their Communication major to graduate. For an optional 2nd major, please see your advisor.

School of Communication students must complete 6 credits of English Composition unless exempt based on SAT/ACT score or AP/IB exam, 3-6 credits of Mathematics, University Cognates (<http://www.miami.edu/cognates>) and the Advanced Writing and Communication Skills Proficiency requirement.

Upper Level Elective Requirement

36 credits at the 300 level or higher are required for graduation. These credits may be earned from your major, minor and/or second major, and electives.

Suggested Plan of Study (Applied Option)

Course	Title	Credit Hours
Freshman Year		
Fall		
COS 220	Communication Theory	3
ENG 105	English Composition I	3
MTH 113	Finite Mathematics	3
Arts and Humanities Cognate		3
STEM Cognate		3
		Credit Hours
		15
Spring		
COS 120	Exploring Human Communication	3
ENG 106	English Composition II	3
Arts and Humanities Cognate		3
STEM Cognate		3
Minor, Second Major or Elective		3
		Credit Hours
		15
Sophomore Year		
Fall		
COS 211 or 333	Public Speaking or Business Communication	3
COM 250	Freedom of Expression and Communication Ethics	3
Arts and Humanities Cognate		3
STEM Cognate		3
Minor or 2nd Major Course		3
		Credit Hours
		15
Spring		
Select one of the following:		3
CIM 111	Web Lab	
CIM 151	Introduction to Digital Filmmaking	
JMM 106	Visual Design	
STC 102	Graphic Design for Strategic Communication	
COS Elective at the 300 level or above		3
COS Elective at the 300 level or above		3
Minor or Second Major or Elective		3
Minor or Second Major or Elective		3
		Credit Hours
		15
Junior Year		
Fall		
Select one of the following:		3
COS 304	Intercollegiate Debate Theory and Practice (Must take 3 times)	
COS 311	Advanced Oral Advocacy	
COS 314	The Power of Dialogue	
COS 316	Small Group Communication	
COS 318	Nonverbal Communication	
COS 330	Conflict Management	
COS 336	Political Communication	
COS 354	Organizing for Action	
COS 377	Argumentation and Critical Thinking	
COS 472	Persuasion	
COS 473	Words that Shaped the World	
COS 474	Presidential Debates	

COS 477	Engaged Communication	
Minor, Second Major or Elective		3
Minor, Second Major or Elective		3
Minor, Second Major or Elective		3
Minor or Second Major or Elective		3
	Credit Hours	15
Spring		
COS 210 or 360	Writing for Communication Studies or Speech Writing	3
Select one of the following:		3
COS 304	Intercollegiate Debate Theory and Practice (Must take 3 times)	
COS 311	Advanced Oral Advocacy	
COS 314	The Power of Dialogue	
COS 316	Small Group Communication	
COS 318	Nonverbal Communication	
COS 330	Conflict Management	
COS 336	Political Communication	
COS 354	Organizing for Action	
COS 377	Argumentation and Critical Thinking	
COS 473	Words that Shaped the World	
COS 474	Presidential Debates	
COS 477	Engaged Communication	
Minor or Second Major or Elective		3
Minor or Second Major or Elective		3
Minor or Second Major or Elective		3
	Credit Hours	15
Senior Year		
Fall		
COS 355	Applied Communication Research Methods	3
Minor or Second Major or Elective		3
Minor or Second Major or Elective		3
Minor or Second Major or Elective		3
Minor or Second Major or Elective		3
	Credit Hours	15
Spring		
Select one of the following:		3
COS 304	Intercollegiate Debate Theory and Practice (Must take 3 times)	
COS 311	Advanced Oral Advocacy	
COS 314	The Power of Dialogue	
COS 316	Small Group Communication	
COS 318	Nonverbal Communication	
COS 330	Conflict Management	
COS 336	Political Communication	
COS 354	Organizing for Action	
COS 377	Argumentation and Critical Thinking	
COS 472	Persuasion	
COS 473	Words that Shaped the World	
COS 474	Presidential Debates	
COS 477	Engaged Communication	
Minor or Second Major or Elective		3
Minor or Second Major or Elective		3
Minor or Second Major or Elective		3

Minor or Second Major or Elective	3
Credit Hours	15
Total Credit Hours	120

Minor in Communication Studies

Communication Studies Minor

The minor in Communication Studies requires 15 credit hours, at least six of which must be at the 300-level or above. The additional credit hours must be chosen with prior approval of a Communication Studies advisor. A grade of C or higher is required in all courses (a C- is not acceptable).

Students, in conjunction with an advisor, can construct a Communication Studies minor focusing on areas of specific interest. These sample areas of concentration listed below are notated on the transcript as a Communication Studies minor. Possible areas of concentration include the following:

Sample Concentration in General Communication Studies

Offers a rich background in the field of human communication in a variety of contexts applicable to all personal, social and professional endeavors. Complements any major or academic/career objective.

Code	Title	Credit Hours
COS 120	Exploring Human Communication	3
Select four of the following:		12
COS 112	Interpersonal Communication	
COS 211	Public Speaking	
COS 220	Communication Theory	
COS 316	Small Group Communication	
COS 318	Nonverbal Communication	
COS 333	Business Communication	
COS 336	Political Communication	
COS 343	Introduction to Intercultural Communication	
COS 418	Organizational Communication	
Total Credit Hours		15

Sample Concentration in Organizational Communication

Offers practical application of theoretical concepts in organizational environments to develop skills in effective leadership, management, teamwork, conflict resolution, and professional presentations. Appropriate for students interested in working for a wide-range of businesses including profit and non-profit corporations, and government agencies.

Code	Title	Credit Hours
Select five of the following:		15
COS 120	Exploring Human Communication	
COS 220	Communication Theory	
COS 316	Small Group Communication	
COS 318	Nonverbal Communication	
COS 330	Conflict Management	
COS 333	Business Communication	
COS 343	Introduction to Intercultural Communication	
COS 418	Organizational Communication	
COS 560	The Executive Communicator	
Total Credit Hours		15

Sample Concentration in Public Advocacy

Offers theory and application of oral communication and argumentation as it is used to influence others to promote social change and accomplish persuasive advocacy. Appropriate for students interested in a wide range of objectives, including legal studies and pre-law, sales, advertising, marketing, entrepreneurship, and civic and political engagement.

Code	Title	Credit Hours
COS 211	Public Speaking	3
Select one of the following:		3
COS 304	Intercollegiate Debate Theory and Practice (complete three credits)	
COS 377	Argumentation and Critical Thinking	
Select three of the following:		9
COS 311	Advanced Oral Advocacy	
COS 314	The Power of Dialogue	
COS 318	Nonverbal Communication	
COS 336	Political Communication	
COS 352	Critical Research in Communication	
COS 472	Persuasion	
COS 473	Words that Shaped the World	
COS 474	Presidential Debates	
Total Credit Hours		15

Minor in Health Communication

Code	Title	Credit Hours
COS 324	Health Communication	3
BPH 206	Introduction to Public Health	3
Select two Communication Studies Electives		6
COS 325	Communication in Health Organization	
COS 426	Patient-Provider Communication	
COS 427	Health Behavior and Risk	
COS 472	Persuasion	
Select one Public Health Elective		3
BPH 305	Issues in Health Disparities	
BPH 310	Global Health	
BPH 321	Health Promotion and Disease Prevention	
BPH 322	Introduction to Health Policy	
Total Credit Hours		15

* A grade of C or higher is required in all courses (a grade of C- or lower is not acceptable).

Journalism and Media Management

<http://com.miami.edu/programs>

The Department of Journalism and Media Management offers majors in Broadcast Journalism, Electronic Media, Journalism and Media Management and minors in Broadcast Journalism, Electronic Media, Hispanic Media, Journalism and Media Management.

Dept. Code: JMM

Introduction

The Department of Journalism and Media Management emphasizes hands-on learning and critical thinking within a multicultural, international context. Our students consistently win regional and national awards, and obtain prestigious internships and long-term positions in a competitive media marketplace. Additionally, they are meeting the challenges of the evolving media industry through entrepreneurial leadership. Our graduates also gain admission to excellent graduate programs and professional schools in a variety of fields.

Four majors and five minors are offered in the Department of Journalism and Media Management. The department's programs attract students interested in working in these specific fields, but also provide strong writing, creative, and analytical skills to students who pursue careers in other fields, such as law and business.

The School of Communication's Electronic Media and Broadcast Journalism majors are designed for students who intend to pursue professional work in electronic news, production operations and allied fields.

Students majoring or minoring in these subjects study all aspects of television, radio, cable, broadband, digital and mobile operations. All Broadcast Journalism and Electronic Media students are encouraged to become involved in UMTV (the campus cable television channel available to the community, the UM campus and over the web) and the student-run radio station, WVUM-FM, serving South Florida.

The School's Media Management major is designed for students interested in the business and management aspects of contemporary media. Students may pursue interests in entrepreneurship, sales, management, technology and research, among other topics. Students are encouraged to network with industry professionals at Media Management Association meetings and expand their knowledge of media business operations on various platforms through local and national internships.

The School's major in Journalism prepares students to be writers, editors and designers for a variety of media from mainstream and alternative newspapers and magazines to online media and entrepreneurial ventures. We emphasize effective storytelling through writing, audio and video recording, photography, graphics and data visualization. Reporting skills, analytical thinking and journalistic ethics are stressed throughout the program. Students are encouraged to work for *The Miami Hurricane*, the student-run newspaper, *Distraction* magazine and the *Ibis* yearbook, all of which are nationally award-winning publications. The robust South Florida media market also provides off-campus opportunities at various professional publications and websites.

Students majoring in Journalism may concentrate their studies in one of several tracks or areas or they may customize their course of study. The suggested tracks include: Reporting and Writing (which is the general journalism or custom track); Media and Journalism Studies (a more conceptual and less applied track for students interested in media analysis); Visual and Documentary Journalism (which allows for the study of photography, web design and videography or documentaries); and Sports, Travel and Lifestyle Features (which focuses on these as related areas of content). These tracks allow students the flexibility to design programmatic concentrations in everything from writing to web design to documentary and visual storytelling.

The School's facilities include a state-of-the-art radio studio, two high-definition television studios, digital post-production suites and related capabilities.

Major Cognate Area

- Broadcast Journalism
 - People and Society
- Electronic Media
 - People and Society
- Journalism
 - People and Society
- Media Management
 - People and Society

Minor Cognate Area

- Broadcast Journalism
 - People and Society
- Electronic Media
 - People and Society
- Hispanic Media
 - People and Society
- Journalism
 - People and Society
- Media Management
 - People and Society

Degree Programs

The Bachelor of Science in Communication is offered in Journalism, Electronic Media, Broadcast Journalism, and Media Management.

Major

Majors are offered in:

- Electronic Media
- Broadcast Journalism
- Media Management
- Journalism

Each candidate for the degree of Bachelor of Science in Communication will complete School of Communication requirements including courses in the School's General Education Required Areas of Study. All majors must also complete a separate minor or second major within the School or in an academic program outside the School.

NOTE: Departmental Majors, if you wish to double major in the Department of Journalism and Media Management, you must first obtain the written approval of the JMM Department Chair.

Admission to the Electronic Media, Broadcast Journalism, Media Management and Journalism Majors

Before admission as an Electronic Media, Broadcast Journalism, Media Management or Journalism major, a student must:

- Complete the Core courses listed below, in residence at the University, all with grades of C or higher (C- is not acceptable).
- Students who have obtained the written approval of the Chair of Journalism and Media Management to use transfer credit hours to satisfy one or more requirements of that major may be required to complete additional courses in residence at the University before being admitted to that major.
- Upon completion of a student's first 45 University credit hours while enrolled in the School of Communication, all University credit hours earned toward the major will be used in computing a student's major cumulative grade point average; only those students with a cumulative average of 2.5 or higher will be admitted to a major.
- A student who has completed 45 credit hours while enrolled in the School of Communication, but who has not been admitted to one of the Communication majors, may be dismissed from the School. A student who has completed 60 University credit hours while enrolled in the School, but who has not been admitted to one of the Communication majors, will be dismissed from the School.

Majors in Journalism and Media Management

- B.S.C. in Broadcast Journalism (p. 520)
- B.S.C. in Electronic Media (p. 523)
- B.S.C. in Journalism (p. 526)
- B.S.C. in Media Management (p. 532)

Minors in Journalism and Media Management

- Broadcast Journalism (p. 535)
- Electronic Media (p. 535)
- Hispanic Media (p. 536)
- Journalism (p. 537)
- Media Management (p. 537)

B.S.C. Broadcast Journalism

Curriculum Requirements

Code	Title	Credit Hours
JMM 102	Understanding Media and Content in the Digital Age	3
JMM 108	Writing for the Digital Age	3
COM 250	Freedom of Expression and Communication Ethics	3
Advanced Writing and Communication Skills Requirement		
COS 211 or COS 333 or JMM 233	Public Speaking Business Communication Television Performance	3
Other Required Courses		
JMM 208	Fundamentals of Newsgathering	3
JMM 245	Introduction to Electronic Media Production	3
JMM 303	Communication Law and Policy	3
JMM 317	Broadcast Journalism	3
JMM 345	Intermediate Electronic Media Production	3
JMM 517	Television News Reporting	3
JMM 527 or JMM 341	Television News Producing Web Design	3
Select 9 additional credit hours in School of Communication courses ³		9
Additional Suggested Courses		
Consider additional elective options in Broadcast Journalism, which include (but are not limited to) the following:		
JMM 106	Visual Design	
JMM 233	Television Performance	

JMM 285	Applied Statistics for Journalism and Media Management	
JMM 301	Media Research and Analysis	
JMM 305	Legal Issues in Media Management	
JMM 306	Special Topics in Journalism and Media Management II	
JMM 307	Mobile Journalism	
JMM 309	Data Journalism	
JMM 331	Information Graphics and Visualization	
JMM 341	Web Design	
JMM 404	Latinos and the Media	
JMM 406	Special Topics in Journalism and Media Management III	
JMM 419	Interactive Storytelling	
JMM 443	Covering the Arts	
JMM 444	Public Affairs Reporting	
JMM 445	Advanced Electronic Media Production	
JMM 446	Travel Writing	
JMM 447	In-depth Journalism and Media Convergence	
JMM 448	Sports and the Media	
JMM 461	Seminar in News Ethics and Problems	
JMM 495	Internship in Journalism and Media Management	
JMM 499	Projects and Directed Research	
JMM 510	Comparative Media Systems	
JMM 511	Global Media	
JMM 521	Seminar in Visual Storytelling	
JMM 522	Advance Infographics and Data Visualization	
JMM 523	Sports Reporting	
JMM 527	Television News Producing	
JMM 531	Database Journalism	
JMM 533	Social Media	
JMM 537	The Business of Modern Journalism	
JMM 541	Advanced Audio Video Narratives	
JMM 544	Feature Writing	
JMM 592	Special Topics in Journalism and Media Management	
Other JMM or COM courses as approved by a faculty advisor in JMM		
Additional Requirements ^{1,2}		
ENG 105 & ENG 106		6
MTH 113 or JMM 285 or STC 103		3
Arts and Humanities Cognate		9
STEM Cognate		9
Minor, Second Major and Electives		51
Total Credit Hours		120

School of Communication students are required to complete a minimum of a minor (inside or outside of the school) in addition to their Communication major to graduate. For an optional 2nd major, please see your advisor.

School of Communication students must complete 6 credits of English Composition unless exempt based on SAT/ACT score or AP/IB exam, 3-6 credits of Mathematics, University Cognates (<http://www.miami.edu/cognates>) and the Advanced Writing and Communication Skills Proficiency requirement.

Upper Level Elective Requirement

36 credits at the 300 level or higher are required for graduation. These credits may be earned from your major, minor and/or second major, and electives.

Suggested Plan of Study

Course	Title	Credit Hours
Freshman Year		
Fall		
JMM 102	Understanding Media and Content in the Digital Age	3
JMM 285	Applied Statistics for Journalism and Media Management (Course also satisfies School's Math requirement)	3
ENG 105	English Composition I	3
Arts and Humanities Cognate		3
STEM Cognate		3
		Credit Hours
		15
Spring		
JMM 108	Writing for the Digital Age	3
JMM 245	Introduction to Electronic Media Production	3
ENG 106	English Composition II	3
Arts and Humanities Cognate		3
STEM Cognate		3
		Credit Hours
		15
Sophomore Year		
Fall		
JMM 208	Fundamentals of Newsgathering	3
COM 250	Freedom of Expression and Communication Ethics	3
Arts and Humanities Cognate		3
STEM Cognate		3
Minor, Second Major or Elective		3
		Credit Hours
		15
Spring		
JMM 345	Intermediate Electronic Media Production	3
Select one of the following:		3
COS 211	Public Speaking	
COS 333	Business Communication	
JMM 233	Television Performance	
Minor, Second Major or Elective		3
Minor, Second Major or Elective		3
Minor, Second Major or Elective		3
		Credit Hours
		15
Junior Year		
Fall		
JMM 303	Communication Law and Policy	3
JMM 317	Broadcast Journalism	3
Minor, Second Major or Elective		3
Minor, Second Major or Elective		3
Minor, Second Major or Elective		3
		Credit Hours
		15
Spring		
JMM Elective Approved by JMM Faculty Advisor		3
Minor, Second Major or Elective		3
Minor, Second Major or Elective		3
Minor, Second Major or Elective		3
Minor, Second Major or Elective		3
		Credit Hours
		15

Senior Year		
Fall		
JMM 517	Television News Reporting	3
JMM Elective Approved by JMM Faculty Advisor		3
Minor, Second Major or Elective		3
Minor, Second Major or Elective		3
Minor, Second Major or Elective		3
Credit Hours		15
Spring		
JMM 527 or 341	Television News Producing or Web Design	3
JMM Elective Approved by JMM Faculty Advisor		3
Minor, Second Major or Elective		3
Minor, Second Major or Elective		3
Minor, Second Major or Elective		3
Credit Hours		15
Total Credit Hours		120

B.S.C. Electronic Media Curriculum Requirements

Code	Title	Credit Hours
Core		
JMM 102	Understanding Media and Content in the Digital Age	3
JMM 108	Writing for the Digital Age	3
COM 250	Freedom of Expression and Communication Ethics	3
Advanced Writing and Communication Skills Requirement		
COS 211 or COS 333 or JMM 233	Public Speaking Business Communication Television Performance	3
Other Required Courses		12
JMM 208	Fundamentals of Newsgathering	
JMM 245	Introduction to Electronic Media Production	
JMM 303	Communication Law and Policy	
JMM 301	Media Research and Analysis	
Select 18 additional JMM credit hours with approval of a faculty advisor ³		18
JMM 106	Visual Design	
JMM 285	Applied Statistics for Journalism and Media Management	
JMM 304	Web and Media Analytics	
JMM 305	Legal Issues in Media Management	
JMM 307	Mobile Journalism	
JMM 309	Data Journalism	
JMM 313	Media Sales	
JMM 317	Broadcast Journalism	
JMM 331	Information Graphics and Visualization	
JMM 341	Web Design	
JMM 345	Intermediate Electronic Media Production	
JMM 402	Strategic Media Management	
JMM 403	Media Industry Trends	
JMM 306 or JMM 406	Special Topics in Journalism and Media Management II Special Topics in Journalism and Media Management III	
JMM 404	Latinos and the Media	

JMM 407	Media Entrepreneurship	
JMM 414	Evolution and Impact of Television Content: The American Sitcom	
JMM 417	Advanced Broadcast Journalism	
JMM 419	Interactive Storytelling	
JMM 434	Media Distribution for Film and Television	
JMM 443	Covering the Arts	
JMM 444	Public Affairs Reporting	
JMM 445	Advanced Electronic Media Production	
JMM 446	Travel Writing	
JMM 448	Sports and the Media	
JMM 461	Seminar in News Ethics and Problems	
JMM 495	Internship in Journalism and Media Management (1 to 3 credits per semester, not to exceed allowed maximum)	
JMM 499	Projects and Directed Research (1 to 3 credits per semester, not to exceed allowed maximum)	
JMM 510	Comparative Media Systems	
JMM 511	Global Media	
JMM 517	Television News Reporting	
JMM 527	Television News Producing	
JMM 523	Sports Reporting	
JMM 533	Social Media	
JMM 537	The Business of Modern Journalism	
JMM 541	Advanced Audio Video Narratives	
JMM 544	Feature Writing	
JMM 592	Special Topics in Journalism and Media Management (Business Related Focus)	
Additional Requirements ^{1,2}		
ENG 105 & ENG 106		6
MTH 113 or JMM 285 or STC 103		3
Arts and Humanities Cognate		9
STEM Cognate		9
Minor, Second Major or Electives		51
Total Credit Hours		120

School of Communication students are required to complete a minimum of a minor (inside or outside of the school) in addition to their Communication major to graduate. For an optional 2nd major, please see your advisor.

School of Communication students must complete 6 credits of English Composition unless exempt based on SAT/ACT score or AP/IB exam, 3-6 credits of Mathematics, University Cognates (<http://www.miami.edu/cognates>) and the Advanced Writing and Communication Skills Proficiency requirement.

Upper Level Elective Requirement

36 credits at the 300 level or higher are required for graduation. These credits may be earned from your major, minor and/or second major, and electives.

Suggested Plan of Study

Course	Title	Credit Hours
Freshman Year		
Fall		
JMM 102	Understanding Media and Content in the Digital Age	3
JMM 108	Writing for the Digital Age	3
ENG 105	English Composition I	3
Arts and Humanities Cognate		3

STEM Cognate		3
	Credit Hours	15
Spring		
JMM 208	Fundamentals of Newsgathering	3
JMM 285	Applied Statistics for Journalism and Media Management (Course also satisfies School's Math requirement)	3
ENG 106	English Composition II	3
Arts and Humanities Cognate		3
STEM Cognate		3
	Credit Hours	15
Sophomore Year		
Fall		
COM 250	Freedom of Expression and Communication Ethics	3
Select one of the following:		3
COS 211	Public Speaking	
COS 333	Business Communication	
JMM 233	Television Performance	
JMM 245	Introduction to Electronic Media Production	3
Arts and Humanities Cognate		3
STEM Cognate		3
	Credit Hours	15
Spring		
JMM 303	Communication Law and Policy	3
Select 3 credit hours in JMM electives with approval of JMM faculty advisor		3
Minor, Second Major or Elective		3
Minor, Second Major or Elective		3
Minor, Second Major or Elective		3
	Credit Hours	15
Junior Year		
Fall		
JMM 301	Media Research and Analysis	3
Select 3 credit hours in JMM electives with approval of JMM faculty advisor		3
Minor, Second Major or Elective		3
Minor, Second Major or Elective		3
Minor, Second Major or Elective		3
	Credit Hours	15
Spring		
Select 3 credit hours in JMM electives with approval of JMM faculty advisor		3
Minor, Second Major or Elective		3
Minor, Second Major or Elective		3
Minor, Second Major or Elective		3
Minor, Second Major or Elective		3
	Credit Hours	15
Senior Year		
Fall		
Select 3 credit hours in JMM electives with approval of JMM faculty advisor		3
SelectSelect 3 credit hours in JMM electives with approval of JMM faculty advisor		3
Minor, Second Major or Elective		3
Minor, Second Major or Elective		3
Minor, Second Major or Elective		3
	Credit Hours	15

Spring	
Select 3 credit hours in JMM electives with approval of JMM faculty advisor	3
Minor, Second Major or Elective	3
Minor, Second Major or Elective	3
Minor, Second Major or Elective	3
Minor, Second Major or Elective	3
Credit Hours	15
Total Credit Hours	120

B.S.C. Journalism

Curriculum Requirements

Code	Title	Credit Hours
Core Courses		
JMM 102	Understanding Media and Content in the Digital Age	3
JMM 108	Writing for the Digital Age	3
JMM 208	Fundamentals of Newsgathering	3
COM 250	Freedom of Expression and Communication Ethics	3
Advanced Writing and Communication Skills Requirement		
Choose one of the following:		3
COS 211	Public Speaking	
COS 333	Business Communication	
JMM 233	Television Performance	
Track Requirement		
Choose one of the following:		6-12
Reporting and Writing		
JMM 303	Communication Law and Policy	
JMM 444 or JMM 544	Public Affairs Reporting Feature Writing	
JMM 461	Seminar in News Ethics and Problems	
Visual and Documentary		
JMM 245	Introduction to Electronic Media Production	
JMM 303	Communication Law and Policy	
JMM 333	Social Media and Journalism	
JMM 345	Intermediate Electronic Media Production	
Media and Journalism Studies		
JMM 285	Applied Statistics for Journalism and Media Management	
JMM 301	Media Research and Analysis	
JMM 303	Communication Law and Policy	
Sports, Travel and Lifestyle Features		
JMM 303	Communication Law and Policy	
JMM 444 or JMM 544	Public Affairs Reporting Feature Writing	
JMM Electives - Based on track and selected with approval of JMM Faculty Advisor		15-21
Additional Requirements		
ENG 105	English Composition I	3
ENG 106	English Composition II	3
Choose one of the following:		
MTH 113	Finite Mathematics	
JMM 285	Applied Statistics for Journalism and Media Management ¹	
STC 103	Statistical Reasoning for Strategic Communication	
Arts and Humanities Cognate		9

STEM Cognate	9
Minor or Second Major and Electives ²	51-54
Total Credit Hours	120

¹ Students majoring in the Media and Journalism track should take JMM 285 which will count for both the major and the math requirement.

² SoC students are required to complete a minimum of a minor (inside or outside of the school) in addition to their Communication major to graduate. For an optional 2nd major, please see your advisor.

³ **Upper Level Elective Requirement**

36 credits at the 300 level or higher are required for graduation. These credits may be earned from you major, minor, and/or second major and electives.

Suggested Plan of Study for Reporting and Writing Track

Course	Title	Credit Hours
Freshman Year		
Fall		
JMM 102	Understanding Media and Content in the Digital Age	3
JMM 108	Writing for the Digital Age	3
ENG 105	English Composition I	3
Arts and Humanities Cognate		3
STEM Cognate		3
	Credit Hours	15
Spring		
JMM 208	Fundamentals of Newsgathering	3
JMM 285 or MTH 113	Applied Statistics for Journalism and Media Management or Finite Mathematics	3
Arts and Humanities Cognate		3
STEM Cognate		3
Minor, Second Major or Elective		3
	Credit Hours	15
Sophomore Year		
Fall		
COM 250	Freedom of Expression and Communication Ethics	3
JMM Elective in Writing and Reporting track with approval of JMM Faculty Advisor		3
Arts and Humanities Cognate		3
STEM Cognate		3
Minor or Second Major or Elective		3
	Credit Hours	15
Spring		
JMM 303	Communication Law and Policy	3
Select one of the following:		3
COS 211	Public Speaking	
COS 333	Business Communication	
JMM 233	Television Performance	
JMM Elective in Writing and Reporting track with approval of JMM Faculty Advisor		3
Minor or Second Major or Elective		3
Minor or Second Major or Elective		3
	Credit Hours	15
Junior Year		
Fall		
JMM 444 or 544	Public Affairs Reporting or Feature Writing	3
JMM Elective in Writing and Reporting track with approval of JMM Faculty Advisor		3
Minor or Second Major or Elective		3

Minor or Second Major or Elective	3
Minor or Second Major or Elective	3
Credit Hours	15
Spring	
JMM 461 Seminar in News Ethics and Problems	3
JMM Elective in Writing and Reporting track with approval of JMM Faculty Advisor	3
Minor or Second Major or Elective	3
Minor or Second Major or Elective	3
Minor or Second Major or Elective	3
Credit Hours	15
Senior Year	
Fall	
JMM Elective in Writing and Reporting track with approval of JMM Faculty Advisor	3
JMM Elective in Writing and Reporting track with approval of JMM Faculty Advisor	3
Minor or Second Major or Elective	3
Minor or Second Major or Elective	3
Minor or Second Major or Elective	3
Credit Hours	15
Spring	
JMM Elective in Writing and Reporting track with approval of JMM Faculty Advisor	3
Minor or Second Major or Elective	3
Minor or Second Major or Elective	3
Minor or Second Major or Elective	3
Minor or Second Major or Elective	3
Credit Hours	15
Total Credit Hours	120

Suggested Plan of Study for Visual and Documentary Track

Course	Title	Credit Hours
Freshman Year		
Fall		
JMM 102	Understanding Media and Content in the Digital Age	3
JMM 108	Writing for the Digital Age	3
ENG 105	English Composition I	3
Arts and Humanities Cognate		3
STEM Cognate		3
Credit Hours		15
Spring		
JMM 208	Fundamentals of Newsgathering	3
JMM 285 or MTH 113	Applied Statistics for Journalism and Media Management or Finite Mathematics	3
Arts and Humanities Cognate		3
STEM Cognate		3
Minor or Second Major or Elective		3
Credit Hours		15
Sophomore Year		
Fall		
JMM 245	Introduction to Electronic Media Production	3
COM 250	Freedom of Expression and Communication Ethics	3
Arts and Humanities Cognate		3
STEM Cognate		3

Minor or Second Major or Elective		3
	Credit Hours	15
Spring		
JMM 345	Intermediate Electronic Media Production	3
Select one of the following:		3
COS 211	Public Speaking	
COS 333	Business Communication	
JMM 233	Television Performance	
Minor or Second Major or Elective		3
Minor or Second Major or Elective		3
Minor or Second Major or Elective		3
	Credit Hours	15
Junior Year		
Fall		
JMM Elective in Visual and Documentary track with approval of JMM Faculty Advisor		3
JMM Elective in Visual and Documentary track with approval of JMM Faculty Advisor		3
Minor or Second Major or Elective		3
Minor or Second Major or Elective		3
Minor or Second Major or Elective		3
	Credit Hours	15
Spring		
JMM 333	Social Media and Journalism	3
JMM Elective in Visual and Documentary track with approval of JMM Faculty Advisor		3
Minor or Second Major or Elective		3
Minor or Second Major or Elective		3
Minor or Second Major or Elective		3
	Credit Hours	15
Senior Year		
Fall		
JMM Elective in Visual and Documentary track with approval of JMM Faculty Advisor		3
Minor or Second Major or Elective		3
Minor or Second Major or Elective		3
Minor or Second Major or Elective		3
Minor or Second Major or Elective		3
	Credit Hours	15
Spring		
JMM 541	Advanced Audio Video Narratives	3
JMM Elective in Visual and Documentary track with approval from JMM Faculty Advisor		3
Minor or Second Major or Elective		3
Minor or Second Major or Elective		3
Minor or Second Major or Elective		3
	Credit Hours	15
	Total Credit Hours	120

Suggested Plan of Study for Sports, Travel and Lifestyle Features Track

Course	Title	Credit Hours
Freshman Year		
Fall		
JMM 102	Understanding Media and Content in the Digital Age	3
JMM 108	Writing for the Digital Age	3
ENG 105	English Composition I	3
Arts and Humanities Cognate		3

STEM Cognate		3
	Credit Hours	15
Spring		
JMM 208	Fundamentals of Newsgathering	3
JMM 285 or MTH 113	Applied Statistics for Journalism and Media Management or Finite Mathematics	3
Arts and Humanities Cognate		3
STEM Cognate		3
Minor, Second Major or Elective		3
	Credit Hours	15
Sophomore Year		
Fall		
COM 250	Freedom of Expression and Communication Ethics	3
JMM Elective in Sports, Travel and Lifestyles Features track with approval of JMM Faculty Advisor		3
Arts and Humanities Cognate		3
STEM Cognate		3
Minor or Second Major or Elective		3
	Credit Hours	15
Spring		
JMM 303	Communication Law and Policy	3
Select one of the following:		3
COS 211	Public Speaking	
COS 333	Business Communication	
JMM 233	Television Performance	
Minor or Second Major or Elective		3
Minor or Second Major or Elective		3
Minor or Second Major or Elective		3
	Credit Hours	15
Junior Year		
Fall		
JMM 444 or 544	Public Affairs Reporting or Feature Writing	3
JMM Elective in Sports, Travel and Lifestyles Features track with approval of JMM Faculty Advisor		3
Minor or Second Major or Elective		3
Minor or Second Major or Elective		3
Minor or Second Major or Elective		3
	Credit Hours	15
Spring		
JMM 461	Seminar in News Ethics and Problems	3
JMM Elective in Sports, Travel and Lifestyles Features track with approval of JMM Faculty Advisor		3
JMM Elective in Sports, Travel and Lifestyles Features track with approval of JMM Faculty Advisor		3
Minor or Second Major or Elective		3
Minor or Second Major or Elective		3
	Credit Hours	15
Senior Year		
Fall		
JMM Elective in Sports, Travel and Lifestyles Features track with approval of JMM Faculty Advisor		3
JMM Elective in Sports, Travel and Lifestyles Features track with approval of JMM Faculty Advisor		3
Minor or Second Major or Elective		3
Minor or Second Major or Elective		3
Minor or Second Major or Elective		3
	Credit Hours	15

Spring	
JMM Elective in Sports, Travel and Lifestyles Features track with approval of JMM Faculty Advisor	3
Minor or Second Major or Elective	3
Minor or Second Major or Elective	3
Minor or Second Major or Elective	3
Minor or Second Major or Elective	3
Credit Hours	15
Total Credit Hours	120

Suggested Plan of Study for Media and Journalism Studies Track

Course	Title	Credit Hours
Freshman Year		
Fall		
JMM 102	Understanding Media and Content in the Digital Age	3
JMM 108	Writing for the Digital Age	3
ENG 105	English Composition I	3
Arts and Humanities Cognate		3
STEM Cognate		3
Credit Hours		15
Spring		
JMM 106	Visual Design	3
JMM 208	Fundamentals of Newsgathering	3
JMM 285	Applied Statistics for Journalism and Media Management	3
Arts and Humanities Cognate		3
STEM Cognate		3
Credit Hours		15
Sophomore Year		
Fall		
JMM 245	Introduction to Electronic Media Production	3
COM 250	Freedom of Expression and Communication Ethics	3
Arts and Humanities Cognate		3
STEM Cognate		3
Minor or Second Major or Elective		3
Credit Hours		15
Spring		
JMM 303 or 305	Communication Law and Policy or Legal Issues in Media Management	3
Select one of the following:		3
COS 211	Public Speaking	
COS 333	Business Communication	
JMM 233	Television Performance	
JMM Elective in Media and Journalism Studies track with approval of JMM Faculty Advisor		3
Minor or Second Major or Elective		3
Minor or Second Major or Elective		3
Credit Hours		15
Junior Year		
Fall		
JMM 301	Media Research and Analysis	3
JMM Elective in Media and Journalism Studies track with approval of JMM Faculty Advisor		3
Minor or Second Major or Elective		3
Minor or Second Major or Elective		3

Minor or Second Major or Elective	3
Credit Hours	15
Spring	
JMM Elective in Writing and Reporting track with approval of JMM Faculty Advisor	3
Minor or Second Major or Elective	3
Minor or Second Major or Elective	3
Minor or Second Major or Elective	3
Minor or Second Major or Elective	3
Credit Hours	15
Senior Year	
Fall	
JMM Elective in Media and Journalism Studies track with approval of JMM Faculty Advisor	3
JMM Elective in Media and Journalism Studies track with approval of JMM Faculty Advisor	3
Minor or Second Major or Elective	3
Minor or Second Major or Elective	3
Minor or Second Major or Elective	3
Credit Hours	15
Spring	
JMM Elective in Media and Journalism Studies track with approval of JMM Faculty Advisor	3
Minor or Second Major or Elective	3
Minor or Second Major or Elective	3
Minor or Second Major or Elective	3
Minor or Second Major or Elective	3
Credit Hours	15
Total Credit Hours	120

B.S.C. Media Management Curriculum Requirements

Code	Title	Credit Hours
JMM 102	Understanding Media and Content in the Digital Age	3
COM 250	Freedom of Expression and Communication Ethics	3
JMM 108	Writing for the Digital Age	3
Advanced Writing and Communication Skills Requirement		
Select one of the following:		
COS 211	Public Speaking	
COS 333	Business Communication	
JMM 233	Television Performance	
Other Required Courses		
JMM 301	Media Research and Analysis	3
JMM 305	Legal Issues in Media Management	3
JMM 314	Media Programming	3
JMM 402	Strategic Media Management	3
JMM 407	Media Entrepreneurship	3
JMM 435	Media Technology	3
Please select 12 credits from the following courses with approval of a faculty advisor in JMM.		12
JMM 245	Introduction to Electronic Media Production	
JMM 285	Applied Statistics for Journalism and Media Management	
JMM 304	Web and Media Analytics	
JMM 313	Media Sales	
JMM 331	Information Graphics and Visualization	
JMM 403	Media Industry Trends	

JMM 306 or JMM 406	Special Topics in Journalism and Media Management II Special Topics in Journalism and Media Management III	
JMM 414	Evolution and Impact of Television Content: The American Sitcom	
JMM 434	Media Distribution for Film and Television	
JMM 461	Seminar in News Ethics and Problems	
JMM 495	Internship in Journalism and Media Management (1 to 3 credits per semester, not to exceed allowed maximum.)	
JMM 499	Projects and Directed Research (1 to 3 credits per semester, not to exceed allowed maximum)	
JMM 533	Social Media	
JMM 537	The Business of Modern Journalism	
JMM 592	Special Topics in Journalism and Media Management	
Other JMM or SoC courses as approved by a faculty advisor in JMM.		
Additional Suggested Courses		
Media Management students are encouraged to complete:		
ACC 211	Principles of Financial Accounting	
ECO 211	Principles of Microeconomics	
FIN 300	Fundamentals of Finance for Non-Finance Majors	
MKT 301	Marketing Foundations	
Additional Requirements ^{1,2}		
ENG 105 & ENG 106		6
MTH 113 or JMM 285		3
Arts and Humanities Cognate		9
STEM Cognate		9
Minor or Second Major and Electives		54
Total Credit Hours		120

School of Communication students are required to complete a minimum of a minor (inside or outside of the school) in addition to their Communication major to graduate. For an optional 2nd major, please see your advisor.

School of Communication students must complete 6 credits of English Composition unless exempt based on SAT/ACT score or AP/IB exam, 3-6 credits of Mathematics, University Cognates (<http://www.miami.edu/cognates>) and the Advanced Writing and Communication Skills Proficiency requirement.

Upper Level Elective Requirement

36 credits at the 300 level or higher are required for graduation. These credits may be earned from your major, minor and/or second major, and electives.

Suggested Plan of Study

Course	Title	Credit Hours
Freshman Year		
Fall		
JMM 102	Understanding Media and Content in the Digital Age	3
JMM 108	Writing for the Digital Age	3
ENG 105	English Composition I	3
Arts and Humanities Cognate		3
STEM Cognate		3
Credit Hours		15
Spring		
COM 250	Freedom of Expression and Communication Ethics	3
ENG 106	English Composition II	3
Arts and Humanities Cognate		3
STEM Cognate		3

Minor, Second Major or Elective		3
	Credit Hours	15
Sophomore Year		
Fall		
JMM 285	Applied Statistics for Journalism and Media Management (Course also satisfies School's Math requirement)	3
Arts and Humanities Cognate		3
STEM Cognate		3
Minor, Second Major or Elective		3
Minor, Second Major or Elective		3
	Credit Hours	15
Spring		
JMM 305	Legal Issues in Media Management	3
Select one of the following:		3
COS 211	Public Speaking	
COS 333	Business Communication	
JMM 233	Television Performance	
Minor, Second Major or Elective		3
Minor, Second Major or Elective		3
Minor, Second Major or Elective		3
	Credit Hours	15
Junior Year		
Fall		
JMM 301	Media Research and Analysis	3
JMM 435	Media Technology	3
Select 3 credits in JMM from course list with approval of JMM faculty advisor		3
Minor, Second Major or Elective		3
Minor, Second Major or Elective		3
	Credit Hours	15
Spring		
JMM 314	Media Programming	3
Select 3 credits in JMM from course list with approval of JMM faculty advisor		3
Minor, Second Major or Elective		3
Minor, Second Major or Elective		3
Minor, Second Major or Elective		3
	Credit Hours	15
Senior Year		
Fall		
JMM 407	Media Entrepreneurship	3
Select 3 credits in JMM from course list with approval of JMM faculty advisor		3
Minor, Second Major or Elective		3
Minor, Second Major or Elective		3
Minor, Second Major or Elective		3
	Credit Hours	15
Spring		
JMM 402	Strategic Media Management	3
Select 3 credits in JMM from course list with approval of JMM faculty advisor		3
Minor, Second Major or Elective		3
Minor, Second Major or Elective		3

Minor, Second Major or Elective	3
Credit Hours	15
Total Credit Hours	120

Minor in Broadcast Journalism

Minor Requirements

Code	Title	Credit Hours
JMM 102	Understanding Media and Content in the Digital Age	3
JMM 108	Writing for the Digital Age	3
JMM 208	Fundamentals of Newsgathering	3
JMM 245	Introduction to Electronic Media Production	3
JMM 317	Broadcast Journalism ²	3
Select 3 additional credit hours in JMM at the 300-level or above ¹		3
Total Credit Hours		18

¹ Chosen with the prior approval of a Broadcast Journalism faculty advisor.

* A grade of C or higher is required in all courses (a C- is not acceptable).

Suggested Plan of Study

Course	Title	Credit Hours
Freshman Year		
Spring		
JMM 102	Understanding Media and Content in the Digital Age	3
Credit Hours		3
Sophomore Year		
Fall		
JMM 108	Writing for the Digital Age	3
Credit Hours		3
Spring		
JMM 208	Fundamentals of Newsgathering	3
Credit Hours		3
Junior Year		
Fall		
JMM 245	Introduction to Electronic Media Production	3
Credit Hours		3
Spring		
JMM 317	Broadcast Journalism	3
Credit Hours		3
Senior Year		
Fall		
Select 3 credits in JMM at the 300 level or above		3
Credit Hours		3
Total Credit Hours		18

Minor in Electronic Media

Code	Title	Credit Hours
JMM 102	Understanding Media and Content in the Digital Age	3
JMM 108	Writing for the Digital Age	3
JMM 245	Introduction to Electronic Media Production	3

Select 6 credit hours in JMM at the 300-level or above ¹	6
Total Credit Hours	15

¹ Chosen with the prior approval of an Electronic Media faculty advisor.

* A grade of C or higher is required in all courses (a C- is not acceptable).

Minor in Hispanic Media

Code	Title	Credit Hours
Core		
JMM 102	Understanding Media and Content in the Digital Age	3
JMM 404	Latinos and the Media	3
Select 3 elective credits for the minor from the list below with approval of a JMM faculty advisor		3
CIM 103	Survey of Motion Pictures	
CIM 111	Web Lab	
CIM 126	Introduction to Screenwriting	
CIM 206	History of International Cinema	
CIM 211	Interaction Design	
CIM 310	Introduction to Game Design	
CIM 364	Business of Motion Pictures	
CIM 386	Writing the Feature Film-Online	
CIM 407	National Cinemas	
CIM 408	Women, Media, and Popular Culture	
CIM 444	Internet and Media Activism	
CIM 458	Documentary Production	
CIM 471	Social Impact Games	
COS 328	Sports As Communication	
COS 333	Business Communication	
COS 336	Political Communication	
COS 343	Introduction to Intercultural Communication	
COS 418	Organizational Communication	
JMM 102	Understanding Media and Content in the Digital Age	
JMM 106	Visual Design	
JMM 108	Writing for the Digital Age	
JMM 208	Fundamentals of Newsgathering	
JMM 233	Television Performance	
JMM 245	Introduction to Electronic Media Production	
JMM 300	Journalism Practicum (May only take 1 credit of JMM 300 per semester.)	
JMM 313	Media Sales	
JMM 331	Information Graphics and Visualization	
JMM 341	Web Design	
JMM 442	Online Journalism	
JMM 443	Covering the Arts	
JMM 446	Travel Writing	
JMM 447	In-depth Journalism and Media Convergence	
JMM 510	Comparative Media Systems	
JMM 511	Global Media	
STC 114	Principles of Advertising	
STC 200	Advertising Strategy Development	
STC 340	Interactive, Digital, and Social Media in Advertising	
STC 350	International and Cross-cultural Advertising	

Students majoring outside of the School of Communication may take 6 credits in Communication electives with the approval of an advisor.

Select 6 elective credits in LAS for the minor from the list below with approval of a JMM faculty advisor		6
LAS 101	Introduction to Latin American and Caribbean Studies	
LAS 302	Interdisciplinary Topics in Latin American and Caribbean Studies-Travel Course	
LAS 370	Special Topics in Latin American and Caribbean Media and Communications	
Total Credit Hours		15

* A grade of C or higher is required in all courses (a C- is not acceptable).

Minor in Journalism

Code	Title	Credit Hours
JMM 102	Understanding Media and Content in the Digital Age	3
JMM 108	Writing for the Digital Age	3
JMM 208	Fundamentals of Newsgathering	3
Select a minimum of 6 credit hours at the 300-level or above in JMM electives with the approval of JMM faculty advisor.		6
Total Credit Hours		15

¹ Chosen with the approval of a Journalism faculty advisor.

* A grade of C or higher is required in all courses (a C- is not acceptable).

Minor in Media Management

Code	Title	Credit Hours
Required courses for Media Management Minor		
JMM 102	Understanding Media and Content in the Digital Age	3
JMM 402	Strategic Media Management	3
Select a minimum of 9 JMM credit hours from the following list: ¹		9
JMM 301	Media Research and Analysis	
JMM 304	Web and Media Analytics	
JMM 305	Legal Issues in Media Management	
JMM 313	Media Sales	
JMM 314	Media Programming	
JMM 403	Media Industry Trends	
JMM 407	Media Entrepreneurship	
JMM 414	Evolution and Impact of Television Content: The American Sitcom	
JMM 434	Media Distribution for Film and Television	
JMM 435	Media Technology	
JMM 592	Special Topics in Journalism and Media Management	
Total Credit Hours		15

¹ Must have approval from JMM Faculty Advisor to count other JMM and/or COM courses towards the Media Management minor

² A grade of C or higher is required in all courses (a C- is not acceptable).

Strategic Communication

<http://com.miami.edu/programs>

Dept. Code: STC

Introduction

The Department of Strategic Communication offers majors and minors in Advertising and Public Relations.

Students majoring in Advertising learn the art, craft and business of promoting brands from an integrated marketing perspective. The program gives students a well-rounded education in advertising that emphasizes strategy building, data gathering and analysis, creative development and media planning skills. The program includes practical and theoretical approaches to the world of professional advertising, both domestically and internationally. The curriculum is hands-on and students learn how to create an advertising campaign that meets their client's goals. Qualified students may elect to participate in the internship program, which provides an opportunity to work in the professional community of the Greater Miami area or other regions. The School's Advertising Program also has an active alliance with the American Advertising Federation.

Students majoring in Public Relations learn how to promote a client's business, image, product or service. Public relations is a strategic communication process that builds mutually beneficial relationships between organizations (business, government, nonprofit, individual) and their public's. PR practitioners develop and deliver key messages through traditional and social media channels. The program provides a well-rounded education in public relations that emphasizes research and analysis, creative development and the relationship of all media to PR in both public and private sectors.

The hands-on curriculum reflects the importance of strategic critical thinking, research for understanding target audiences, writing, design expertise and creativity. Students create and execute a PR campaign in a senior-level capstone course that serves a client organization in the community. Demand for PR interns is high, and qualified students may elect to participate in the internship program to acquire professional experience in South Florida and other regions. The program has ties to the Public Relations Society of America and maintains a Public Relations Student Society of America chapter.

Major Cognate Area

- Advertising General Track:
 - People and Society
- Advertising Management Track:
 - People and Society
- Advertising Creative Track:
 - People and Society or
 - Arts and Humanities
- Public Relations:
 - People and Society

Minor Cognate Area

- Advertising Minor:
 - People and Society
- Public Relations Minor:
 - People and Society
- Strategic Communication Minor:
 - People and Society

Please note, students completing majors and minors within the same department may only satisfy one required cognate area of study.

Degree Programs

The Bachelor of Science in Communication is offered in Advertising and Public Relations

Majors are offered in:

- Advertising General Track
- Advertising Creative Track
- Advertising Management Track
- Public Relations General Track
- Public Relations Practice Track

Each candidate for the degree of Bachelor of Science in Communication will complete School of Communication requirements including courses in the School's General Education Required Areas of Study. Advertising majors must also complete a separate minor or a second major in either a second Program of Study within the School or in an academic program outside the School.

Admission to the Advertising and Public Relations Majors

Before admission as an Advertising or Public Relations major, a student must:

- Complete the five Core courses listed below, in residence at the University, all with grades of C or higher (C- is not acceptable).

- Students who have obtained the written approval of the Chair of Strategic Communication to use transfer credit hours to satisfy one or more requirements of that major may be required to complete additional courses in residence at the University before being admitted to that major.
- Upon completion of a student’s first 45 University credit hours while enrolled in the School of Communication, all University credit hours earned toward the major will be used in computing a student’s major cumulative grade point average; only those students with a cumulative average of 2.5 or higher will be admitted to a major.
- A student who has completed 45 credit hours while enrolled in the School of Communication, but who has not been admitted to one of the Communication majors, may be dismissed from the School. A student who has completed 60 University credit hours while enrolled in the School, but who has not been admitted to one of the Communication majors, will be dismissed from the School.

Major in Advertising

Students majoring in advertising will choose one of the following three tracks:

- Advertising General Track
- Advertising Management Track
- Advertising Creative Track

Major in Public Relations

Students majoring in public relations will choose one of the following two tracks:

- Public Relations General Track
- Public Relations Practice Track

Each candidate for the degree of Bachelor of Science in Communication will complete School of Communication requirements including courses in the School’s General Education Required Areas of Study. Public Relations majors must also complete a separate minor or a second major in either a second Program of Study within the School or in an academic program outside the School.

Minors in Strategic Communication Department

The Department of Strategic Communication offers minors in:

- Advertising
- Public Relations
- Strategic Communication

The minors in Advertising, Public Relations and Strategic Communication require a grade of C or higher in all courses (a C- is not acceptable).

Majors in Strategic Communication

- B.S.C. in Advertising - Advertising Creative Track (p. 539)
- B.S.C. in Advertising - Advertising Management Track (p. 542)
- B.S.C. in Advertising - General Advertising Track (p. 545)
- B.S.C. in Public Relations - General Track (p. 547)
- B.S.C. in Public Relations - Practice Track (p. 550)

Minors in Strategic Communication

- Advertising (p. 552)
- Public Relations (p. 553)
- Strategic Communication (p. 553)

B.S.C. Advertising - Advertising Creative Track

Curriculum Requirements

Code	Title	Credit Hours
Core Courses		
JMM 108	Writing for the Digital Age	3
STC 102	Graphic Design for Strategic Communication	3
STC 114	Principles of Advertising	3
STC 200	Advertising Strategy Development	3
COM 250	Freedom of Expression and Communication Ethics	3

Advanced Writing and Communication Skills Requirement		
COS 211	Public Speaking	3
STC Courses		
STC 202	Advanced Graphic Design for Advertising	3
STC 231	Advertising Copywriting and Concept	3
STC 331 or STC 390	Advanced Copywriting Art Direction	3
STC 384	Advertising Creative Strategy and Execution	3
STC 434	Advertising Campaigns	3
STC 496	Advertising Portfolio Development	3
Select two additional Advertising Electives ³		6
STC 103	Statistical Reasoning for Strategic Communication	
STC 302	Advanced Graphic Design and Photography	
STC 331	Advanced Copywriting	
STC 334	Social Media Messaging and Strategies	
STC 340	Interactive, Digital, and Social Media in Advertising	
STC 350	International and Cross-cultural Advertising	
STC 380	Advertising Internship	
STC 389	Media Buying and Advertising Sales	
STC 390	Art Direction	
STC 401	Seminar in Advertising and Society	
STC 412	Public Opinion and Mass Communication	
CIM 413	Mobile Application Development	
STC 482	International Public Relations	
STC 483	Integrated Marketing Communication	
STC 490	Special Topics in Advertising	
STC 491	The Business of Account Management	
Marketing Requirement		
MKT 301	Marketing Foundations	3
Additional Requirements ^{1,2}		
ENG 105 & ENG 106		6
STC 103 (Double Counts for Major and Math Requirement)		
People and Society Cognate		9
STEM Cognate		9
Minor or Second Major and Electives		51
Total Credit Hours		120

³ Students must complete at least one course with an international or intercultural focus. Courses that meet this requirement include: STC 350, STC 482, COS 343, and COS 545. Other courses may be used to fulfill this requirement with the approval of an Advertising faculty advisor. Studying abroad also fulfills this requirement.

School of Communication students are required to complete a minimum of a minor (inside or outside of the school) in addition to their Communication major to graduate. For an optional 2nd major, please see your advisor.

School of Communication students must complete 6 credits of English Composition unless exempt based on SAT/ACT score or AP/IB exam, 3-6 credits of Mathematics, University Cognates (<http://www.miami.edu/cognates>) and the Advanced Writing and Communication Skills Proficiency requirement.

Upper Level Elective Requirement

36 credits at the 300 level or higher are required for graduation. These credits may be earned from your major, minor and/or second major, and electives.

Electives outside the Advertising major (but within the School of Communication) must be approved by the Chair of Strategic Communication.

Suggested Plan of Study

Course	Title	Credit Hours
Freshman Year		
Fall		
STC 114	Principles of Advertising	3
JMM 108	Writing for the Digital Age	3
ENG 105	English Composition I	3
STC 103 or MTH 113	Statistical Reasoning for Strategic Communication (Course also satisfies School's Math requirement) or Finite Mathematics	3
People and Society Cognate		3
	Credit Hours	15
Spring		
STC 102	Graphic Design for Strategic Communication	3
STC 200	Advertising Strategy Development	3
COM 250	Freedom of Expression and Communication Ethics	3
ENG 106	English Composition II	3
STEM Cognate		3
	Credit Hours	15
Sophomore Year		
Fall		
STC 202	Advanced Graphic Design for Advertising	3
STC 231	Advertising Copywriting and Concept	3
People and Society Cognate		3
STEM Cognate		3
Minor or Second Major Course		3
	Credit Hours	15
Spring		
COS 211	Public Speaking	3
MKT 301	Marketing Foundations	3
Select 3 credits in STC/COM Electives with an International or Intercultural Focus:		3
STC 350	International and Cross-cultural Advertising	
STC 482	International Public Relations	
COS 343	Introduction to Intercultural Communication	
COS 545	Intercultural Communication: International Perspectives	
People and Society Cognate		
STEM Cognate		3
Minor or Second Major Course		3
	Credit Hours	15
Junior Year		
Fall		
STC 384	Advertising Creative Strategy and Execution	3
Minor or Second Major Course or Elective		3
Minor or Second Major Course or Elective		3
Minor or Second Major Course or Elective		3
Minor or Second Major Course or Elective		3
	Credit Hours	15
Spring		
STC 390 or 331	Art Direction or Advanced Copywriting	3
Select one of the following:		3
STC 103	Statistical Reasoning for Strategic Communication	

STC 334	Social Media Messaging and Strategies	
STC 340	Interactive, Digital, and Social Media in Advertising	
STC 380	Advertising Internship	
STC 389	Media Buying and Advertising Sales	
STC 401	Seminar in Advertising and Society	
STC 412	Public Opinion and Mass Communication	
CIM 413	Mobile Application Development	
STC 483	Integrated Marketing Communication	
STC 490	Special Topics in Advertising	
STC 491	The Business of Account Management	
Minor or Second Major Course or Elective		3
Minor or Second Major Course or Elective		3
Minor or Second Major Course or Elective		3
	Credit Hours	15
Senior Year		
Fall		
STC 434	Advertising Campaigns	3
Minor or Second Major Course or Elective		3
Minor or Second Major Course or Elective		3
Minor or Second Major Course or Elective		3
Minor or Second Major Course or Elective		3
	Credit Hours	15
Spring		
STC 496	Advertising Portfolio Development	3
Minor or Second Major Course or Elective		3
Minor or Second Major Course or Elective		3
Minor or Second Major Course or Elective		3
Minor or Second Major Course or Elective		3
	Credit Hours	15
	Total Credit Hours	120

B.S.C. Advertising - Advertising Management Track

Curriculum Requirements

Code	Title	Credit Hours
Core Courses		
STC 102	Graphic Design for Strategic Communication	3
STC 114	Principles of Advertising	3
JMM 108	Writing for the Digital Age	3
STC 200	Advertising Strategy Development	3
COM 250	Freedom of Expression and Communication Ethics	3
Advanced Writing and Communication Skills Requirement		
COS 211	Public Speaking	3
STC Courses		
STC 233	Writing for Advertising Account Management	3
STC 312	Research Methods for Advertising	3
STC 388	Media Planning	3
STC 434	Advertising Campaigns	3
STC 491	The Business of Account Management	3
STC 495	Advertising Management	3
Select two additional Advertising Electives ³		6
STC 103	Statistical Reasoning for Strategic Communication	

STC 202	Advanced Graphic Design for Advertising	
STC 302	Advanced Graphic Design and Photography	
STC 331	Advanced Copywriting	
STC 334	Social Media Messaging and Strategies	
STC 340	Interactive, Digital, and Social Media in Advertising	
STC 350	International and Cross-cultural Advertising	
STC 380	Advertising Internship	
STC 389	Media Buying and Advertising Sales	
STC 390	Art Direction	
STC 401	Seminar in Advertising and Society	
STC 412	Public Opinion and Mass Communication	
STC 482	International Public Relations	
STC 483	Integrated Marketing Communication	
STC 490	Special Topics in Advertising	
STC 491	The Business of Account Management	
Marketing Requirement		
MKT 301	Marketing Foundations	3
Additional Requirements ^{1,2}		
ENG 105 & ENG 106		6
STC 103 (Double Counts for Major and Math Requirement)		
Arts and Humanities Cognate		9
STEM Cognate		9
Minor or Second Major and Electives		51
Total Credit Hours		120

³ Students must complete at least one course with an international or intercultural focus. Courses that meet this requirement include: STC 350, STC 482, COS 343, and COS 545. Other courses may be used to fulfill this requirement with the approval of an Advertising faculty advisor. Studying abroad also fulfills this requirement.

* Electives outside the Advertising major (but within the School of Communication) must be approved by the Chair of Strategic Communication.

School of Communication students are required to complete a minimum of a minor (inside or outside of the school) in addition to their Communication major to graduate. For an optional 2nd major, please see your advisor.

School of Communication students must complete 6 credits of English Composition unless exempt based on SAT/ACT score or AP/IB exam, 3-6 credits of Mathematics, University Cognates (<http://www.miami.edu/cognates>) and the Advanced Writing and Communication Skills Proficiency requirement.

Upper Level Elective Requirement

36 credits at the 300 level or higher are required for graduation. These credits may be earned from your major, minor and/or second major, and electives.

Suggested Plan of Study

Course	Title	Credit Hours
Freshman Year		
Fall		
STC 102	Graphic Design for Strategic Communication	3
STC 114	Principles of Advertising	3
JMM 108	Writing for the Digital Age	3
ENG 105	English Composition I	3
STEM Cognate		3
	Credit Hours	15
Spring		
STC 103	Statistical Reasoning for Strategic Communication (Course also satisfies School's Math requirement)	3
ENG 106	English Composition II	3

STC 200	Advertising Strategy Development	3
Arts and Humanities Cognate		3
STEM Cognate		3
Credit Hours		15
Sophomore Year		
Fall		
STC 233	Writing for Advertising Account Management	3
COM 250	Freedom of Expression and Communication Ethics	3
Arts and Humanities Cognate		3
STEM Cognate		3
Minor or Second Major Course or Elective		3
Credit Hours		15
Spring		
COS 211	Public Speaking	3
Select 3 credits in STC/COS Electives with an International/Intercultural Focus:		3
STC 350	International and Cross-cultural Advertising	
STC 482	International Public Relations	
COS 343	Introduction to Intercultural Communication	
COS 545	Intercultural Communication: International Perspectives	
Arts and Humanities Cognate		3
Minor or Second Major Course or Elective		3
Minor or Second Major Course or Elective		3
Credit Hours		15
Junior Year		
Fall		
STC 312	Research Methods for Advertising	3
MKT 301	Marketing Foundations	3
Minor or Second Major Course or Elective		3
Minor or Second Major Course or Elective		3
Minor or Second Major Course or Elective		3
Credit Hours		15
Spring		
STC 388	Media Planning	3
Minor or Second Major Course or Elective		3
Minor or Second Major Course or Elective		3
Minor or Second Major Course or Elective		3
Minor or Second Major Course or Elective		3
Credit Hours		15
Senior Year		
Fall		
STC 434	Advertising Campaigns	3
Select one of the following:		3
STC 202	Advanced Graphic Design for Advertising	
STC 334	Social Media Messaging and Strategies	
STC 340	Interactive, Digital, and Social Media in Advertising	
STC 380	Advertising Internship	
STC 384	Advertising Creative Strategy and Execution	
STC 389	Media Buying and Advertising Sales	
STC 401	Seminar in Advertising and Society	
STC 412	Public Opinion and Mass Communication	
STC 483	Integrated Marketing Communication	
STC 490	Special Topics in Advertising	

Minor or Second Major Course or Elective		3
Minor or Second Major Course or Elective		3
Minor or Second Major Course or Elective		3
	Credit Hours	15
Spring		
STC 491	The Business of Account Management	3
STC 495	Advertising Management	3
Minor or Second Major Course or Elective		3
Minor or Second Major Course or Elective		3
Minor or Second Major Course or Elective		3
	Credit Hours	15
	Total Credit Hours	120

B.S.C. Advertising - General Advertising Track

Curriculum Requirements

Code	Title	Credit Hours
Core Courses		
STC 102	Graphic Design for Strategic Communication	3
JMM 108	Writing for the Digital Age	3
STC 114	Principles of Advertising	3
STC 200	Advertising Strategy Development	3
COM 250	Freedom of Expression and Communication Ethics	3
Advanced Writing and Communication Skills Requirement		
COS 211	Public Speaking	3
STC Courses		
STC 231	Advertising Copywriting and Concept	3
STC 233	Writing for Advertising Account Management	3
STC 312	Research Methods for Advertising	3
STC 388	Media Planning	3
STC 434	Advertising Campaigns	3
Select three additional Advertising Electives ¹		9
STC 103	Statistical Reasoning for Strategic Communication	
STC 202	Advanced Graphic Design for Advertising	
STC 302	Advanced Graphic Design and Photography	
STC 331	Advanced Copywriting	
STC 334	Social Media Messaging and Strategies	
STC 340	Interactive, Digital, and Social Media in Advertising	
STC 350	International and Cross-cultural Advertising	
STC 380	Advertising Internship	
STC 384	Advertising Creative Strategy and Execution	
STC 389	Media Buying and Advertising Sales	
STC 390	Art Direction	
STC 401	Seminar in Advertising and Society	
STC 412	Public Opinion and Mass Communication	
STC 482	International Public Relations	
STC 483	Integrated Marketing Communication	
STC 490	Special Topics in Advertising	
STC 491	The Business of Account Management	
Marketing Requirement		
MKT 301	Marketing Foundations	3
Additional Requirements		

ENG 105 & ENG 106	6
STC 103 (Double Counts for Major and Math Requirement)	
Arts and Humanities Cognate	9
STEM Cognate	9
Minor or Second Major and Electives	51
Total Credit Hours	120

¹ Students must complete at least one course with an international or intercultural focus. Courses that meet this requirement include: STC 350, STC 482, COS 343, and COS 545. Other courses may be used to fulfill this requirement with the approval of an Advertising faculty advisor. Studying abroad also fulfills this requirement.

Suggested Plan of Study

Course	Title	Credit Hours
Freshman Year		
Fall		
STC 102	Graphic Design for Strategic Communication	3
STC 114	Principles of Advertising	3
JMM 108	Writing for the Digital Age	3
ENG 105	English Composition I	3
STEM Cognate		3
	Credit Hours	15
Spring		
STC 103	Statistical Reasoning for Strategic Communication (Course also satisfies School's Math Requirement)	3
STC 200	Advertising Strategy Development	3
ENG 106	English Composition II	3
Arts and Humanities Cognate		3
STEM Cognate		3
	Credit Hours	15
Sophomore Year		
Fall		
STC 231	Advertising Copywriting and Concept	3
COM 250	Freedom of Expression and Communication Ethics	3
Arts and Humanities Cognate		3
STEM Cognate		3
Elective Course		3
	Credit Hours	15
Spring		
STC 233	Writing for Advertising Account Management	3
COS 211	Public Speaking	3
Arts and Humanities Cognate		3
Minor or Second Major Course		3
Elective		3
	Credit Hours	15
Junior Year		
Fall		
STC 312	Research Methods for Advertising	3
MKT 301	Marketing Foundations	3
Minor or Second Major Course		3
Minor or Second Major Course		3
Elective		3
	Credit Hours	15

Spring			
STC 388	Media Planning		3
Select 3 credits in STC/COS Electives with an International or Intercultural Focus:			3
STC 350	International and Cross-cultural Advertising		
STC 482	International Public Relations		
COS 343	Introduction to Intercultural Communication		
COS 545	Intercultural Communication: International Perspectives		
Minor or Second Major Course			3
Minor or Second Major Course			3
Minor or Second Major Course			3
Credit Hours			15
Senior Year			
Fall			
STC 434	Advertising Campaigns		3
Minor or Second Major Course			3
Minor or Second Major Course			3
Elective			3
Elective			3
Credit Hours			15
Spring			
Select one of the following:			3
STC 202	Advanced Graphic Design for Advertising		
STC 331	Advanced Copywriting		
STC 334	Social Media Messaging and Strategies		
STC 340	Interactive, Digital, and Social Media in Advertising		
STC 380	Advertising Internship		
STC 384	Advertising Creative Strategy and Execution		
STC 389	Media Buying and Advertising Sales		
STC 390	Art Direction		
STC 401	Seminar in Advertising and Society		
STC 412	Public Opinion and Mass Communication		
STC 483	Integrated Marketing Communication		
STC 490	Special Topics in Advertising		
STC 491	The Business of Account Management		
STC 495	Advertising Management		
Minor or Second Major Course			3
Minor or Second Major Course			3
Elective			3
Elective			3
Credit Hours			15
Total Credit Hours			120

B.S.C. Public Relations - General Track

Curriculum Requirements

Code	Title	Credit Hours
Core Courses		
STC 102	Graphic Design for Strategic Communication	3
STC 103	Statistical Reasoning for Strategic Communication	3
JMM 108	Writing for the Digital Age	3
STC 116	Principles of Public Relations	3
STC 201	Public Relations Strategy Development	3

COM 250	Freedom of Expression and Communication Ethics	3
Advanced Writing and Communication Skills Requirement		
COS 211	Public Speaking	3
STC Courses		
STC 232	Writing for Public Relations	3
STC 311	Public Relations Research	3
STC 435	Seminar in PR Measurement	3
STC 436	Public Relations Campaigns	3
Select One STC Elective:		3
STC 423	Crisis Communication and Management	
STC 425	Cases in Public Relations Administration	
STC 428	Public Relations Management	
STC 460	Corporate Communication and Public Relations	
STC 482	International Public Relations	
Select 6 Credit Hours of School of Communication Electives with Approval of STC Faculty Advisor		6
Marketing Requirement		
MKT 301	Marketing Foundations	3
Additional Requirements ^{1,2}		
ENG 105 and ENG 106		6
STC 103 (Double Counts for Major and Math Requirement)		
Arts and Humanities Cognate		9
STEM Cognate		9
Minor, Second Major or Elective		51
Total Credit Hours		120

³ Students must complete at least one course with an international or intercultural focus. Courses that meet this requirement include: STC 350, STC 482, COS 343, and COS 545. Other courses may be used to fulfill this requirement with the approval of an Advertising faculty advisor. Studying abroad also fulfills this requirement.

School of Communication students are required to complete a minimum of a minor (inside or outside of the school) in addition to their Communication major to graduate. For an optional 2nd major, please see your advisor.

School of Communication students must complete 6 credits of English Composition unless exempt based on SAT/ACT score or AP/IB exam, 3-6 credits of Mathematics, University Cognates (<http://www.miami.edu/cognates>) and the Advanced Writing and Communication Skills Proficiency requirement.

Upper Level Elective Requirement

36 credits at the 300 level or higher are required for graduation. These credits may be earned from your major, minor and/or second major, and electives.

Suggested Plan of Study

Course	Title	Credit Hours
Freshman Year		
Fall		
STC 116	Principles of Public Relations	3
JMM 108	Writing for the Digital Age	3
ENG 105	English Composition I	3
Arts and Humanities Cognate		3
STEM Cognate		3
		Credit Hours
		15
Spring		
STC 102	Graphic Design for Strategic Communication	3
STC 103	Statistical Reasoning for Strategic Communication	3
COM 250	Freedom of Expression and Communication Ethics	3
ENG 106	English Composition II	3

STEM Cognate		3
	Credit Hours	15
Sophomore Year		
Fall		
STC 201	Public Relations Strategy Development	3
School of Communication Elective Chosen with approval of STC Faculty Advisor		3
Minor or 2nd Major Course		3
Arts and Humanities Cognate		3
STEM Cognate		3
	Credit Hours	15
Spring		
COS 211	Public Speaking	3
STC 232	Writing for Public Relations	3
Arts and Humanities Cognate		3
Minor or 2nd Major Course		3
Elective		3
	Credit Hours	15
Junior Year		
Fall		
STC 311	Public Relations Research	3
Select 3 credits in STC/COS Electives with an International or Intercultural Focus:		3
STC 350	International and Cross-cultural Advertising	
STC 482	International Public Relations	
COS 343	Introduction to Intercultural Communication	
COS 545	Intercultural Communication: International Perspectives	
Minor or 2nd Major Course		6
300 Level Elective		3
	Credit Hours	15
Spring		
MKT 301	Marketing Foundations	3
STC 435	Seminar in PR Measurement	3
Minor or 2nd Major Course		3
300 Level Elective		3
Elective		3
	Credit Hours	15
Senior Year		
Fall		
STC 436	Public Relations Campaigns	3
Minor or 2nd Major Course		6
300 Level Elective		3
Elective		3
	Credit Hours	15
Spring		
Select one of the following:		3
STC 423	Crisis Communication and Management	
STC 425	Cases in Public Relations Administration	
STC 428	Public Relations Management	
STC 460	Corporate Communication and Public Relations	
STC 493	Special Topics in Public Relations	

Minor or 2nd Major or Elective Courses	12
Credit Hours	15
Total Credit Hours	120

B.S.C. Public Relations - Practice Track

Curriculum Requirements

Code	Title	Credit Hours
Core Courses		
STC 102	Graphic Design for Strategic Communication	3
STC 103	Statistical Reasoning for Strategic Communication	3
JMM 108	Writing for the Digital Age	3
STC 116	Principles of Public Relations	3
STC 201	Public Relations Strategy Development	3
COM 250	Freedom of Expression and Communication Ethics	3
Advanced Writing and Communication Skills Requirement		
COS 211	Public Speaking	3
STC Courses		
STC 203	Advanced Graphic Design for Public Relations	3
STC 232	Writing for Public Relations	3
STC 311	Public Relations Research	3
STC 346	Public Relations Message Development and Execution	3
STC 436	Public Relations Campaigns	3
Select two additional Public Relations Electives ³		
STC 330	Travel and Tourism	
STC 334	Social Media Messaging and Strategies	
STC 350	International and Cross-cultural Advertising	
STC 381	Public Relations Internship	
STC 412	Public Opinion and Mass Communication	
STC 416	Public Relations Ethics	
STC 423	Crisis Communication and Management	
STC 424	Media Relations	
STC 426	Sports, Publicity, and Promotions	
STC 428	Public Relations Management	
STC 460	Corporate Communication and Public Relations	
STC 481	Public Relations Experience Program (Prep)	
STC 482	International Public Relations	
STC 493	Special Topics in Public Relations	
Marketing Requirement		
MKT 301	Marketing Foundations	3
Additional Requirements ^{1,2}		
ENG 105 and ENG 106		6
STC 103 (Double Counts for Major and Math Requirement)		
Arts and Humanities Cognate		9
STEM Cognate		9
Minor or Second Major or Electives		51
Total Credit Hours		120

³ Students must complete at least one course with an international or intercultural focus. Courses that meet this requirement include: STC 350, STC 482, COS 343, and COS 545. Other courses may be used to fulfill this requirement with the approval of an Advertising faculty advisor. Studying abroad also fulfills this requirement.

School of Communication students are required to complete a minimum of a minor (inside or outside of the school) in addition to their Communication major to graduate. For an optional 2nd major, please see your advisor.

School of Communication students must complete 6 credits of English Composition unless exempt based on SAT/ACT score or AP/IB exam, 3-6 credits of Mathematics, University Cognates (<http://www.miami.edu/cognates>) and the Advanced Writing and Communication Skills Proficiency requirement.

Upper Level Elective Requirement

36 credits at the 300 level or higher are required for graduation. These credits may be earned from your major, minor and/or second major, and electives.

Suggested Plan of Study

Course	Title	Credit Hours
Freshman Year		
Fall		
STC 116	Principles of Public Relations	3
JMM 108	Writing for the Digital Age	3
ENG 105	English Composition I	3
Arts and Humanities Cognate		3
STEM Cognate		3
		Credit Hours
		15
Spring		
STC 102	Graphic Design for Strategic Communication	3
STC 103	Statistical Reasoning for Strategic Communication	3
COM 250	Freedom of Expression and Communication Ethics	3
ENG 106	English Composition II	3
STEM Cognate		3
		Credit Hours
		15
Sophomore Year		
Fall		
STC 201	Public Relations Strategy Development	3
STC 203	Advanced Graphic Design for Public Relations	3
Minor or 2nd Major Course		3
Arts and Humanities Cognate		3
STEM Cognate		3
		Credit Hours
		15
Spring		
COS 211	Public Speaking	3
STC 232	Writing for Public Relations	3
Arts and Humanities Cognate		3
Minor or 2nd Major Course		3
Elective		3
		Credit Hours
		15
Junior Year		
Fall		
STC 311	Public Relations Research	3
Select 3 credits in STC/COS Electives with an International or Intercultural Focus:		3
STC 350	International and Cross-cultural Advertising	
STC 482	International Public Relations	
COS 343	Introduction to Intercultural Communication	
COS 545	Intercultural Communication: International Perspectives	
Minor or 2nd Major Course		6
300 Level Elective		3
		Credit Hours
		15

Spring		
MKT 301	Marketing Foundations	3
STC 346	Public Relations Message Development and Execution	3
Minor or 2nd Major Course		3
300 Level Elective		3
Elective		3
Credit Hours		15
Senior Year		
Fall		
STC 436	Public Relations Campaigns	3
Minor or 2nd Major Course		6
300 Level Elective		3
Elective		3
Credit Hours		15
Spring		
Select one of the following:		3
STC 330	Travel and Tourism	
STC 334	Social Media Messaging and Strategies	
STC 381	Public Relations Internship	
STC 412	Public Opinion and Mass Communication	
STC 416	Public Relations Ethics	
STC 423	Crisis Communication and Management	
STC 424	Media Relations	
STC 426	Sports, Publicity, and Promotions	
STC 428	Public Relations Management	
STC 460	Corporate Communication and Public Relations	
STC 481	Public Relations Experience Program (Prep)	
STC 493	Special Topics in Public Relations	
Minor or 2nd Major or Elective Courses		12
Credit Hours		15
Total Credit Hours		120

Minor in Advertising

Code	Title	Credit Hours
Required Courses		
STC 114	Principles of Advertising	3
STC 200	Advertising Strategy Development	3
Select 9 credit hours with the approval of an Advertising faculty advisor ¹		9
STC 102	Graphic Design for Strategic Communication	
STC 103	Statistical Reasoning for Strategic Communication	
STC 202	Advanced Graphic Design for Advertising	
STC 231	Advertising Copywriting and Concept	
STC 233	Writing for Advertising Account Management	
STC 312	Research Methods for Advertising	
STC 331	Advanced Copywriting	
STC 334	Social Media Messaging and Strategies	
STC 340	Interactive, Digital, and Social Media in Advertising	
STC 350	International and Cross-cultural Advertising	
STC 380	Advertising Internship	
STC 384	Advertising Creative Strategy and Execution	
STC 388	Media Planning	

STC 389	Media Buying and Advertising Sales	
STC 390	Art Direction	
STC 401	Seminar in Advertising and Society	
STC 412	Public Opinion and Mass Communication	
STC 483	Integrated Marketing Communication	
STC 490	Special Topics in Advertising	
STC 491	The Business of Account Management	
Total Credit Hours		15

¹ It is the student's responsibility to meet any prerequisites for elective courses other than STC 114 and STC 200. Such prerequisites (these are listed as a link for each course) will not be waived.

* A grade of C or higher is required in all courses (a C- is not acceptable).

Minor in Public Relations

Code	Title	Credit Hours
Required Courses		
STC 116	Principles of Public Relations	3
STC 201	Public Relations Strategy Development	3
Select 9 credit hours from the list below with the approval of an Public Relations faculty advisor ¹		9
STC 102	Graphic Design for Strategic Communication	
STC 103	Statistical Reasoning for Strategic Communication	
STC 203	Advanced Graphic Design for Public Relations	
STC 232	Writing for Public Relations	
STC 311	Public Relations Research	
STC 330	Travel and Tourism	
STC 334	Social Media Messaging and Strategies	
STC 346	Public Relations Message Development and Execution	
STC 350	International and Cross-cultural Advertising	
STC 381	Public Relations Internship	
STC 412	Public Opinion and Mass Communication	
STC 416	Public Relations Ethics	
STC 423	Crisis Communication and Management	
STC 424	Media Relations	
STC 426	Sports, Publicity, and Promotions	
STC 428	Public Relations Management	
STC 460	Corporate Communication and Public Relations	
STC 481	Public Relations Experience Program (Prep)	
STC 482	International Public Relations	
STC 493	Special Topics in Public Relations	
Total Credit Hours		15

¹ It is the student's responsibility to meet any prerequisites for elective courses other than STC 116 and STC 201. Such prerequisites (these are listed as a link for each course) will not be waived.

* A grade of C or higher is required in all courses (a C- is not acceptable).

Minor in Strategic Communication

Code	Title	Credit Hours
STC 114	Principles of Advertising	3
STC 116	Principles of Public Relations	3
STC 200	Advertising Strategy Development	3
or STC 201	Public Relations Strategy Development	

Select two additional STC elective courses in Advertising and/or Public Relations with approval of faculty advisor	6
Total Credit Hours	15

¹ **Students majoring in Advertising and Public Relations may not minor in Strategic Communication.**

² A grade of C or higher is required in all courses (a C- is not acceptable).

Continuing and International Education

<http://www.continue.miami.edu>

The University of Miami Division of Continuing & International Education (DCIE) is dedicated to providing the highest quality education and training – both on campus and online – to people of all ages, throughout every stage of their lives. DCIE offers undergraduate, graduate and noncredit courses (including online and hybrid options) that span a wide array academic disciplines. Our programs help advance and enrich students who are either beginning their academic journey to seasoned professionals pursuing career opportunities within the global community.

DCIE manages the following programs:

- Adult Student Access Program (non-degree status enrollment in undergraduate and graduate credit classes)

• Credit certificate programs

- Noncredit professional certificate programs (p. 1371)
- Bachelor of General Studies degree program for adults 22+
- Summer college credit programs for high school students (p. 1375)
- Intensive English language programs for international students
- Intensive language programs
- Osher lifelong learning community for adults aged 50+
- Corporate/custom training and workforce development programs

Adult Student Access Program

www.miami.edu/asap

Students that meet the minimum requirements may be eligible to enroll in a maximum of 30 credit hours in an undergraduate, non-degree seeking category which may be applied to certain degree programs, after all application and degree seeking requirements are met. In order to be enrolled in this category, students submit an online application (<http://www.miami.edu/asap>) with any required documents. A minimum 2.5 G.P.A. is required to continue in the program beyond 12 attempted credit hours.

Students may take up to 6 credit hours, **lifetime maximum**, in a graduate non-degree seeking category which may be applied to certain degree programs, after all application and degree seeking requirements are met. Not all graduate departments participate in this program. In order to enroll in this category, students submit an online application (<http://www.miami.edu/asap>), after securing the written permission of the participating graduate department.

For more information, contact: The Adult Student Access Program, DCIE, University of Miami, umnondegree@miami.edu, 305-284-4000.

Bachelor of General Studies

www.miami.edu/bgs

Introduction

Under the leadership of Collegiate Studies, the DCIE offers the Bachelor of General Studies (BGS) degree program, which provides a solid and rigorous, interdisciplinary academic experience for adult students. It is designed specifically for adults who have previously attended college but have not yet completed their undergraduate degrees, as well as for those who have never had the opportunity to pursue post-secondary studies. Admitted students may attend in either a part-time or full-time status. Prospective students are eligible for admission if graduated from high school at least four years ago, have not attended the University of Miami during the past calendar year, have a minimum of 2.2 grade-point average on previous college work, and are U.S. citizens or permanent residents. Students must be pursuing first undergraduate degree.

The BGS curriculum allows an individual the flexibility to design an area of concentration to enhance professional or personal goals. Designed to strengthen critical thinking and writing skills of the students, each course is taught by University of Miami faculty who are committed to the adult student.

Advisors offer personalized attention in career exploration and academic advising and discuss educational alternatives with potential students. Every effort is made to ensure that the process - from admission to registration - is efficient, convenient, and flexible. Students may complete their degree by attending online and on-campus courses.

To underscore its commitment to the adults in our community, the University offers a special tuition to students in the Bachelor of General Studies program which enables the adult, part-time student to pursue this degree at an affordable tuition rate.

The admission process takes into consideration that one's grade-point average, while significant, is only one factor in determining an applicant's qualification for acceptance. Therefore, an advising session with an advisor from DCIE will be scheduled to supplement the information you provide on the BGS application form (<http://www.miami.edu/dcie/index.php/bgs/apply>), which may also be obtained by calling Collegiate Studies at 305-284-4000.

Requirements for Graduation

I. Candidates for the Bachelor of General Studies (BGS) degree must complete the required credit hours and achieve the quality point average specified for students in the University at large as stated in the section Academic Regulations and Procedures. Exempted is interpreted to refer exclusively to those exemptions provided under the following headings:

1. Advanced Standing and Placement (Credit Hour Granted);
2. Credit by Examination;
3. Advanced Placement (by proficiency examination);

II. Except where a required course is one designated to correct a deficiency in his/her college preparation, the student may apply the credit hours of any required course from which he is exempted toward the credit hours for that subject as a general requirement for graduation, toward the 120 credit hours required for graduation. (See Departmental Proficiency Examinations.) An exemption may be granted for ENG 105, but these credit hours may not be applied towards the 120 required for graduation.

III. Credit Only

Only free electives may be taken under this option. Courses which satisfy the major, the distributions of the School, the General Education Requirements of the University or any course for which a C or better is required may not be taken for credit only.

Curriculum Requirements

Code	Title	Credit Hours
General Education Requirements		
English Composition ¹		
ENG 105	English Composition I	3
ENG 106	English Composition II	3
Quantative Skills		
MTH 101	Algebra for College Students (with an acceptable score on the math placement test is required or a "C" or better in MTH 099)	3
MTH 113	Finite Mathematics	3
Arts and Humanities		
Select a total 9 credit hours in any of the following disciplines:		9
American Studies in Humanities		
Art		
Art History		
Communications (Motion Pictures)		
Dance		
Theatre Arts		
Musicology		
English		
Philosophy		
Religion or Women's Studies in Humanities		
People and Society		
Select a total of 9 credit hours in any of the following disciplines:		9
African American Studies		
American Studies in Social Science		
Anthropology		
Communication		
Economics		
Education and Psychological Studies		
Geography		
Judaic Studies		

Political Science	
Psychology and Sociology	
STEM	
Select one 3 credit hour course in computer information systems, business technology or media management	3
Select 6 credit hours in one or more of the following disciplines:	6
Biology	
Chemistry	
Geological Sciences	
Environmental Science	
Marine Sciences	
Physics and Physical Sciences	
Degree Requirements	
Additional Arts and Humanities	
Select a total of 12 credit hours in each of the following disciplines:	12
Art History	
Literature	
Philosophy	
Religious Studies	
Foreign Languages	
Select a minimum of 3 credit hours of foreign language at the 200 course level or higher.	3
German	
Portuguese	
French	
Italian	
Spanish	
History Survey Sequence	
Select a total of 6 credit hours in a single two semester sequence	6
Area of Concentration	
Every candidate for a degree must select an area of concentration. ²	30
ENG 333	Writing the Research Paper ³
Secondary Focus ⁴	
Select four more secondary courses to compliment AOC (previously Interdisciplinary courses)	12
Electives	
Select elective courses in consultation with their advisor to meet the 120 credit hour graduation requirement	15
Total Credit Hours	120

¹ During the first year of enrollment in the School.

² The candidate designs an area of concentration that meets his/her professional and personal goals. The course of study is reviewed and approved by the Dean and/or Director of the program.

³ ENG 333 Writing the Research Paper is a Pre-requisite to completing courses in Area of Concentration and/or Secondary Focus.

⁴ Secondary Focus courses are especially designated to complement the AOC, enhance professional knowledge, cultural perspective and its relation to contemporary society.

Credit Certificate Programs

miami.edu/ccp

Not everyone needs or wants a complete degree program. Recognizing this, the DCIE - in cooperation with several other colleges and schools of the University - offers special Credit Certificate Programs.

Focusing on a single subject, these certificate programs allow students to concentrate on courses that offer the specific knowledge and skills needed for career advancement. All courses are taught by University of Miami faculty at the undergraduate level and are taken for academic credit hour.

Each certificate program varies in the number of required credit hours. While required courses are noted, students may work with an advisor in developing an individually-designed program.

Credit certificate programs are currently available in the following subject areas:

Certificate in Accounting

The Undergraduate Certificate in Accounting is awarded by the Division of Continuing and International Education and the Department of Accounting. It is designed for those who hold at least an undergraduate degree (preferably in business) from an accredited college or university, and whose present interest or occupation is accounting. The program requires students to take the same 24 credit hours of accounting courses (as listed below) required for the undergraduate major in Accounting. To sit for the Certified Public Accountant (CPA) examination in Florida, students must have completed 120 credit hours, including 24 credit hours of accounting (above the elementary level) and 24 credit hours of business courses, including a minimum of six credit hours of business law. There are additional educational requirements to become licensed as a Certified Public Accountant in Florida. Students may wish to consider either the Graduate Certificate in Accounting or the Graduate Certificate in Taxation (offered by the School of Business) to meet those additional education requirements.

Code	Title	Credit Hours
300 Level		
ACC 301	Cost Accounting	3
ACC 311	Intermediate Accounting I	3
ACC 312	Intermediate Accounting II	3
400 Level		
ACC 402	Auditing	3
ACC 403	Fundamentals of Taxation	3
ACC 404	Advanced Taxation	3
ACC 406	Accounting Systems	3
ACC 411	Advanced Accounting	3
Total Credit Hours		24

Business Technology

The Business Technology (previously CIS) program is designed to provide a broad background in business computer information systems and to develop the technical skills one needs to stay competitive in this challenging field. The program will be of particular benefit to programmers and to management information systems analysts. The certificate is awarded by the DCIE and the Department of Business Technology upon the successful completion of 18 credit hours as listed below.

Code	Title	Credit Hours
300 Level		
BTE 320	Introduction to Programming	3
BTE 423	Database Management Systems	3
400 Level		
BTE 412	Foundations of Business Enterprise Technologies	3
BTE 423	Database Management Systems	3
Select two of the following electives:		6
BTE 324	Object-Oriented Programming	
BTE 400	Web-Mobile-Cloud	
BTE 417	Fundamentals of Tech Project Management	
BTE 430	Business Networks	
Total Credit Hours		18

For more information, contact:
 Division of Continuing and International Education
 Collegiate Studies
<http://www.miami.edu/ccp>
 305-284-2727

Intensive Language Institute

www.continue.miami.edu

The Intensive Language Institute (ILI) offers comprehensive language instruction for academic, professional, and personal purposes. The Intensive English Program (IEP), a full-time course of study for international students who wish to pursue university studies in the United States, provides instruction in English language and academic study skills. The ILI offers certificate programs, language courses and customized language programs.

The Intensive English Program and Intensive Language Institute are housed in the Division of Continuing and International Education and are located in Allen Hall.

Intensive English Program

The Intensive English Program prepares students to successfully participate in the academic environment by providing instruction in English language and academic study skills. Courses are offered at five levels of instruction. Students are given a placement test upon arrival to determine the most appropriate level of study. The skills-based curriculum integrates reading and writing, listening and speaking into one complete program of study. Specialized classes vary by level; focusing on the needs of the language learners. Satisfactory completion of the highest level meets the English language requirement for acceptance to undergraduate programs at the University.

The Intensive English Program is accredited by the Commission on English Language Program Accreditation.

For further information about the IEP please contact us at 305-284-2754 or iep@miami.edu. Additional information can be found on www.miami.edu/iep

Intensive Language Institute

The Intensive Language Institute offers specialized English courses in Legal English in several formats. Both a three week certificate program and a semester long program offered in conjunction with the UM School of Law are available.

Customized language instructional packages are also offered in Spanish, Portuguese, Italian, French, and English as a Second Language throughout the year. Instruction focuses on meaningful communication in the chosen language and is tailored for the participants. Specialized classes may focus on Accent Reduction, Medical Spanish, and/or Legal English. Customized language courses can take place on or off campus, are tailored for individuals, groups, and organizations, and are built to deliver targeted language training needs. For further information about these programs please contact us at 305-284-2752.

An Intensive Spanish certificate program is offered several times a year and is an immersion-style Spanish language program. For further information about the Spanish program please contact us at 305-284-4000.

Education and Human Development

<http://www.education.miami.edu>

Introduction

The School of Education and Human Development (SEHD) offers undergraduate majors in:

- Human and Social Development
 - Track I: Individual and Relational Development
 - Track II: Community and Program Development
 - Track III: Human and Social Development Studies
- Athletic Training
- Exercise Physiology
- Sport Administration
- Elementary (K-6)/Exceptional Student Education (K-12) with ESOL and Reading Endorsements (K-12)

The degrees of Master of Science in Education, Specialist in Education, Doctor of Education, and Doctor of Philosophy are available in various departments within the School. These programs are under the supervision of the Dean of the Graduate School and the School of Education and Human Development Sr. Associate Dean for Graduate Studies.

Vision/Mission

Our vision is to be a center of excellence in the study, promotion and integration of educational, psychological, and physical well-being in multicultural communities.

Our mission is to produce knowledge and prepare the next generation of leaders, researchers, and agents of change and well-being in education and the community.

Academic Policies

Academic Integrity Statement

Academic integrity is fundamental to scholarship, good citizenry, and individual success. All students in the School of Education and Human Development are expected to abide by the University of Miami Honor Code (https://doso.studentaffairs.miami.edu/_assets/pdf/policies/student_rights_and_responsibilities_handbook.pdf#page=10). It was established “to preserve the academic integrity of the student body, to encourage consistent ethical behavior among undergraduates, and to foster a climate of fair competition.” Please become thoroughly familiar with the provisions of the Code, academic dishonesty and violations of the Honor Code will not be tolerated.

Admission

Applications for incoming freshman are processed and reviewed by the Office of Admission.

Application to the Bachelor of Science in Education program is requested by February 1st.

Early application is encouraged.

Transfer students: The academic accomplishments of each transfer student will be evaluated on an individual basis. A 3.0 GPA is recommended for transfer admission.

Application deadline for transfer students is March 1st.

Students admitted into the SEHD programs are held to the program requirements stated in the Bulletin for that term.

Student Responsibilities

Students are responsible for planning their own programs and for meeting degree requirements. It is the student’s responsibility to understand and fully comply with the provisions set forth in this Bulletin and written changes to their program of study. Written requests for variation from program or school requirements are reviewed by an administrative committee.

Matriculated students who elect to transfer courses from another institution over a summer or intersession term, must receive departmental or program approval prior to enrolling in the course. Students are responsible for adhering to the residency rule which states that the last 45 consecutive credits must be earned at UM.

A student advising compact specifies the dual responsibilities between students and advisors in each program.

Transfer Approval for Coursework from other Institutions

The Associate Dean for Undergraduate Academic Services makes the final determination for transfer course equivalency. Transfer courses for minors and cognates will not be accepted once students have matriculated to the University of Miami. New transfer students may be awarded a maximum of one course toward a cognate (3 credits) and a maximum of two courses or 6 credits toward a minor.

The school has a very strict transfer policy regarding on-line course work from matriculated students. Students must present a syllabus for course evaluations.

Academic Progress and Probation

The School will review each student’s record at the end of each semester.

When a student’s semester or cumulative average is less than stated below, or progress toward degree completion is unsatisfactory, the student will be placed on academic probation or warning in accordance with the School of Education and Human Development policies and procedures.

Students on probation are not permitted to enroll in more than 12 credit hours, shall make arrangements to meet on a monthly basis with their academic advisor, and may have a STOP placed on their future enrollment until grades are further reviewed. The following criteria will determine probationary status.

Credit Hours Earned	CGPA	CGPA (Exercise Physiology Majors Only)
Fewer than 30 credit hours	1.7	2.0
30-59 credit hours	2.0	2.5
60+ credit hours	2.3	2.5

Note: There are different retention and probation policies for Athletic Training majors. Please see the Athletic Training (p. 570) website or the Athletic Training Guidelines Manual for this and other important information regarding the requirements for completion of the Athletic Training major.

Note: The minimum GPA required for graduation from a Teacher Education Program is 2.5.

Subject to Dismissal

A student who remains on academic probation twice during their undergraduate studies can be designated as "Subject to Dismissal" and will be dismissed the following semester if not removed from probationary status. It is not required to be on this status to be dismissed from the School of Education and Human Development or from the University of Miami.

Academic Dismissal

A student in the School of Education and Human Development whose CGPA or progress toward degree completion, falls below the level of the minimum standards of the University of Miami and/or the School of Education and Human Development, may be dismissed.

Accreditation

Kinesiology and Sport Sciences offers the Athletic Training Program that is accredited by the Commission on Accreditation of Athletic Training Education (CAATE); the Sport Administration Program is approved by the North American Society of Sport Management.

The Department of Teaching and Learning in The School of Education and Human Development offers Teacher Education Programs approved by the Florida Department of Education. In conjunction with the Phillip and Patricia Frost School of Music, the School of Education and Human Development offers Teacher Education Programs in Music Education at the undergraduate and graduate levels. Students who successfully complete their program of studies and submit an application to the Florida Department of Education - Bureau of Educator Certification are eligible to receive a Professional Teaching Certificate.

The policy for practicum, internship and clinical lab credit hours will vary by program. Please check the specific program requirements with your academic advisor or program director.

The Foote Fellows Honors Program reflects the educational vision of former University of Miami President Edward T. Foote, who retired in 2000 after serving the University for twenty years. President Foote passed away in the spring, 2016 but his legacy lives on through the Foote Fellow Honors Program that recognizes the most educationally accomplished incoming students at the University of Miami. Foote Fellows have distinguished themselves both in and out of the classroom at their previous schools, are self-motivated, and think independently. Foote Fellows enjoy unmatched freedom and flexibility to explore a multitude of educational resources within the curricular framework of their school or college. Many Foote Fellows leverage this opportunity to pursue additional majors and/or minors and to study abroad.

The School of Education and Human Development (SEHD) offers a first year inter-disciplinary seminar exclusively for Foote Fellows lead by the dean of the school, Isaac Prilleltensky.

Foote Fellows have preferential advising for course registration with their advisor, Associate Dean, Gina Astorini. Dean Astorini assists Foote Fellows to chart their academic path and to attain access to distinctive learning opportunities at the University, such as special school-based seminars, faculty-mentored research, networking opportunities, and off-campus internships. They also have early registration appointments thus providing optimal access to the most exciting and popular courses on campus.

Foote Fellows are invited to participate in the Research Honors Program. This is a two year program where students complete the following components:

- 2 consecutive semesters of faculty mentored research (2-credits each semester)
- A Thesis (20 page minimum-faculty mentored)
- Seminar and poster presentation at the Undergraduate Research, Creativity and Innovation Forum in the spring
- Students who complete the program will have their transcripts stamped with Research Honors Designation.

The SEHD has partnered with the Melissa Institute of Miami. The Melissa Institute, conducts research and sponsors conferences, forums and seminars throughout the year addressing school bullying, domestic violence, prevention, education, awareness and community engagement directed at reducing violence. The SEHD, through the generosity of the Melissa Institute, offers complimentary tickets to Foote Fellow students in our program to attend these conferences/seminars during the semester.

Foote Fellows are invited to join advanced, interdisciplinary Foote Fellow seminars taught by leading faculty members from across the University. An example is Books That Matter, a rigorous seminar in non-fiction reading that is offered in sessions for first-year and for upper-class students. Additionally, Foote Fellows benefit from early move-in to the residential colleges and receive focused advising on post-baccalaureate distinguished fellowships and awards.

The Foote Fellow Program will provide an enriching experience for students who have been accepted by UM.

Honors Program in Exercise Physiology (HPEP)

The Kinesiology and Sport Sciences Department offers an accelerated Master degree program for students who have completed their 4-year undergraduate program in Exercise Physiology or Athletic Training. It allows students to complete their Master degree in any of the Exercise Physiology tracks (Clinical and Applied Exercise Physiology, Strength and Conditioning, and Nutrition for Health and Human Performance) within one year of their BS degree obtained in that major.

The additional year of study will enable students to complete all requirements leading to a Master of Science degree in Exercise Physiology in the School of Education and Human Development, (M.S. Ed.), in 5 years. To be considered, applicants must be in the top 10% of their high school graduating class. Students must have an SAT score of 1000 or an ACT score of 30 and an unweighted minimum GPA of 3.0 or above. The Exercise Physiology and HPEP application forms and supporting materials must be submitted no later than August 1st of the applicant's senior year. A review of completed applications will begin by the end of September.

For further information and application forms please visit this website (<http://www.miami.edu/dualdegree>).

Educational and Psychological Studies

Dept. Code: EPS

Bachelor of Science in Education: Human and Social Development

The major in **Human and Social Development (HSD)** focuses on the promotion of healthy development and well-being. It prepares students to work with people in multiple contexts and settings:

- health and human services
- schools, universities, and community programs
- government and non-government agencies
- grass-roots movements
- socially responsible business and entrepreneurial organizations

By exploring the scholarly and practical interconnections among **individual, interpersonal, social, and community approaches to change**, students learn to identify barriers to well-being and to implement effective change-oriented strategies and policies. HSD coursework emphasizes **theory, research, and skills**. It culminates in a **practicum** in a setting related to students' area of interest and prepares them for both graduate studies and careers.

Students choose between three areas of concentration (tracks).

- **Track I: Individual and Relational Development (Track Code: HSDI)**
This track emphasizes individual, relational, and family well-being. Focusing on context and diversity in mental health and on strength-based, preventive, and empowering approaches, courses cover family studies, counseling theories and techniques, interviewing skills, and the basics of human service work. Students are well-prepared for graduate study in the helping professions and careers in health and human services.
- **Track II: Community and Program Development (Track Code: HSDC)**
This track promotes healthy individual and community development by emphasizing how social, institutional, and community dynamics affect personal well-being. Stressing the role of non-government agencies in fostering well-being for people with diverse backgrounds, HSDC prepares students to diagnose institutional and community challenges and offer strategies for positive change. Courses include community-focused planning, needs assessment, and change strategies and nonprofit program development, implementation, and evaluation. Students are well prepared for graduate study in community psychology and public policy and careers in community organizations.
- **Track III: Human and Social Development Studies (Track Code: HSDS)**
This is a general track which offers a menu of courses relating to individual and community development. HSDS students are free to combine classes from the Individual (HSDI) and Community (HSDC) tracks. This track meets the needs of students who seek greater flexibility in course work and are less concerned with specializing in the individual or community tracks.

HSD students must declare an approved second major or a minor either in the School of Education or through any other school or college.

Requirements for Graduation

Bachelor of Science in Education

I. Candidates for B.S.Ed. in the School of Education and Human Development must complete the credit hours of work and achieve the quality point average specified for students in the University at large as stated in the section ACADEMIC REGULATIONS AND PROCEDURES, subject to regulations concerning the major specified in departmental and program sections of this Bulletin.

Exempted is interpreted to refer exclusively to those exemptions provided under the following headings:

- Advanced Standing and Placement (Credit Hour Granted);
- Credit by Examination;
- Advanced Placement (by proficiency examination);
- Statement of Foreign Language Requirements;

II. Except where a required course is one designated to correct a deficiency in his/her college preparation, the student may apply the credit hours of any required course from which he is exempted toward the credit hours specified for that subject as a general requirement for graduation and, upon

payment of a recording fee, toward the 120 credit hours required for graduation. (See Departmental Proficiency Examinations.) An exemption may be granted for ENG 105, but these credit hours may not be applied toward the 120 credit hours required for graduation.

III. Credit Only. Only free electives may be taken under this option. Courses which satisfy the major, minor, the distributions of the School, the General Education Requirements of the University or any course for which a C or better is required may not be taken for credit only.

IV. Transferred credit hour may not count toward the completion of a major without the written approval of the Assistant Dean of the School of Education and Human Development.

V. Required Areas of Study

1. English Composition 3 – 6 credit hours

Students fulfill this requirement by satisfactorily completing ENG 105 and ENG 106 or its equivalent. Appropriate Advanced Placement (AP) or International Baccalaureate (IB) scores in English composition may be used to satisfy the ENG 105/ENG 106 requirement. An appropriate score on the SAT or ACT verbal examination may earn a student exemption from, but not credit hour in, ENG 105. Appropriate scores on other tests determined by the Department of English may earn a student exemption from, but not credit hour in, ENG 105. Courses satisfying the English Composition requirement may not be used to fulfill the Advanced Writing and Communication Requirement.

2. Mathematics

B.S.Ed. degree candidates in the Department of Educational and Psychological Studies are required to take EPS 351. This course fulfills a Math requirement for the HSD major. Prior to taking EPS 351, students must complete MTH 101 or be exempt from MTH 101 based on any of the following tests: AP, IB, or an examination administered by the Department of Mathematics.

3. Foreign Languages (not applicable)

Areas of Knowledge and Cognate Requirements

The University of Miami's General Education requirements ensure that graduates have acquired essential intellectual skills and have engaged a range of academic disciplines. All new students will fulfill the General Education requirements by selecting a **Cognate**, which is a cluster of courses arranged by their content, field and interest.

- A cognate is a group of at least three related courses for at least 9 credit hours.
- The courses in a cognate are related in a topical, thematic, interdisciplinary, sequential, or other such fashion, so that completion of a cognate provides coherent depth of knowledge in the area.
- Students must take three cognates to fulfill the Areas of Knowledge requirement,
 - one in the **Arts & Humanities (A&H)**,
 - one in **People & Society (P&S)**, and
 - one in **Science, Technology, Engineering & Mathematics (STEM)**.
- Each cognate has course options that allow students to complete the cognate in ways that meet their individual interests, while staying within the coherent focus of the cognate.
- In addition to the cognates that have been designed by faculty, each major and minor fulfills the cognate requirement in that one area.
 - Exercise Physiology and Athletic Training majors will fulfill the **STEM** cognate.
 - Sport Administration, Human and Social Development, and Elementary/ESE majors will fulfill the **P&S** cognate.
- An approved list of cognates can be found on the University of Miami website.

VI. Advanced Writing and Communication Skills Requirement

Every student majoring in Human and Social Development, will meet the Advanced Writing and Communication Requirement upon fulfillment of their major courses. These courses have a prerequisite requirement of ENG 105 and ENG 106 and will be identified as either writing intensive or as an oral/verbal communication proficiency course or both. Digital competency for both written and oral competencies will be assessed. Writing intensive courses require a minimum of 2500 written words; assignments will be assessed for analytical ability, synthesis of information, grammar, content and style. Courses designated as an oral/verbal proficiency class will provide students an opportunity to demonstrate their presentation skills using accurate standard English structure and syntax, non-verbal cues and gestures, as well as audience appropriate language. Courses in the HSD major which meet the Advanced Writing and Communication Skills Requirement are EPS 321, EPS 371 and EPS 579.

VII. Major in Human and Social Development

- Every candidate for the B.S.Ed. degree in the Department of Educational and Psychological Studies must choose a major in Human and Social Development.
- Students choose among three areas of concentration:
 - Track I – Individual and Relational Development (HSDI);
 - Track II – Community and Program Development (HSDC);
 - Track III – Human and Social Development Studies (HSDS).

To find the requirements for the major, consult this Bulletin under the discipline concerned, and confer with the designated departmental representative.

- HSD majors must maintain a minimum overall grade point average of 2.0 with a grade of “C” or better in all courses in the major.
- HSD students must declare an approved second major or a minor in the School of Education and Human Development or through any other UM school or college.

VIII. Minor

B.S.Ed. majors in Human and Social Development are required to declare a minor.

IX. Electives

Electives may be chosen from any courses offered by the University. The student should consult an advisor before selecting elective courses. At least 6 credit hours must be at the 300 level or above.

X. Senior Assessment

Seniors are required to participate in the General Education Assessment prior to graduation as part of the SACS review process.

For further information, address all inquiries to:

Associate Dean
School of Education and Human Development
P. O. Box 248065
University of Miami
Coral Gables, Florida 33124
Telephone: 305-284-3711

Majors in Educational and Psychological Studies

- B.S.E.D. in Human and Social Development - Individual and Relational Development Track (HSDI) (p. 568)
- B.S.E.D. in Human and Social Development - Community and Program Development (HSDC) (p. 564)
- B.S.E.D. in Human and Social Development - Human and Social Development Studies (HSDS) (p. 566)

Minor in Educational and Psychological Studies

- Human and Social Development (p. 570)

B.S.E.D. Human and Social Development - Community and Program Development (HSDC)

Curriculum Requirements

Code	Title	Credit Hours
Major Requirements 39-42 Credits		
EPS 201	Psychosocial Change and Well-being	3
EPS 270	Lifespan Human Development	3
EPS 291	Community and Character Development	3
MGT 304	Organizational Behavior	3
EPS 311	Group Processes and Development	3
EPS 321	Understanding Human Service Organizations	3
EPS 351	Introduction to Statistics and Research Design	3
EPS 361	Community Psychology and Development	3
EPS 371	Applied Social Research Methods	3
EPS 452	Community Program Development and Evaluation	3
EPS 462	Community Consultation and Leadership	3
EPS 578	Human and Social Development Practicum	3-6
EPS 579	Human and Social Development Practicum Seminar	3
Other Required Courses		
ENG 105	English Composition I	3
ENG 106	English Composition II	3

MTH 101	Algebra for College Students (or elective)	3
Arts and Humanities Cognate Courses		9
STEM Cognate Courses		9
Minor		15
General Electives		39
Total Credit Hours		120-123

Suggested Plan of Study

Course	Title	Credit Hours
Year One		
Fall		
EPS 201	Psychosocial Change and Well-being	3
EPS 270	Lifespan Human Development	3
ENG 105	English Composition I	3
MTH 101	Algebra for College Students (or elective)	3
Arts and Humanities Cognate		3
UMX 101		
Credit Hours		15
Spring		
EPS 311	Group Processes and Development	3
ENG 106	English Composition II	3
Arts and Humanities Cognate		3
STEM Cognate		3
Minor or General Elective		3
Credit Hours		15
Year Two		
Fall		
EPS 291	Community and Character Development	3
Arts and Humanities Cognate		3
General Elective		3
STEM Cognate		3
Minor		3
Credit Hours		15
Spring		
EPS 321	Understanding Human Service Organizations	3
EPS 361	Community Psychology and Development	3
STEM Cognate		3
Minor		3
General Elective		3
Credit Hours		15
Year Three		
Fall		
EPS 371	Applied Social Research Methods	3
HSDC Track Elective		3
Minor		3
General Elective		3
General Elective		3
Credit Hours		15
Spring		
EPS 351	Introduction to Statistics and Research Design	3
EPS 452 or 462	Community Program Development and Evaluation (HSDC Track Elective) or Community Consultation and Leadership	3

Minor		3
General Elective		3
General Elective		3
	Credit Hours	15
Year Four		
Fall		
EPS 452 or 462	Community Program Development and Evaluation (HSDC Track Elective) or Community Consultation and Leadership	3
General Elective		3
General Elective		3
General Elective		3
General Elective		3
	Credit Hours	15
Spring		
EPS 578	Human and Social Development Practicum	3-6
EPS 579	Human and Social Development Practicum Seminar	3
General Elective		3
General Elective		3
General Elective (if needed)		3
	Credit Hours	15-18
	Total Credit Hours	120-123

B.S.E.D. Human and Social Development - Human and Social Development Studies (HSDS)

Curriculum Requirements

Code	Title	Credit Hours
Major Requirements 39-42 Credits		
EPS 201	Psychosocial Change and Well-being	3
EPS 270	Lifespan Human Development	3
EPS 291	Community and Character Development	3
EPS 311	Group Processes and Development	3
EPS 321	Understanding Human Service Organizations	3
EPS 351	Introduction to Statistics and Research Design	3
EPS 361	Community Psychology and Development	3
EPS 371	Applied Social Research Methods (Select Three courses from the following list)	3
EPS 578	Human and Social Development Practicum	6
EPS 579	Human and Social Development Practicum Seminar	3
Select three courses from the following list:		9
EPS 280	Introduction to Family Studies: Dating, Coupling, Parenting	
EPS 365	Psychological Study of Children, Families, and the Law	3
EPS 411	The Psychology of Diversity	3
EPS 420	Introduction to Counseling and Psychotherapy	
EPS 440	Listening and Helping Skills.	
EPS 452	Community Program Development and Evaluation	
EPS 462	Community Consultation and Leadership	
MGT 304	Organizational Behavior	
EPS 412	Migration, Well Being, and Human Development	3
Other Required Courses		
ENG 105	English Composition I	3
ENG 106	English Composition II	3

MTH 101	Algebra for College Students (or elective)	3
Arts and Humanities Cognate Courses		9
STEM Cognate Courses		9
Minor		15
General Electives		36
Total Credit Hours		129

Suggested Plan of Study

Course	Title	Credit Hours
Year One		
Fall		
EPS 201	Psychosocial Change and Well-being	3
EPS 270	Lifespan Human Development	3
ENG 105	English Composition I	3
MTH 101	Algebra for College Students (or elective)	3
Arts and Humanities Cognate		3
UMX 100	The University of Miami Experience	0
Credit Hours		15
Spring		
EPS 311	Group Processes and Development	3
ENG 106	English Composition II	3
Arts and Humanities Cognate		3
STEM Cognate		3
Minor or General Elective		3
Credit Hours		15
Year Two		
Fall		
EPS 291	Community and Character Development	3
Arts and Humanities Cognate		3
STEM Cognate		3
Minor		3
Credit Hours		12
Spring		
EPS 321	Understanding Human Service Organizations	3
EPS 361	Community Psychology and Development	3
STEM Cognate		3
Minor		3
General Elective		3
Credit Hours		15
Year Three		
Fall		
EPS 371	Applied Social Research Methods	3
HSDC Track Elective		3
Minor		3
General Elective		3
General Elective		3
Credit Hours		15
Spring		
EPS 351	Introduction to Statistics and Research Design	3
HSDC Track Elective		3
Minor		3
General Elective		3

General Elective		3
	Credit Hours	15
Year Four		
Fall		
HSDC Track Elective		3
General Elective		3
General Elective		3
General Elective		3
General Elective		3
	Credit Hours	15
Spring		
EPS 578	Human and Social Development Practicum	6
EPS 579	Human and Social Development Practicum Seminar	3
General Elective		3
General Elective		3
General Elective (if needed)		3
	Credit Hours	18
	Total Credit Hours	120

B.S.E.D. Human and Social Development - Individual and Relational Development (HSDI)

Curriculum Requirements

Code	Title	Credit Hours
Major Requirements 39-42 Credits		
EPS 201	Psychosocial Change and Well-being	3
EPS 270	Lifespan Human Development	3
EPS 280	Introduction to Family Studies: Dating, Coupling, Parenting	3
EPS 291	Community and Character Development	3
EPS 311	Group Processes and Development	3
EPS 321	Understanding Human Service Organizations	3
EPS 351	Introduction to Statistics and Research Design (statistics or equivalent)	3
EPS 361	Community Psychology and Development	3
EPS 371	Applied Social Research Methods	3
EPS 420	Introduction to Counseling and Psychotherapy	3
EPS 440	Listening and Helping Skills.	3
EPS 578	Human and Social Development Practicum	6
EPS 579	Human and Social Development Practicum Seminar	3
Other Required Courses		
ENG 105	English Composition I	3
ENG 106	English Composition II	3
MTH 101	Algebra for College Students (or equivalent)	3
Arts and Humanities Cognate Courses		9
STEM Cognate Courses		9
General Electives		30
Free Electives		3
Minor		18
Total Credit Hours		120

Suggested Plan of Study

Course	Title	Credit Hours
Year One		
Fall		
EPS 201	Psychosocial Change and Well-being	3
EPS 270	Lifespan Human Development	3
ENG 105	English Composition I	3
MTH 101	Algebra for College Students (or equivalent)	3
UMX 100	The University of Miami Experience	0
Arts & Humanities Cognate		3
	Credit Hours	15
Spring		
EPS 280	Introduction to Family Studies: Dating, Coupling, Parenting (track elective)	3
EPS 311	Group Processes and Development	3
STEM Cognate		3
ENG 106	English Composition II	3
Arts & Humanities Cognate		3
	Credit Hours	15
Year Two		
Fall		
EPS 291	Community and Character Development	3
EPS 361	Community Psychology and Development	3
Minor Course		3
Arts and Humanities Cognate		3
STEM Cognate		3
	Credit Hours	15
Spring		
EPS 321	Understanding Human Service Organizations	3
EPS 351	Introduction to Statistics and Research Design	3
Minor Course		3
Minor Course or General Elective		3
STEM Cognate		3
	Credit Hours	15
Year Three		
Fall		
EPS 371	Applied Social Research Methods	3
Minor Course		3
Minor Course		3
General Elective		3
General Elective		3
	Credit Hours	15
Spring		
EPS 420 or 440	Introduction to Counseling and Psychotherapy (track elective) or Listening and Helping Skills.	3
Minor Course		3
General Elective		3
General Elective		3
General Elective		3
	Credit Hours	15

Year Four		
Fall		
EPS 420 or 440	Introduction to Counseling and Psychotherapy (track elective) or Listening and Helping Skills.	3
General Elective		3
General Elective		3
General Elective		3
General Elective		3
Credit Hours		15
Spring		
EPS 578	Human and Social Development Practicum	6
EPS 579	Human and Social Development Practicum Seminar	3
Free Elective		3
Free Elective		3
Minor Elective (if needed)		
Credit Hours		15
Total Credit Hours		120

Minor in Human and Social Development

Code	Title	Credit Hours
EPS 201	Psychosocial Change and Well-being	3
2 EPS Courses 300 Level or Higher		6
EPS Courses		6
Total Credit Hours		15

- * The requirements of the minor are 15 credit hours with a grade of C or better. Nine of these 15 credit hours must be earned at the University of Miami; with prior approval, three of these nine may be taken through the UM Study Abroad Program.
- ** All transfer course equivalencies, (up to 6 credits), must be approved by the EPS department.
- *** The undergraduate coursework in Human and Social Development is open to all qualified University of Miami students.
- **** Determination for using these courses as a minor, as a specialization, and/or as electives in any program, is made by the individual student's degree granting college or school.

Kinesiology and Sport Sciences

Dept. Code: KIN

The School of Education and Human Development offers undergraduate studies in the Kinesiology and Sport Sciences Department. The Department provides some of the strongest programs in the field, providing a structured classroom setting immersed in theory and knowledge with clinical and practical experiences. The department is committed to fostering unique and collaborative efforts within our diverse University community. Students are encouraged to engage in various work and clinical experiences including opportunities at the Medical School, the Miami Project to cure paralysis, UM Varsity Athletics Department, South Florida sports industry, Sports Medicine Clinics, Veterans Administration Hospital, and local high schools. Students can choose to major in one of the following areas:

- Athletic Training
- Exercise Physiology (with a pre-medical or pre-physical therapy track)
- Sport Administration

Bachelor of Science in Education

I. Candidates for B.S.Ed. in the School of Education and Human Development must complete the credit hours of work and achieve the quality point average specified for students in the University at large as stated in the section ACADEMIC REGULATIONS AND PROCEDURES, subject to regulations concerning the major specified in departmental and program sections of this Bulletin. Exempted is interpreted to refer exclusively to those exemptions provided under the following headings:

- Advanced Standing and Placement (Credit Hour Granted);
- Credit by Examination;

- Advanced Placement (by proficiency examination);
- Statement of Foreign Language Requirements;

II. Except where a required course is one designated to correct a deficiency in his/her college preparation, the student may apply the credit hours of any required course from which he is exempted toward the credit hours specified for that subject as a general requirement for graduation and, upon payment of a recording fee, toward the 120 credit hours required for graduation. (See Departmental Proficiency Examinations.) An exemption may be granted for ENG 105, but these credit hours may not be applied toward the 120 credit hours required for graduation.

III. Credit Only

Only free electives may be taken under this option. Courses which satisfy the major, minor, the distributions of the School, the General Education Requirements of the University or any course for which a C or better is required may not be taken for credit only.

IV. Transferred credit hour may not count toward the completion of a major without the written approval of the Assistant Dean of the School of Education and Human Development.

V. Required Areas of Study.

1. English Composition

Students must take ENG 105 and ENG 106 (or their equivalent) during the first year of enrollment in the School. Admission to ENG 105 requires a placement score acceptable to the Department of English. Students whose placement scores are deemed unacceptably low will be required to take the non-credit course, ENG 103, before taking ENG 105 and ENG 106. Students whose placement scores are high may be exempt from ENG 105 but not from ENG 106 or its equivalent.

2. Mathematics

B.S.Ed. degree candidates must complete MTH 113 or higher. Students who do not place directly into MTH 113 must enroll in either MTH 099 or MTH 101 based on results of placement tests. Statistics does not satisfy the Math requirement. B.S. in Athletic Training and B.S. in Exercise Physiology have different Math requirements. Please see specific program requirements.

3. Foreign Languages (applicable to Sport Administration majors only)

Students must earn at least 3 credit hours of a foreign language at the 200 course level or higher. Special 200-level courses are required of native speakers who choose to fulfill the language requirement. Two semesters of American Sign Language constitutes an acceptable alternative for the Foreign Language Requirement.

Areas of Knowledge and Cognate Requirements

The University of Miami's General Education requirements ensure that graduates have acquired essential intellectual skills and have engaged a range of academic disciplines. All new students will fulfill the General Education requirements by selecting a **Cognate**, which is a cluster of courses arranged by their content, field and interest.

- A cognate is a group of at least three related courses for at least 9 credit hours.
- The courses in a cognate are related in a topical, thematic, interdisciplinary, sequential, or other such fashion, so that completion of a cognate provides coherent depth of knowledge in the area.
- Students must take three cognates to fulfill the Areas of Knowledge requirement,
 - one in the **Arts & Humanities (A&H)**,
 - one in **People & Society (P&S)**, and
 - one in **Science, Technology, Engineering & Mathematics (STEM)**.
- Each cognate has course options that allow students to complete the cognate in ways that meet their individual interests, while staying within the coherent focus of the cognate.
- In addition to the cognates that have been designed by faculty, each major and minor fulfills the cognate requirement in one area.
 - Exercise Physiology and Athletic Training majors will fulfill the **STEM** cognate.
 - Sport Administration, Human and Social Development, and Elementary/ESE majors will fulfill the **P&S** cognate.
- An approved list of cognates can be found on the University of Miami website.

VI. Advanced Writing and Communication Requirement

Every student majoring in a program from the Kinesiology and Sport Sciences Department will meet the Advanced Writing and Communication Requirement upon fulfillment of the courses for that major. These courses have a prerequisite of ENG 105 and ENG 106 and will be identified as either writing intensive or as an oral/verbal communication proficiency course or both. Digital competency for both written and oral components will be assessed. Writing intensive courses require a minimum of 2500 written words; assignments will be assessed for analytical ability, synthesis of information, grammar, content and style. Courses designated as an oral/verbal proficiency class will provide students an opportunity to demonstrate their presentation skills using accurate standard English structure and syntax, non-verbal cues and gestures, as well as audience appropriate language. The following courses meet the Advanced Writing and Communication Skills Requirement for the major:

Athletic Training: KIN 250 and KIN 260

Exercise Physiology: KIN 365 and KIN 457

Sport Administration: KIN 308 and KIN 498

VII. Majors

Every candidate for the B.S. Athletic Training degree must choose Athletic Training as a major. Every candidate for the B.S. EXPH degree must choose Exercise Physiology as a major. Every candidate for the B.S. Ed. degree must choose a major in Sport Administration. To find the requirements for the major, consult this Bulletin under the discipline concerned, and confer with the designated departmental representative.

The choice of majors should be made no later than the beginning of the junior year and must be approved by the major department. Any student making unsatisfactory progress in a major may be required to change his/her major or to relinquish candidacy for the degree.

VIII. Minors

B.S. Ed. majors in Sport Administration and Exercise Physiology and B.S. EXPH majors are required to declare a minor. Sport Administration students require department approval before declaring a minor. Exercise Physiology students may choose not to declare a minor if following the pre-med track. Students must complete all of the pre-med courses in order to be waived from the minor requirement. Please consult an advisor for clarification of this requirement.

Athletic Training majors are not required to have a minor.

IX. Electives

Electives may be chosen from any courses offered by the University. The student should consult an advisor before selecting elective courses. At least 6 credit hours must be at the 300 level or above.

X. Senior Assessment

Seniors are required to participate in the General Education Assessment prior to graduation as part of the SACS review process.

Minors

A minor in any of the three areas below consists of 14-15 credit hours:

Exercise Physiology

Sport Administration

Sports Medicine

- A grade of C or better is required for each course applied toward the minor; the overall grade point average for the minor must be 2.5 or above.
- The undergraduate coursework in Exercise Physiology, Sports Medicine, and Sport Administration are open to all qualified University of Miami students. A student can minor in *either* Exercise Physiology or Sports Medicine but not both.
- Athletic Training majors are not allowed to minor in Sports Medicine.
- Determination for using these courses as a minor, as a specialization, and/or as electives in any program, is made by the individual student's degree granting college or school.
- Seniors are required to participate in the General Education Assessment as part of the SACS review process.

For further information, address all inquiries to:

Associate Dean
School of Education and Human Development
P. O. Box 248065
University of Miami
Coral Gables, Florida 33124
Telephone: (305) 284-3711

Majors in Kinesiology and Sport Sciences

- B.S. Athletic Training (p. 573)
- B.S. Education, Sport Administration (p. 575)
- B.S. Exercise Physiology (p. 577)

Minors in Kinesiology and Sport Sciences

- Exercise Physiology (p. 580)
- Sport Administration (p. 581)
- Sports Medicine (p. 581)

B.S.A.T. Athletic Training

The Athletic Training program at the University of Miami is an undergraduate education program that has been accredited by CAATE. The program is designed to provide a structured classroom and clinical experience to prepare students to become eligible to sit for the Board of Certification exam; Didactic courses are sequenced to maximize student learning. Please see the Athletic Training website or the Athletic Training Guidelines Manual for the course sequence form and other important information regarding the requirements for completion of the Athletic Training major.

- A degree in Athletic Training requires a major GPA of 3.0 or higher and an overall GPA of 2.5 or higher.
- Seniors are required to participate in the General Education Assessment prior to graduation as part of the SACS accreditation review process.
- Students must successfully meet all of the retention requirements outlined in the Athletic Training Education Program (ATEP) handbook in order to continue in the major.

Curriculum Requirements

Code	Title	Credit Hours
Major Requirements 67 Credits		
KIN 140	Introduction to Athletic Training	2
KIN 141	Introduction to Athletic Training Lab	1
KIN 145	Responding to Emergencies	3
KIN 184	Athletic and Sport Injuries	3
KIN 202	Applied Nutrition for Health and Performance	3
KIN 210	Foundations in Athletic Training	2
KIN 212	Elements of Sports Psychology	3
KIN 221	Exercise Physiology: Biochemistry and Skeletal Muscle	3
KIN 230	Medical Terminology and Documentation	1
KIN 232	Basic Human Physiology	3
KIN 234	Functional Human Anatomy	3
KIN 235	Personal and Community Health	3
KIN 250	Orthopedic Assessment: Lower Extremity	3
KIN 251	Orthopedic Assessment: Lower Extremity Lab	1
KIN 260	Orthopedic Assessment: Upper Extremity	3
KIN 261	Orthopedic Assessment: Upper Extremity Lab	1
KIN 264	General Medical Conditions Evaluation	1
KIN 345	Kinesiology	3
KIN 365	Exercise Programming	3
KIN 443	Clinical Athletic Training Lab I	2
KIN 444	Clinical Athletic Training Lab II	2
KIN 455	Clinical Athletic Training Lab III	2
KIN 456	Clinical Athletic Training Lab IV	2
KIN 461	Therapeutic Modalities	2
KIN 462	Therapeutic Modalities Laboratory	1
KIN 463	Therapeutic Rehabilitation	2
KIN 464	Therapeutic Rehabilitation Laboratory	1
KIN 465	Pharmacology	1
KIN 470	Administrative Aspects of Athletic Training	2
KIN 476	Seminar in Athletic training	2
KIN 488	Gross Anatomy	3
Calculus		
MTH 161	Calculus I (or equivalent)	4
Statistics and Research Methods		

EPS 351	Introduction to Statistics and Research Design	3
KIN 415	Evidence Based Sports Medicine	3
Other Required Courses		
Cognate Courses		18
ENG 105	English Composition I	3
ENG 106	English Composition II	3
Electives		13
MTH (per placement) or Electives		6
Total Credit Hours		120

* Students in the Athletic Training major are not required to declare a minor.

Suggested Plan of Study

Course	Title	Credit Hours
Year One		
Fall		
ENG 105	English Composition I	3
UMX 100	The University of Miami Experience	0
MTH (per placement) or Elective		3
Cognate Course		3
Cognate Course		3
KIN 184	Athletic and Sport Injuries	3
Credit Hours		15
Spring		
ENG 106	English Composition II	3
KIN 212	Elements of Sports Psychology	3
MTH (per placement) or Elective		3
Cognate Course		3
Cognate Course		3
Credit Hours		15
Year Two		
Fall		
KIN 140	Introduction to Athletic Training	2
KIN 141	Introduction to Athletic Training Lab	1
KIN 145	Responding to Emergencies	3
KIN 232	Basic Human Physiology	3
KIN 234	Functional Human Anatomy	3
MTH 161	Calculus I	4
Credit Hours		16
Spring		
KIN 202	Applied Nutrition for Health and Performance	3
KIN 210	Foundations in Athletic Training	2
KIN 230	Medical Terminology and Documentation	1
KIN 235	Personal and Community Health	3
KIN 345	Kinesiology	3
Cognate Course		3
Credit Hours		15
Year Three		
Fall		
KIN 250	Orthopedic Assessment: Lower Extremity	3
KIN 251	Orthopedic Assessment: Lower Extremity Lab	1
KIN 443	Clinical Athletic Training Lab I	2

KIN 465	Pharmacology	1
KIN 461	Therapeutic Modalities	2
KIN 462	Therapeutic Modalities Laboratory	1
Cognate Course		3
Credit Hours		13
Spring		
KIN 221	Exercise Physiology: Biochemistry and Skeletal Muscle	3
KIN 260	Orthopedic Assessment: Upper Extremity	3
KIN 261	Orthopedic Assessment: Upper Extremity Lab	1
KIN 264	General Medical Conditions Evaluation	2
KIN 365	Exercise Programming	3
KIN 444	Clinical Athletic Training Lab II	2
Credit Hours		14
Year Four		
Fall		
KIN 455	Clinical Athletic Training Lab III	2
KIN 463	Therapeutic Rehabilitation	2
KIN 464	Therapeutic Rehabilitation Laboratory	1
KIN 470	Administrative Aspects of Athletic Training	2
KIN 488	Gross Anatomy	3
EPS 351	Introduction to Statistics and Research Design	3
Elective		3
Credit Hours		16
Spring		
KIN 415	Evidence Based Sports Medicine	3
KIN 456	Clinical Athletic Training Lab IV	2
KIN 476	Seminar in Athletic training	2
Elective		3
Elective		3
Elective		3
Credit Hours		16
Total Credit Hours		120

B.S.E.D. Sport Administration

The Sport Administration major at the University of Miami is an undergraduate education program designed to prepare students for careers in the sport industry. The program is committed to the professional development of students so that competencies and skills relevant to the Sport Industry can be acquired over time. Specific competencies in organization, ethics, marketing, leadership and legal issues are emphasized.

- Field experience and internships are an essential component of the major. The KIN department is actively engaged in placing students in visible sports settings and appropriate sport environments so that students acquire relevant competencies and gain pragmatic hands-on experiences that are necessary for success in today's sport industry.
- The Sport Administration major is a 42 credit hour major in Kinesiology coursework plus a class in public speaking (COS 211).
- Students are required to meet a foreign language component. This may be satisfied with two semesters of American Sign Language (TAL 107 and TAL 207), or any intermediate course (200+) in a foreign language that is offered at UM.
- Students transferring from another college or university must have a cumulative GPA of 2.5 or above in order to be considered for admission to the major.
- Students are required to complete a 9-credit internship upon successful completion of **ALL** coursework for the Sport Administration Major. Exceptions to this policy must be approved by the Undergraduate Program Director and the Associate Dean.
- A minor in any field is required. A Business minor is suggested to complement the Sport Administration major and provide a well-rounded comprehensive background to the Sport Administration field.
- Students pursuing a degree in Sport Administration must receive a grade of C or higher in KIN 201 in order to continue with the major. Students are allowed to retake KIN 201 to achieve the minimum C grade only once per University of Miami policy.
- **Students will be allowed to retake a course once.**

- All 400-level courses are restricted to declared Sport Administration majors and minors only.
- A degree in Sport Administration requires a major GPA of 2.5 or higher and an overall GPA of 2.3 or higher.
- KIN 306 and KIN 308 may not be taken in the same semester and must be taken during junior year. KIN 308 must be taken before KIN 410.
- A grade of C or better is required for each course applied toward the major.

Curriculum Requirements

Code	Title	Credit Hours
Major Requirements 45 Credits		
COS 211	Public Speaking	3
KIN 201	Introduction to Sport Administration	3
KIN 206	Sport Facilities and Event Management	3
KIN 212	Elements of Sports Psychology	3
KIN 302	Sport Marketing	3
KIN 306	Essential Leadership in Sports and the Professions	3
KIN 308	Ethical Decision Making in Sport and the Professions	3
KIN 401	Legal Aspects of Sport	3
KIN 403	Sport Information Management	3
KIN 405	Finance and Budget in Sport Administration	3
KIN 410	Problems and Issues in Sport Administration	3
KIN 497	Internship in Sport Administration	9
KIN 498	Seminar in Sport Administration	3
Other Required Courses		
Cognate Courses		18
ENG 105	English Composition I	3
ENG 106	English Composition II	3
MTH 113	Finite Mathematics	3
Foreign Language		9
Math Placement or Elective		3
Minor		15
Electives		21
Total Credit Hours		120

Suggested Plan of Study

Course	Title	Credit Hours
Year One		
Fall		
KIN 201	Introduction to Sport Administration	3
Cognate Course		3
ENG 105	English Composition I	3
Foreign Language Course		3
MTH per Placement or Elective		3
UMX 100	The University of Miami Experience	0
Credit Hours		15
Spring		
KIN 212	Elements of Sports Psychology	3
ENG 106	English Composition II	3
MTH 113	Finite Mathematics	3
Cognate Course		3
Foreign Language		3
Credit Hours		15

Year Two		
Fall		
KIN 206	Sport Facilities and Event Management	3
COS 211	Public Speaking	3
Cognate Course		3
Foreign Language		3
Minor Course		3
	Credit Hours	15
Spring		
KIN 302	Sport Marketing	3
Cognate Course		3
Minor Course		3
Elective		3
Elective		3
	Credit Hours	15
Year Three		
Fall		
KIN 306	Essential Leadership in Sports and the Professions	3
KIN 403	Sport Information Management	3
Cognate Course		3
Elective		3
Minor Course		3
	Credit Hours	15
Spring		
KIN 308	Ethical Decision Making in Sport and the Professions	3
KIN 405	Finance and Budget in Sport Administration	3
Cognate Course		3
Elective		3
Minor Course		3
	Credit Hours	15
Year Four		
Fall		
KIN 401	Legal Aspects of Sport	3
KIN 410	Problems and Issues in Sport Administration	3
Elective		3
Elective		3
Minor Course		3
	Credit Hours	15
Spring		
KIN 497	Internship in Sport Administration	9
KIN 498	Seminar in Sport Administration	3
Elective		3
	Credit Hours	15
	Total Credit Hours	120

B.S. in Exercise Physiology

The Undergraduate program in Exercise Physiology at the University of Miami, is designed for students to acquire a sound knowledge base in the sciences followed by the application of that knowledge base to human movement, exercise and sports performance. Clinical laboratory experiences supplement applied scientific theory in a rigorous academic setting.

- Students may pursue a pre-med track concurrent with the Exercise Physiology major and should inform their advisor if selecting this track.

- Students are required to complete a minimum of 8 credits in chemistry. The academic advisor will advise on the correct sequence of chemistry based on the individual student's career goals.
- Exercise Physiology requires that students maintain a major GPA of 2.75. Students with a major GPA below 2.75 will have one semester to raise their GPA to meet the requirement. Failure to do so may lead to dismissal from the major.
- Students transferring from another college or university must have a cumulative GPA of 3.0 or above in order to be considered for admission to the major.
- A grade of "C" or better is required for each course applied toward the major. Students are allowed to retake a course one time.
- All 100 level courses and KIN 202, KIN 212 are open to non-majors. All other courses are open to majors and minors only. KIN 202 is only open to science majors. Students should not take KIN 150 and KIN 202 as course material overlaps.
- All 300- and 400-level courses except those in a STEM cognate, are restricted to declared Exercise Physiology majors only.
- KIN 399 should be taken in the Spring semester of the junior year.
- Seniors are required to participate in the General Education Assessment prior to graduation as part of the SACS accreditation review process.

Honors Program in Exercise Physiology (HPEP)

KIN 458 will be available for honors credit for Exercise Physiology students provided the following stipulations are met:

1. The course is under the direction of a full-time faculty member in Exercise Physiology.
2. The student completes an honors project permission form and submits this form to the instructor within the first three weeks of the semester.
3. The student completes assigned writing credit work by the end of the semester.
4. Assignments completed for honors credit hour are sent to the University of Miami Writing Center for review.

The University of Miami currently offers an accelerated programs for undergraduate Exercise Physiology majors who want to obtain a Master's Degree in Exercise Physiology, Strength & Conditioning/Fitness Entrepreneurship, or Nutrition for Health & Human Performance. This can be done by taking one additional year of graduate courses. These students must take two graduate courses in Exercise Physiology in their senior undergraduate year in order to earn an M.S.Ed. degree in one additional year. Please visit our website (<http://www.education.miami.edu>) for additional information on the accelerated master's programs. To be eligible students must apply for admission to the accelerated master's program no later than the end of the Fall semester of their senior year.

Curriculum Requirements

Code	Title	Credit Hours
Major Requirements 48 Credits		
KIN 202	Applied Nutrition for Health and Performance	3
KIN 212	Elements of Sports Psychology	3
KIN 221	Exercise Physiology: Biochemistry and Skeletal Muscle	3
KIN 222	Exercise Physiology Laboratory Practicum: Neuromuscular	3
KIN 232	Basic Human Physiology	3
KIN 233	Basic Anatomy Lab	2
KIN 321	Introduction to Systemic Exercise Physiology	3
KIN 322	Exercise Physiology Laboratory Practicum: Cardiorespiratory	3
KIN 344	Gross Anatomy for Kinesiology and Sport Sciences	3
KIN 345	Kinesiology	3
KIN 365	Exercise Programming	3
KIN 366	Exercise Physiology Laboratory: Assessment	3
KIN 399	Neuromuscular Basis for Training	3
KIN 421	Advanced Systemic Exercise Physiology	3
KIN 457	Practicum in Kinesiology and Sport Sciences	3
KIN 477	Advanced Nutrition for Health and Fitness	3
Chemistry Requirement ¹		
Choose one of the following combinations:		8
Combination 1		
CHM 111 & CHM 113	Principles of Chemistry I and Chemistry Laboratory I	
CHM 112 & CHM 114	Principles of Chemistry II and Chemistry Laboratory II	
Combination 2		

CHM 103	Chemistry for Life Sciences I (Lecture)	
CHM 104 & CHM 105	Chemistry for Life Sciences II (Lecture) and Chemistry for Life Sciences I (Laboratory)	
Combination 3		
CHM 111 & CHM 113	Principles of Chemistry I and Chemistry Laboratory I	
CHM 104 & CHM 106	Chemistry for Life Sciences II (Lecture) and Chemistry for Life Sciences II (Laboratory)	
Calculus		
MTH 161	Calculus I	4
Statistics and Research Methods		
EPS 351	Introduction to Statistics and Research Design	3
KIN 415	Evidence Based Sports Medicine	3
Additional Required Courses		
ENG 105	English Composition I	3
ENG 106	English Composition II	3
UMX 100	The University of Miami Experience	0
Cognate Courses		18
Electives/Pre-Med		16
Minor/Pre-Med		15
Total Credit Hours		120

¹ All students who are majoring in Exercise Physiology must earn 8 credit hours TOTAL in chemistry. The chemistry requirement may be fulfilled by any 8 credit hours in chemistry, provided that the courses are not repeated or considered an equivalent of one another. Please see an advisor for proper chemistry course placement.

Suggested Plan of Study

Course	Title	Credit Hours
Year One		
Fall		
KIN 202	Applied Nutrition for Health and Performance	3
KIN 232	Basic Human Physiology	3
KIN 233	Basic Anatomy Lab	2
Choose one of the following:		4
CHM 111 & CHM 113	Principles of Chemistry I and Chemistry Laboratory I	
CHM 103 & CHM 105	Chemistry for Life Sciences I (Lecture) and Chemistry for Life Sciences I (Laboratory)	
ENG 105	English Composition I	3
UMX 100	The University of Miami Experience	0
	Credit Hours	15
Spring		
KIN 212	Elements of Sports Psychology	3
KIN 221	Exercise Physiology: Biochemistry and Skeletal Muscle	3
KIN 222	Exercise Physiology Laboratory Practicum: Neuromuscular	3
Choose one of the following:		4
CHM 112 & CHM 114	Principles of Chemistry II and Chemistry Laboratory II	
CHM 104 & CHM 106	Chemistry for Life Sciences II (Lecture) and Chemistry for Life Sciences II (Laboratory)	
ENG 106	English Composition II	3
	Credit Hours	16

Year Two		
Fall		
KIN 321	Introduction to Systemic Exercise Physiology	3
KIN 322	Exercise Physiology Laboratory Practicum: Cardiorespiratory	3
MTH Per Placement OR Elective		3
Cognate Course		3
Minor/Pre-Med Course		3
	Credit Hours	15
Spring		
KIN 344	Gross Anatomy for Kinesiology and Sport Sciences	3
KIN 345	Kinesiology	3
MTH Per Placement OR Elective		3
Cognate Course		3
Minor/Pre-Med Course		3
	Credit Hours	15
Year Three		
Fall		
KIN 366	Exercise Physiology Laboratory: Assessment	3
MTH 161	Calculus I	4
Cognate Course		3
Minor/Pre-Med Course		3
Elective/Pre-Med Course		3
	Credit Hours	16
Spring		
KIN 365	Exercise Programming	3
EPS 351	Introduction to Statistics and Research Design	3
Cognate Course		3
Minor/Pre-Med Course		3
	Credit Hours	12
Year Four		
Fall		
KIN 416	Research Methods in Exercise Physiology	3
KIN 421	Advanced Systemic Exercise Physiology	3
KIN 477	Advanced Nutrition for Health and Fitness	3
Cognate Course		3
Minor/Pre-Med Course		4
	Credit Hours	16
Spring		
KIN 399	Neuromuscular Basis for Training	3
KIN 457	Practicum in Kinesiology and Sport Sciences	3
Cognate Course		3
Minor/Pre-Med Course		3
Minor/Pre-Med Course		3
	Credit Hours	15
	Total Credit Hours	120

Minor in Exercise Physiology

A minor in Exercise Physiology is open to all students at the University of Miami. Students should complete the following 5 classes in order to earn the EXPH minor. Athletic Training students are not eligible for the EXPH minor.

Curriculum Requirements

Code	Title	Credit Hours
KIN 155	Biological Bases for Physical Activity and Health	3
KIN 202	Applied Nutrition for Health and Performance	3
KIN 232	Basic Human Physiology	3
KIN 233	Basic Anatomy Lab	2
KIN 365	Exercise Programming	3
Total Credit Hours		14

Minor in Sport Administration

Code	Title	Credit Hours
KIN 201	Introduction to Sport Administration	3
Select four of the following:		12
KIN 206	Sport Facilities and Event Management	
KIN 212	Elements of Sports Psychology	
KIN 256	Globalization of Sport	
KIN 297	Practicum in Sport Administration	
KIN 302	Sport Marketing	
KIN 306 or KIN 308	Essential Leadership in Sports and the Professions Ethical Decision Making in Sport and the Professions	
KIN 401	Legal Aspects of Sport	
KIN 403	Sport Information Management	
KIN 405	Finance and Budget in Sport Administration	
KIN 473 or KIN 490	Sports Governance Special Topics in Kinesiology and Sports Sciences	
Total Credit Hours		15

- * A minimum grade of C or higher is required.
 Students minoring in Sport Administration may take KIN 297 for a maximum of 3 credits to count toward the minor.
 Students may take KIN 297 for an additional 3 credits toward general electives with the approval of the Internship Coordinator for Sport Administration,

Minor in Sports Medicine

Code	Title	Credit Hours
KIN 155	Biological Bases for Physical Activity and Health	3
KIN 184	Athletic and Sport Injuries	3
KIN 234	Functional Human Anatomy	3
KIN 235	Personal and Community Health	3
KIN 301	Athletic Injuries and Sport First Aid	3
Total Credit Hours		15

- * A minor in Sports Medicine is available to all students at the University of Miami. Students should take the following 5 courses in the course list for a total of 15 credits. A grade of C or higher is required in each course.
 ** Please note that students majoring in Athletic Training are ineligible for the Sports Medicine minor.
 *** KIN 370 Sociocultural Aspects of Sports Medicine may be substituted for one of the courses listed above for the minor.

Teaching and Learning

Dept. Code: TAL

The Department of Teaching and Learning offers a Bachelor of Science in Education Degree in **Elementary Education (K-6)/Exceptional Student Education (K-12)** with ESOL (English for Speakers of Other Languages, K-12) and Reading (K-12) endorsements.

The Department offers two minors:

1. A traditional Education Minor consisting of 12 credit hours and
2. A Professional Training Option minor of 18 credit hours that fulfills the State of Florida "Professional Training Option" (PTO) for teaching in secondary-schools. Candidates must select a minor area of study in English, math, Secondary Science or Secondary Social studies or other areas of recognized certification. In order to obtain teaching credentials from the State of Florida, a PTO completer must successfully teach in an accredited school in Florida for one academic year.

Teacher Preparation Programs

One of the roles of the School of Education and Human Development is to serve as the professional school to conduct and coordinate programs for the preparation of teachers and other educational personnel at the University of Miami. Membership is held in the American Association of Colleges for Teacher Education, the National Association of State Directors of Teacher Education & Certification and in the Florida Association of Colleges for Teacher Educators. Teacher Preparation Programs (TPP) are accredited by the Florida Department of Education for the preparation of elementary/exceptional student education teachers, secondary teachers, music teachers and other school service personnel.

Professional Development Schools

Bel-Aire Elementary, Henry S. West Laboratory Elementary, Sunset Elementary, Ponce de Leon Middle School and Booker T. Washington Senior High School are operated by Miami-Dade County Public Schools. These schools provide the most up-to-date teaching environments, both in terms of design and curriculum, in partnership with the University of Miami. Students are welcomed at these facilities for field experiences and student teaching, and both students and faculty have the opportunity to contribute to the high quality functioning of these professional development schools.

Teacher Preparation Programs

Teacher Preparation Programs/majors in Elementary/Exceptional Student Education and Secondary Education that lead to professional certification and applicable endorsements are approved by the Florida Department of Education (FLDOE). Please be advised that the State may implement new requirements for certification. ***These requirements will be mandatory with or without notice in this bulletin.*** The student is responsible for securing the application for certification and submitting the necessary documents and fees to the Florida Department of Education to obtain certification and endorsement. The DOE Certification Ombudsman in the School of Education and Human Development is available to assist with certification and re-certification matters.

Academic Policies

Admission

Selection for the Teaching Profession

The faculty of the School of Education and Human Development conceives its ultimate obligation to be to the children, adolescents, and adults who will be taught by teachers who have completed teacher preparation programs at the University. The quality of students admitted into the teacher education curriculum is as important as the skills, content, and concepts to be learned.

Most courses in the teacher education program require school site-based field experiences, culminating in a full-time 15-week internship. School districts require a criminal background check for field placement students and interns. Fingerprinting and FBI background check procedures are at the applicant's expense. Students with felony arrests may wish to consider these requirements carefully and, if necessary, seek advice from an advisor in the School before applying for admission to the program. Students without a valid social security number will not be eligible for placement in the school district.

All students who wish to be considered for admission and/or retention in curricula leading to Florida Teacher Certification will be formally screened at certain points in their program of study with respect to the following criteria:

1. Admission to Teacher Candidacy (see requirements below).
2. Acceptable grade point averages (C or better for courses in the major).
3. Acceptable evaluations by University of Miami faculty.
4. Evaluations by clinical faculty at various field experience sites.
5. Satisfactory progress toward the completion of the Florida Educators Accomplished Practices requirement.

Students who receive a grade below C in their Student Teaching semester will not be recommended for teacher certification.

Note: The Associate Dean of the School of Education & Human Development and the Chairperson of the Department of Teaching and Learning (TAL) jointly approve appeals to the above policies.

Requirements for Admission to Teacher Candidacy

1. Satisfactory performance on the **General Knowledge Test**.
2. Completion of 45 credit hours. In addition, transfer students must have a minimum of 9 credit hours of acceptable credit earned at the University of Miami.
3. A **2.5 GPA in education core** courses. No education classes lower than C.

4. A **2.5 GPA in the content area** teaching major (for secondary education majors).
5. Completion of the Course Advisement Plan (CAP).
6. Completion of at least one Field Experience requirement.
7. Further enrollment in teacher education course work offered by the School of Education and Human Development is contingent upon the student meeting requirements 1-6 above.
8. All students must successfully complete M-DCPS fingerprinting process. Forms are available in the Office of Undergraduate Academic Services.

NOTE: Appeals to the policies stated 1-6 above must be directed to the Associate Dean of the School of Education and Human Development.

Please note: **Students may not register for any class above TAL 332 without admission to Teacher Candidacy .**

Requirements for Admission to Student Teaching

Students submit a formal application to the Department of TAL for admission to Student Teaching. Application materials are available and are to be completed by students no later than October 15 (Fall semester) or March 15 (Spring semester).

The following requirements must be met:

1. Admission to a Teacher Preparation Program (Teacher Candidacy).
2. Completion of application for admission to Student Teaching
3. Approval of the Associate Dean for Undergraduate Studies and the Department of TAL Chairperson.
4. Recommendations from two members of the faculty familiar with the student's academic proficiency. One of these must be from a faculty member in the School of Education and Human Development.
5. Earned a minimum of 90 credit hours.
6. **Submission of the Florida Educator's Accomplished Practices (FEAP) Portfolio via Live Text to the Assistant Director of Accreditation in the Department of TAL. The FEAP Portfolio must include evidence at the indicator level in the first five FEAPs.**
7. All Elementary/ESE majors must have completed **ALL** of the courses for the Elementary/ESE major.
8. Earned a minimum of 2.5 grade point average in core courses offered by the School of Education and Human Development.
9. A grade of C or better is required of each course applied to the major.
10. Earned a minimum of a 2.5 grade point average overall.
11. Successfully completed pre-internship field experiences.
12. Demonstrate satisfactory progress towards the completion of the FEAP requirement, as indicated in #6 above.
13. Passed the Florida General Knowledge Test.
14. Taken and passed one of the following exams: the Professional Education Test or the Subject Area Exam in either Elementary Education (K-6) or ESE (K-12).

NOTE: A MAXIMUM OF 12 CREDIT HOURS MAY BE TAKEN DURING THE STUDENT TEACHING SEMESTER. No outside job may be held or additional classes taken during the Student Teaching semester.

NOTE: The Associate Dean and the Chairperson of TAL in the School of Education and Human Development must approve appeals to the above policies.

Students must complete the FEAPs and the P- 12 Student Impact Project requirements. Monitoring of FEAPs and progress made toward program completion in the Teacher Education program will occur at the following checkpoints:

1. TAL 306, and TAL 429 ; and application to student teaching
2. Students enrolled in all teacher-education programs will submit complete portfolios at the end of TAL 480/TAL 580.

In addition, students enrolled in all teacher-education programs will submit e-portfolios via Live Text as follows

- TAL 306 Field Experience Seminar I (Must submit artifacts in order to receive a passing grade).
- TAL 429 Field Experience Seminar II (Must submit artifacts in order to receive a passing grade).
- Seniors are required to participate in the General Education Assessment prior to graduation as a part of the SACS review process.

Licensure/Certification Information

Only students who have completed all requirements for any State approved degree or certificate program will have their transcripts stamped as meeting State approved requirements for certification as well as appropriate endorsements. Students must meet requirements of the School of Education and Human Development as well as the college or school issuing the second major. Evidence of successful completion of all twelve Florida Educator Accomplished Practices is required to receive the FLDOE stamp on the graduate's final transcript.

Transcript stamp is contingent upon the student taking at least half of the coursework in teacher education at the University of Miami, including the Student Teaching component. At least half of the coursework in the students teaching content area(s) must be taken at the University of Miami in

the School of Education and Human Development, Frost School of Music, or other UM schools or colleges as determined by the program in which the student is enrolled.

Department's Honor Code, Ethics FEAP and Plagiarism Policy

At a minimum, students will receive an automatic FAIL for any assignment that shows even minimal evidence of any of the violations listed in the Student Handbook such as cheating, plagiarism, misrepresentation, collusion, falsification of data and documents, or fabrication of findings. The student will not be allowed to improve that grade and the Ethics FEAP will be marked as permanently failed in the student's portfolio record.

The professor of record will have absolute discretion to judge the severity of an offense involving plagiarism and/or violation of The Honor Code, including extending the penalty to an F in the course.

Students will receive an automatic FAIL on any **assignment** or **action** which shows a violation to the **Ethics FEAP**. Either the TAL Chair or the Dean's office may refer a student to the University Honors Council. Consequence for violating the Honor Code include disciplinary warning, disciplinary probation, suspension or expulsion from the university.

For further information, address all inquiries to:

Dr. Gina F. Astorini Associate Dean School of Education and Human Development P.O. Box 248065 University of Miami
Coral Gables, Florida 33124
Telephone: (305) 284-3711

Majors in Teaching and Learning

- B.S.E.D. in Elementary/Exceptional Student Education (ESE) with ESOL and Reading Endorsements (p. 584)

Minor in Teaching and Learning

- Education (p. 590)

Certificate in Teaching and Learning

- Professional Training Option (p. 591)

B.S.E.D. Elementary/Exceptional Student Education (ESE) with ESOL and Reading Endorsements

The Department of Teaching and Learning offers a major in Elementary/Exceptional Student Education that leads to certification in Elementary Education (K-6)/ESE (K-12) with ESOL and Reading endorsements. The requirements for Elementary/ESE Education are a major in Elementary/ESE Education and a minor outside of the Department of Teaching and Learning.

Requirements for Graduation

Bachelor of Science in Education

I. Candidates for B.S.Ed. in the School of Education and Human Development must complete the credit hours of work and achieve the quality point average specified for students in the University at large as stated in the section ACADEMIC REGULATIONS AND PROCEDURES, subject to regulations concerning the major specified in departmental and program sections of this Bulletin.

Exemption

Exempted is interpreted to refer exclusively to those exemptions provided under the following headings:

1. Advanced Standing and Placement (Credit Hour Granted);
2. Credit by Examination;
3. Advanced Placement (by proficiency examination);
4. Statement of Foreign Language Requirements;

Florida Teacher Certification (FTCE)

Students must pass the Professional Education, General Knowledge and Subject Area tests of the Florida Teacher Certification Examination (FTCE).

Florida Educator Accomplished Practices (FEAPS)

Students must complete the Florida Educator Accomplished Practices (FEAPs) and the P-12 Student Impact Project requirements. Monitoring of FEAPs and progress made toward program completion in the Teacher Education program will occur at the following checkpoints: Students enrolled in all teacher-education programs will submit complete portfolios at

1. application to student teaching and
2. at the end of TAL 480/TAL 580.

In addition, students enrolled in all teacher-education programs will submit e-portfolios via Live Text as follows

- TAL 306 Field Experience Seminar I (Must submit artifacts in order to receive a passing grade).
- TAL 429 Field Experience Seminar II (Must submit artifacts in order to receive a passing grade).

Departmental Proficiency Examinations

Except where a required course is one designated to correct a deficiency in his/her college preparation, the student may apply the credit hours of any required course from which he is exempted toward the credit hours specified for that subject as a general requirement for graduation and, upon payment of a recording fee, toward the 120 credit hours required for graduation. (See Departmental Proficiency Examinations.) An exemption may be granted for ENG 105, but these credit hours may not be applied toward the 120 credit hours required for graduation.

Credit Only

Only free electives may be taken under this option. Courses which satisfy the major, minor, the distributions of the School, the General Education Requirements of the University or any course for which a C or better is required may not be taken for credit only.

Transfer Credit

Transferred credit hours may not count toward the completion of a major without the written approval of the Assistant Dean of the School of Education and Human Development.

Required Areas of Study

English Composition 3 – 6 credit hours

Students fulfill this requirement by satisfactorily completing ENG 105 and ENG 106 or its equivalent. Appropriate Advanced Placement (AP) or International Baccalaureate (IB) scores in English composition may be used to satisfy the ENG 105/ENG 106 requirement. An appropriate score on the SAT or ACT verbal examination may earn a student exemption from, but not credit hour in, ENG 105.

Appropriate scores on other tests determined by the Department of English may earn a student exemption from, but not credit hour in, ENG 105. Courses satisfying the English Composition requirement may not be used to fulfill the Writing Across the Curriculum Required Area of Study.

Mathematics

B.S.Ed. degree candidates must complete MTH 113 or higher. Students who do not place directly into MTH 113 must enroll in either MTH 099 or MTH 101 based on results of placement tests.

Foreign Languages (not applicable)

Areas of Knowledge and Cognate Requirements

The University of Miami's General Education requirements ensure that graduates have acquired essential intellectual skills and have engaged a range of academic disciplines. All new students will fulfill the General Education requirements by selecting a Cognate, which is a cluster of courses arranged by their content, field and interest.

- A cognate is a group of at least three related courses for at least 9 credit hours.
- The courses in a cognate are related in a topical, thematic, interdisciplinary, sequential, or other such fashion, so that completion of a cognate provides coherent depth of knowledge in the area.
- Student must take three cognates to fulfill the Areas of Knowledge requirement,
 - one in the **Arts & Humanities (A&H)**,
 - one in **People & Society (P&S)**, and
 - one in **Science, Technology, Engineering & Mathematics (STEM)**.
- Each cognate has course options that allow students to complete the cognate in ways that meet their individual interests, while staying within the coherent focus of the cognate.
- In addition to the cognates that have been designed by faculty, each major and minor fulfills the cognate requirement in one area.
 - Exercise Physiology and Athletic Training majors will fulfill the **STEM** cognate.
 - Sport Administration, Human and Social Development, and Elementary/ESE majors will fulfill the **P&S** cognate.
- An approved list of cognates can be found on the University of Miami website.

Writing

Every student majoring in Teaching and Learning, will meet the Advanced Writing and Communication Requirement upon fulfillment of their major courses. These courses have a prerequisite requirement of ENG 105 and ENG 106 and will be identified as either writing intensive or as an oral/verbal communication proficiency course or both. Digital competency for both written and oral competencies will be assessed. Writing intensive courses require a minimum of 2500 written words; assignments will be assessed for analytical ability, synthesis of information, grammar, content and style.

Courses designated as an oral/verbal proficiency class will provide students an opportunity to demonstrate their presentation skills using accurate standard English structure and syntax, non-verbal cues and gestures, as well as audience appropriate language. Courses for the TAL Major which meet the Advanced Writing and Communication Skills Requirement are TAL 332 and TAL 428

Majors

Every candidate for the B.S.Ed. degree in the Department of Teaching and Learning must choose a major in Elementary/Exceptional Student Education (ESE) with ESOL and Reading endorsements.

Minors

Every candidate for a B.S. Ed. in Elementary Education/ESE must select a minor outside of the department of TAL.

Electives

Electives may be chosen from any courses offered by the University. The student should consult an advisor before selecting elective courses. At least 6 credit hours must be at the 300 level or above. Students may select elective course credits beyond the major, minor and general education requirements to complete a total of 120 credits required for the degree.

Note: Common prerequisites and total length for state-approved teacher education programs are subject to revision based on legislative and State of Florida Department of Education rule changes.

General Education Assessment

Seniors are required to participate in the General Education Assessment prior to graduation as a part of the SACS review process.

Please note: Students may not register for any class above TAL 332 without admission to Teacher Candidacy. Please see the requirements for Teacher Candidacy on the TAL Department page (p. 581).

Please note: Students are strongly encouraged to register for TAL 203 and TAL 324.

Curriculum Requirements

Code	Title	Credit Hours
Major Requirements		
TAL 103	Psychological Foundations of Education	3
TAL 305	Classroom and Behavior Management	3
TAL 306	Teacher Preparation Seminar I	0
TAL 308	Language Development for Linguistically and Culturally Diverse Children	3
TAL 322	Mathematics Instruction in the Elementary School	3
TAL 323	Interdisciplinary Methods in the Content Areas	3
TAL 330	Introduction to the Education of Exceptional Individuals	3
TAL 332	Assessment of Exceptional Students	3
TAL 420	Introduction to Literacy, Assessment, and Instruction in Elementary School	3
TAL 426	Practicum in Reading	3
TAL 428	ESOL Curriculum and Methods and Assessments	3
TAL 429	Teacher Preparation Seminar II	0
TAL 432	Inclusive Models of Teaching	3
TAL 434	Specialized Instructional Strategies/Transition	3
TAL 470	Student Teaching in the Elementary School	9
TAL 480	Seminar On Teaching	3
Other Required Courses		
ENG 105	English Composition I	3
ENG 106	English Composition II	3
MTH 101	Algebra for College Students	3
MTH 113	Finite Mathematics	3
Arts and Humanities Cognate		9
STEM Cognate		9
Minor		15

General Elective	27
Total Credit Hours	120

* Students must earn a grade of C or better in all courses in their major.

Suggested Plan of Study

Course	Title	Credit Hours
Year One		
Fall		
TAL 103	Psychological Foundations of Education	3
ENG 105	English Composition I	3
MTH 101	Algebra for College Students	3
Arts and Humanities Cognate		3
STEM or General Elective		3
UMX 101		
Credit Hours		15
Spring		
TAL 305	Classroom and Behavior Management	3
TAL 306	Teacher Preparation Seminar I (online component)	0
ENG 106	English Composition II	3
MTH 113	Finite Mathematics	3
Arts and Humanities Cognate		3
STEM Cognate		3
Credit Hours		15
Year Two		
Fall		
TAL 308	Language Development for Linguistically and Culturally Diverse Children	3
TAL 330	Introduction to the Education of Exceptional Individuals	3
TAL 322 or 323	Mathematics Instruction in the Elementary School or Interdisciplinary Methods in the Content Areas	3
Arts and Humanities Cognate		3
STEM Cognate		3
Credit Hours		15
Spring		
TAL 332	Assessment of Exceptional Students	3
TAL 420	Introduction to Literacy, Assessment, and Instruction in Elementary School	3
Minor or General Elective		3
STEM Cognate		3
Minor or General Elective		3
Credit Hours		15
Year Three		
Fall		
TAL 322 or 323	Mathematics Instruction in the Elementary School or Interdisciplinary Methods in the Content Areas	3
TAL 426	Practicum in Reading	3
TAL 432	Inclusive Models of Teaching	3
Minor		3
Minor		3
General Elective		3
Credit Hours		18
Spring		
TAL 428	ESOL Curriculum and Methods and Assessments	3

TAL 429	Teacher Preparation Seminar II (online component)	0
TAL 434	Specialized Instructional Strategies/Transition	3
Minor		3
General Elective		3
General Elective		3
	Credit Hours	15
Year Four		
Fall		
TAL 480	Seminar On Teaching	3
TAL 470	Student Teaching in the Elementary School	9
	Credit Hours	12
Spring		
General Elective		3
General Elective		3
General Elective		3
General Elective		3
General Elective		3
	Credit Hours	15
	Total Credit Hours	120

Secondary Education

*This program will be discontinued pending Faculty Senate/Board of Trustee approval

Curriculum Requirements

Code	Title	Credit Hours
Major Requirements 40-45 Credits		
TAL 101		3
TAL 103	Psychological Foundations of Education (for Secondary English majors only)	3
TAL 305	Classroom and Behavior Management	3
TAL 306	Teacher Preparation Seminar I	0
TAL 404	Content Area Literacy in the Secondary Classroom	3
Choose one of the following:		3
TAL 428	ESOL Curriculum and Methods and Assessments ((English Majors only))	
TAL 429	Teacher Preparation Seminar II	
TAL 434	Specialized Instructional Strategies/Transition	3
Choose one of the following:		3
TAL 506	Issues and Strategies for ESOL (Non-English Majors Only)	
TAL 308	Language Development for Linguistically and Culturally Diverse Children (English Majors Only)	
TAL 572	Student Teaching in the Secondary School.	9
TAL 580	Seminar on Teaching	3
Select one of the following as appropriate for the subject area:		3
TAL 541	Instruction and Assessment in Secondary English Language Arts	
TAL 542	Instruction and Assessment in Secondary Mathematics	
TAL 543	Instruction and Assessment in Secondary Science	
TAL 544	Instruction and Assessment in Secondary Social Studies	
Other Required Courses		
ENG 105	English Composition I	3
ENG 106	English Composition II	3
MTH 101	Algebra for College Students	3
MTH 113	Finite Mathematics	3

Arts and Humanities Cognate	9
STEM Cognate	9
Major Courses	33
General Electives	21
Total Credit Hours	120

* Please note: Students may not register for classes above TAL 404 without admission to Teacher Candidacy.

***This program will be discontinued pending Faculty Senate/Board of Trustee approval**

Suggested Plan of Study

Course	Title	Credit Hours
Year One		
Fall		
TAL 101		3
TAL 103	Psychological Foundations of Education	3
ENG 105	English Composition I	3
MTH 101	Algebra for College Students	3
Major Course		3
UMX 100	The University of Miami Experience	0
	Credit Hours	15
Spring		
TAL 305	Classroom and Behavior Management	3
TAL 306	Teacher Preparation Seminar I (online component)	0
ENG 106	English Composition II	3
MTH 113	Finite Mathematics	3
Major Course		3
STEM Cognate		3
	Credit Hours	15
Year Two		
Fall		
Choose one of the following:		3
TAL 308	Language Development for Linguistically and Culturally Diverse Children (English Majors Only)	
TAL 506	Issues and Strategies for ESOL (Non-English Majors)	
Major Course		3
STEM Cognate		3
Arts and Humanities Cognate		3
	Credit Hours	12
Spring		
TAL 404	Content Area Literacy in the Secondary Classroom	3
Choose one of the following:		3
TAL 428	ESOL Curriculum and Methods and Assessments (English Majors Only)	
TAL 429	Teacher Preparation Seminar II	
Major Course		3
STEM Cognate		3
Arts and Humanities Cognate		3
	Credit Hours	15
Year Three		
Fall		
Choose one of the following: ¹		3
TAL 541	Instruction and Assessment in Secondary English Language Arts	
TAL 542	Instruction and Assessment in Secondary Mathematics	

TAL 543	Instruction and Assessment in Secondary Science	
TAL 544	Instruction and Assessment in Secondary Social Studies	
Major Course		3
Major Course		3
Arts and Humanities Cognate		3
General Elective		3
General Elective		3
	Credit Hours	18
Spring		
TAL 434	Specialized Instructional Strategies/Transition	3
Major Course		3
Major Course		3
General Elective		3
General Elective		3
General Elective		3
	Credit Hours	18
Year Four		
Fall		
TAL 572	Student Teaching in the Secondary School.	9
TAL 580	Seminar on Teaching	3
	Credit Hours	12
Spring		
Major Course		3
Major Course		3
Major Course		3
General Elective		3
General Elective		3
	Credit Hours	15
	Total Credit Hours	120

Minor in Education

Curriculum Requirements

Code	Title	Credit Hours
TAL 103	Psychological Foundations of Education	3
Two TAL courses 300 level or higher		6
TAL Course		3
Total Credit Hours		12

- 1 All courses must be passed with a C or high with a minimum of 2.5 GPA for the minor.
- 2 It is strongly recommended that students enroll in courses for this minor which do not include Field Experience. Please see an advisor for a list of those courses.
- 3 TAL 107, TAL 207, TAL 307, TAL 407, and TAL 191 do NOT count toward the minor.
- 4 This minor does not lead to teaching credentials.

Professional Training Option Minor

The Professional Training Option (PTO) is a Florida Department of Education approved pathway for non-education majors to complete the Professional Education component, one of the requirements to become a certified teacher in the State of Florida. Please be advised that students seeking the PTO must be majoring or minoring in a teachable subject

Code	Title	Credit Hours
TAL 103	Psychological Foundations of Education	3
TAL 305	Classroom and Behavior Management	3

TAL 330	Introduction to the Education of Exceptional Individuals	3
TAL 404	Content Area Literacy in the Secondary Classroom	3
TAL 506	Issues and Strategies for ESOL	3
Select one course from the following list as appropriate for the subject area		3
TAL 524	Education and the Arts	
TAL 541	Instruction and Assessment in Secondary English Language Arts	
TAL 542	Instruction and Assessment in Secondary Mathematics	
TAL 543	Instruction and Assessment in Secondary Science	
TAL 544	Instruction and Assessment in Secondary Social Studies	
Total Credit Hours		18

- ¹ Students must pass the specified tests of the Florida Teacher Certification Exam. These tests include the General Knowledge Test (all four sections) and the Subject Area Exam of the student's discipline area (Biology, English, Math etc...). These tests must be passed prior to graduation in order to be eligible for the State of Florida Stamp applied to transcripts.
- ² All courses must be passed with a C or high with a minimum of 2.5 GPA for the minor.
- ³ Students must pass all 4 sections of the General Knowledge Exam (GKT), part of the FTCE, in order to be eligible for 400 level courses or higher.

Professional Training Option Certificate

The Professional Training Option (PTO) is a Florida Department of Education approved pathway for non-education majors to complete the Professional Education component, one of the requirements to become a certified teacher in the State of Florida. Please be advised that students seeking the PTO must be majoring in a teachable area in order to participate in the program.

The PTO minor consists of 18 credit hours passed with a C or higher with an overall GPA of 2.5 or higher. Upon successful completion of the coursework and passing the required Florida Teacher Certification Exams (FTCE) student's UM transcripts will indicate that the student has completed a Florida State-approved PTO program. Students will then be eligible to apply for a 3-year Temporary Teaching Certificate in the State of Florida. There is a one-year of successful teaching requirement in an accredited school in Florida in order to apply for a Professional Teaching Certificate. Please note: Students must have passing scores on the FTCE **prior to graduation** in order to be eligible for the PTO Stamp.

Curriculum Requirements

Code	Title	Credit Hours
TAL 103	Psychological Foundations of Education	3
TAL 330	Introduction to the Education of Exceptional Individuals	3
TAL 305	Classroom and Behavior Management	3
TAL 404	Content Area Literacy in the Secondary Classroom	3
TAL 506	Issues and Strategies for ESOL	3
Select one of the following as appropriate for the subject area and approved by the advisor:		3
TAL 524	Education and the Arts	
TAL 541	Instruction and Assessment in Secondary English Language Arts	
TAL 542	Instruction and Assessment in Secondary Mathematics	
TAL 543	Instruction and Assessment in Secondary Science	
TAL 544	Instruction and Assessment in Secondary Social Studies	
Total Credit Hours		18

Engineering

<http://www.miami.edu/engineering>

Mission

The College of Engineering is committed to educating tomorrow's technology leaders for career success.

The objective of the College of Engineering is to serve society by offering high quality educational programs in the professional areas that it covers, and by performing research and community service, with high professional standards. The College is dedicated to educating engineers to deal with the major issues of society over the next generation - enhancing competitiveness, advancing health care, coming into harmony with the environment, utilizing technology for humankind's benefit, and supporting a sophisticated infrastructure. The goal of the faculty is to prepare students to be employed effectively in manufacturing, consulting, construction, information technology, service industries, and those related to the medical industry and health care, in roles involving planning, design and implementation at all levels of decision making. Students are broadly prepared in technical, leadership, and management skills. Student development accrues both inside and outside the classroom, with input from faculty, employers, alumni, and other students. They are made acutely aware of environmental and international perspectives. Professional competence in the traditional sense is complemented by a broad capability to function in society. The College places great emphasis on providing students with a learning experience which will enable them to develop productive careers while creating engineering solutions to problems of our society. Learning is centered around real life experiences, which involve an understanding of science, mathematics, social values, and aesthetics, to produce economical solutions to physical problems which society encounters. Protection and enhancement of the environment is stressed at all levels, and emphasis is placed on the creative application of knowledge which will improve the quality of life.

Department and Programs

The College of Engineering has five departments -

- Biomedical Engineering,
- Civil, Architectural, and Environmental Engineering,
- Electrical and Computer Engineering,
- Industrial Engineering, and
- Mechanical and Aerospace Engineering

offering curricula leading to Bachelor of Science degrees in the following fields:

- Aerospace Engineering,
- Architectural Engineering,
- Biomedical Engineering,
- Civil Engineering,
- Computer Engineering,
- Electrical Engineering,
- Engineering Science,
- Environmental Engineering,
- Industrial Engineering, and
- Mechanical Engineering.

Interdisciplinary areas of study, areas of specialization within departments, and study in two entirely different areas are available through options, concentrations and dual degree programs.

Accreditation

The programs in Aerospace Engineering, Architectural Engineering, Biomedical Engineering, Civil Engineering, Computer Engineering, Electrical Engineering, Environmental Engineering, Industrial Engineering, and Mechanical Engineering are accredited by the

Engineering Accreditation Commission (EAC) of the Accreditation Board for Engineering and Technology (<http://www.abet.org>) (ABET)

415 North Charles Street

Baltimore, MD 21201

telephone: 410-347-7700

The program in Engineering Science is not accredited.

The College offers graduate programs leading to degrees both in the traditional and interdisciplinary areas of study. Programs leading to the M.S. degree may include specialization in the following areas of study: Architectural Engineering, Biomedical Engineering, Civil Engineering, Electrical and

Computer Engineering, Engineering Management, Environmental Engineering, Industrial Engineering, Mechanical Engineering, Medical Informatics, Structural Engineering, and Thermal and Fluid Sciences. .

Engineering Laboratories

The College of Engineering maintains a variety of well-equipped laboratories adequate for undergraduate instruction and providing for graduate and sponsored research.

Computer Laboratory

- Clarke Computational Laboratory
- Computer Graphics Laboratory

Biomedical Engineering Laboratories

- Biomedical Design and Instrumentation Laboratory
- Biomaterials/Circulatory Assist Device Laboratory
- Biomedical Atomic Force Microscopy Laboratory
- Biomedical Optics Laboratory
- Diabetes Tissue Engineering Laboratory
- Joint Bioengineering and Endourology Laboratory
- Measurements Laboratory
- Medical Imaging Laboratory
- Neuroprosthetics Research Group
- Neurosensory Engineering Laboratory
- Stem Cell and Mechanobiology Laboratory
- Tissue Biomechanics Laboratory
- Tissue Engineering Laboratory

Civil, Architectural and Environmental Engineering Laboratories

- Environmental Engineering Laboratory
- Geotechnical Engineering Laboratory
- Mechanics of Solids and Materials Laboratory
- Structures and Materials Laboratory
- Sustainable Building Systems Laboratory

Electrical and Computer Engineering Laboratories

- Electronics Laboratory
- Wireless Communications Laboratory
- Digital Signal Processing Laboratory
- Electrical Machinery Laboratory
- Digital Design Laboratory
- Microprocessor Laboratory
- Photonics and Micro-Devices Laboratory
- Distributed Decision Environments Laboratory
- Underwater Imaging Laboratory
- Networks Laboratory
- Embedded Systems Laboratory
- Computer Vision and Image Processing Laboratory
- Information Technology Laboratory
- Multimedia Laboratory
- Digital Audio and Speech Processing Laboratory
- Optics and Fiber Communications Laboratory
- ECE Computer Laboratory
- Nanophotonics and Devices Laboratory
- MEMS and VLSI Laboratory

Industrial Engineering Laboratories

- Computer Integrated Manufacturing Laboratory
- Industrial Hygiene Laboratory
- Biomechanics and Gait Laboratory
- Human Factors and Aging Research Laboratory
- Productivity Research Laboratory
- Work Design Laboratory
- Work Physiology Laboratory
- Systems and Operations Research Laboratory
- Industrial Ventilation Laboratory
- Robotics Laboratory

Mechanical and Aerospace Engineering Laboratories

- Aerospace Materials Simulation Laboratory
- Aerodynamics and Computational Fluid Dynamics Laboratory
- Design and Manufacturing Laboratory
- Fuel Cells Laboratory
- Thermo-Fluid Mechanics Laboratory
- Integrated Nano-Bio-Systems Laboratory
- Internal Combustion Laboratory
- Materials Laboratory
- Materials Modeling Laboratory
- Measurements Laboratory
- Multifunctional Composite Materials Laboratory
- Optimization and Reliability Laboratory
- Robotics and Intelligent Systems Engineering Laboratory
- Stress Analysis Laboratory
- Tissue Biomechanics Laboratory
- Wind Tunnel Laboratory

Academic Policies

Admission

Admission to the College of Engineering is covered under the section on Admission to the University in the General Information section of this Bulletin. Algebra, trigonometry, analytic geometry, chemistry, computer literacy, and physics are high school subjects that are appropriate for students planning on entering the College.

The academic work of each transfer student will be evaluated on an individual basis, and the student will be enrolled in the College at an appropriate level.

Requirements for Graduation

The College believes that emphasis should be placed on the student's ultimate level of attainment in selected subject areas. For those students whose preparation is advanced beyond that of the average secondary school graduate, the University provides proficiency examinations and schedules the students for more advanced work. Graduation for these students may be accelerated. For those students whose secondary school preparation has not provided an adequate background, the University offers preparatory courses. Graduation for these students may be delayed accordingly.

The student's program of study is selected jointly with an adviser, with special attention to the individual student's needs. Flexibility is ordinarily possible within the framework of sound education in the essential fundamentals and within the development of depth in selected fields of design and analysis. An examination of a typical curriculum given under the various department sections of this Bulletin shows that there is a strong common core of studies. Therefore, students uncertain of their ultimate field of specialization retain a high degree of mobility to enable them to transfer from one curriculum to another.

Each student must demonstrate upon admission an adequate preparation in the necessary skills of reading, writing, and mathematics. Placement test scores will indicate which, if any, supplementary courses must be taken the first semester. Although these courses are recorded for University credit hour, the student must take the full curriculum, as listed, in addition to these courses. Students not prepared in these areas are advised to make every effort to correct deficiencies before the first semester.

Completion of any of the prescribed curricula, except Engineering Science, with an overall grade point average of at least 2.0 (C) in all course work, to include all accepted work from other institution(s), is the basic requirement for graduation in the College. An average of C also must be attained in all work attempted at the University of Miami and the professional studies. The Engineering Science curriculum, because of its special purpose, has a higher requirement, i.e., a grade point average of 3.0 (B).

The requirements for graduation as specified by each Department and Program reflect the general education requirements of the University of Miami and the requirements of the appropriate accrediting agencies. The curricula contain required courses and elective courses. No course required for graduation may be taken under the credit-no credit (Credit-Only) option.

Students are expected to make satisfactory progress toward graduation by meeting the criteria established above. Whenever a student fails to demonstrate positive academic progress, he/she may be placed on academic probation or dismissed by the College of Engineering Scholastic Standards and Advising (SSA) Committee.

General Educational Requirements

Areas of Knowledge

Students at the College of Engineering fulfill the Areas of Knowledge requirement by completing three *cognates*, one from each of the three areas of the university curriculum:

- Arts & Humanities;
- People & Society; and
- Science, Technology, Engineering & Mathematics.

For students in the College of Engineering, their engineering major will count as a cognate in Science, Technology, Engineering & Mathematics. These students have to complete a cognate in People & Society and Arts & Humanities.

A cognate is a group of at least three courses for at least nine credit hours, related in a topical, thematic, interdisciplinary, sequential, or other fashion, so that completion of a cognate provides coherent depth of knowledge. Each cognate has course options that allow students to complete the cognate in a manner that meets their interests, while staying within the coherent focus of the cognate. While students are required to take three cognates to fulfill the Areas of Knowledge requirement, there is no limit to the number of additional cognates students may complete. All cognates completed by students are listed on the students' transcripts, thus certifying their depth of knowledge in those areas.

The university offers a large number and range of cognates. All approved cognates are visible in a cognate search engine (at www.miami.edu/cognates) that allows students to search for cognates based on cognate features, cognate courses, and keywords. Each cognate is administered by a department or program that is designated as the Responsible Academic Unit (RAU) for the cognate. Inquiries regarding a cognate should be directed to the cognate's RAU.

Engineering students satisfy the University's Advanced Writing and Communication Skills requirement by completing a set of classroom courses, laboratory courses and design courses where they learn effective oral, graphical and technical writing skills. These requirements are specified under each department.

The student's official records are maintained by the Office of Enrollment Services. It is the student's obligation to take the initiative to assure that all requirements are being met in conformity with his/her own graduation plans.

Degree Programs

Dual Majors

Dual majors are offered for engineering students with strong interest in related fields of study such as Physics or Mathematics. In order to obtain a dual major in one of these areas, the student will have to obtain, in parallel, a degree in one of the engineering programs, plus additional course work approved by the dual majors department. Further information on this dual major program may be obtained from the Dean's Office of the College.

Minors

Minors are offered by the College of Engineering. The departments of:

- Civil, Architectural, and Environmental Engineering,
- Electrical and Computer Engineering,
- Industrial Engineering, and
- Mechanical Engineering

offer minors with various areas of specialization. Details of each area of concentration and its requirements may be found under each departmental listing.

Engineering students can earn a minor offered by any other College/School within the University of Miami, including the College of Engineering. In cases where the major degree requirements satisfy some of the requirements for the minor, at least six credit hours beyond the major degree

requirements must be taken in the minor subject area to earn a minor. Minors in Engineering require a minimum GPA of 2.0 in the courses required for the minor.

Departmental Honors Program

A student in the College of Engineering may graduate with Departmental Honors noted upon his/her diploma and transcript upon fulfillment of the following requirements:

1. Completion of at least 18 credit hours of course work in honors courses and/or in courses at the 500 level, including 6 credit hours in independent study, senior thesis, or designated advanced or special honors courses specified by the department, with grades of at least B in these 6 credit hours.
2. Attainment of at least a 3.4 overall grade point average. Transfer students must also attain at least a 3.4 grade point average in all work taken at the University of Miami.
3. Attainment of at least a 3.5 average in the departmental major courses.
4. A written request from the student to the departmental faculty during his/her semester of expected graduation stating the desire to graduate with Departmental Honors, and specifying those courses taken in compliance with section (A) above.

Certificate Programs in Engineering

In cooperation with the University's School of Continuing Studies, the College of Engineering offers practicing engineers advanced or specialized training without having to meet the stringent entrance requirements of the Graduate School. Persons holding Bachelor's degrees, registered as Professional Engineers, or possessing equivalent qualifications can be granted Certificates of Proficiency by the University after completing fifteen credit hours of course work in a specified field of engineering. Study programs are arranged on an individual basis by each student and his/her advisor. Detailed information on Certificate Programs can be requested from the Office of the Dean of Engineering.

The Internship Cooperative Program

The Cooperative Program takes its name from the close cooperation that exists between the College and participating employers. This arrangement attempts to insure that each student's academic and work experience will integrate and contribute significantly to his/her overall growth and professional development. Interviews and screening by both the employer and Cooperative Program personnel attempt to match the needs of the employer carefully with the interests and capability of the student.

Advantages to the Student

1. Offers on-the-job experience to supplement the academic degree program.
2. Offers potential long term career employment with the Cooperative Program employer.
3. The experience obtained makes the student, upon graduation, potentially much more valuable to any future employer. Upon completion of an appropriate amount and level of experience, graduation in the Cooperative Program may be recognized by a special seal on the student's diploma.
4. Helps the student to verify whether or not his/her career or specialty choice is correct.
5. Tends to increase motivation and to make academic studies more meaningful.
6. Earnings from Cooperative Program employment can cover a significant portion of the student's college expenses.
7. Certain work experience may shorten the experience requirements, after graduation, for eligibility for professional registration.
8. Helps to develop the students understanding of human relations and the lifelong need of learning to balance appropriately the demands on ones time of multiple duties such as studying, employment, daily necessities, family obligations, etc.

Advantages to the Employer

1. Offers an opportunity to recruit and screen potential employees in the fields of engineering.
2. The Cooperative Program maintains an up-to-date roster of available undergraduate and graduate students, many with previous experience. This roster offers employers means of obtaining employees to meet fluctuating work loads, on relatively short notice.
3. Students in the Cooperative Program can provide good company public relations with their classmates.
4. Participation in a Cooperative Program serves the profession by providing opportunities for many capable and well deserving young persons to attend a University, who otherwise might lack the financial ability or motivation to attend.

Types of Cooperative Program Arrangements

Continuous Work-Study

An arrangement involving a combination of part-time employment (15 or more hours per week) and a credit hour academic load which is appropriately reduced from the normal full-time load to balance the employment duties. Full-time employment may be undertaken during the summer period. Two students may be used during the year to share the hours of a full-time position (20 hours each student). In some instances, an individual student will hold a full-time position and carry a light academic load in evening and/or early morning classes.

Alternating Work-Study

An arrangement involving two students alternating full-time employment and full-time study. Students alternate positions of work and study at the end of each semester (including the summer), and thereby provide the equivalent employee time of a full-time position year-round.

Student Eligibility for the Program

University of Miami students enrolled in the College of Engineering are eligible to enter the Cooperative Program. Initial entry into the Program is limited to superior students. Normally, work assignments are not given until the equivalent of one or two semesters of full-time academic work is completed. Currently, most students in the Program are under continuous work-study arrangements.

Study Abroad Programs

The College of Engineering encourages its students to take advantage of one of the University of Miami's numerous study abroad options in Latin America, Europe, Asia, Australia and the Middle East, especially through partners in the Global Engineering Education Exchange (GE3). Of particular interest to Engineering students are the following: internships (unpaid and paid) in Spain, England, France, Argentina, Colombia, Chile, and Australia in which professional work experience is carried out abroad; course work at Engineering schools abroad for a semester or an academic year; summer programs in intensive Language instruction, Humanities and Social Sciences abroad. The cost of attending these programs is equivalent to University of Miami tuition and fees. Almost all University of Miami financial aid is granted. With prior approval and detailed curriculum advice, courses taken abroad will apply towards graduation.

The Management of Technology Supplemental Program

The objective of this program is to educate engineers in how to exploit their technological knowledge. This is a vital, but often neglected, link in achieving competitiveness in the global marketplace. The basic premise motivating this approach is the recognition that in today's world, technology is the backbone of the business enterprise system and that wealth can only be created through production of goods and services. This program will educate engineers in a multitude of subjects bridging the gap between product technology, production technology and the marketplace, which is the ultimate customer of engineering contributions.

The program consists of four courses:

1. Quality in Design of Products and Production Systems
2. Entrepreneurship for Engineers
3. Production Systems Design
4. Management of Technology.

A project is required at the end of the program, but is threaded throughout the program starting with the first course. Upon completion of the program, the student will receive a special certificate of completion. This program is available to all qualified students in all departments of the College of Engineering.

Admission to the Program

Admission to this supplemental program will be by application submitted by the candidate or by nomination by an advisor or department chair. All applications will be reviewed by a standing committee. Students must meet the prerequisite of each course before enrolling in it.

Requirements for the Certificate

The program is an add-on to existing curriculum. Students must complete all courses designated in order to qualify for the certificate. A notation will be made on the student's transcript recognizing their completion of the special program. No designation will be made on the diploma.

Course Sequence

Courses are recommended to be taken in the sequence indicated above.

Team Work

Students will be encouraged to work on projects in teams. Multidisciplinary teams will also be encouraged.

The College is primarily housed in the J. Neville McArthur Building. Completed in 1959 and renovated in 1984, this attractive building is the gift of the late J. Neville McArthur, who was a member of the Board of Trustees and a prominent citizen and dairyman. The Engineering Addition is also a gift of the McArthur family. Students in the College of Engineering come from all parts of the United States and from many nations throughout the world, comprising one of the most diverse and cosmopolitan engineering student bodies in the country.

Combined BS/MS Program

The College offers a five-year Bachelor of Science and Master of Science BS/MS degree program in Architectural Engineering, Biomedical Engineering, Civil Engineering, Computer Engineering, Electrical Engineering, Environmental Engineering, Industrial Engineering, and Mechanical Engineering. This program is specifically designed for those students who want to pursue their graduate study as they are completing their undergraduate study. Both

degrees are awarded at the completion of required coursework for both the BS and MS degrees. The special conditions and processes for the five-year BS/MS Program are as follows:

Requirements

You must be an undergraduate student in the College of Engineering (CoE). A master's degree is considered the first professional degree in engineering. The Admission Committee will carefully review academic credentials for admission into our M.S. program. Students should discuss the program and possibility of entering with an academic adviser. Completed applications are due prior to the beginning of your junior year.

Application Process

Interested CoE students must complete the application process during their "junior" year. Applicants will need to provide all the required documentation outlined on the on-line graduate application including 3 recommenders, a UM transcript sent directly from the UM Office of the Registrar and official GRE test scores of 300 or higher sent directly from ETS, the testing agency. An admission decision will not be made until all required application materials have been received and processed for review by the Admission Committee.

Financial Implications

Many financial aid programs, including those offered by the University and the federal and state governments are restricted to coursework required to complete an undergraduate degree. For further information contact the University of Miami Financial Aid Office.

Once admitted into BS-MS program

In your senior year when you have a full time undergraduate status, you may take a maximum of twelve (12) graduate credit hours (a maximum of six (6) credit hours per semester) with approval of your academic advisor. In order to register for these classes, you must complete and submit the UM Graduate School "Application for Undergraduate to Take Graduate Course" special form.

During your last one or two semesters, when you are taking graduate course work only, register as a graduate student.

A student wishing to withdraw from the BS/MS Program without the MS degree must complete all the requirements for the BS degree.

To qualify for the MS degree, the student must meet all the pertinent Graduate School requirements, including an acceptable score on the GRE (Graduate Record Examination) and a minimum of 3.0 GPA in the credit hours applied toward the MS degree.

The student is awarded both the BS and MS degrees at the end of the fifth year when all degree requirements are satisfied.

The Doctor of Philosophy Degree is currently offered in the area of:

- Biomedical Engineering
- Civil Engineering
- Electrical and Computer Engineering
- Ergonomics and Human Factors
- Industrial Engineering
- Mechanical Engineering

The Ph.D. programs in Interdepartmental Graduate Studies permit, with approval of the Graduate Council, highly qualified students to pursue a privileged individualized program which cuts across disciplinary lines.

The Bulletin of the Graduate School (p. 1082) presents more detailed information on these graduate programs.

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Foote Fellows in CoE

The Foote Fellows Honors Program recognizes the most educationally accomplished incoming students at the University of Miami. Foote Fellows have distinguished themselves both in and out of the classroom at their previous schools, are self-motivated, and think independently. Admission to the Foote Fellows Honors Program is by invitation.

Foote Fellows in the College of Engineering are exempt from the Cognates Program of General Education requirements within the curricular framework of their major. Within the curricular framework of their majors, Foote Fellows enjoy unmatched freedom and flexibility to explore a multitude of educational resources. Many Foote Fellows leverage this opportunity to take additional majors and/or minors and to study abroad.

At each of the nine undergraduate schools at the University of Miami, a dedicated adviser helps Foote Fellows chart their academic path and attain access to distinctive learning opportunities at the University, such as special school-based seminars, faculty-mentored research, networking opportunities, and off-campus internships.

Foote Fellows also will be invited to join advanced, interdisciplinary Foote Fellow seminars taught by leading faculty members from across the University. An example is Books That Matter, a rigorous seminar in non-fiction reading that is offered in sessions for first-year and for upper-class students. Freshman Foote Fellows benefit from early move-in to the residential colleges. Further, Foote Fellows receive focused advising on post-baccalaureate distinguished fellowships and awards.

The Foote Fellows Honors Program reflects the educational vision of former University of Miami President Edward T. Foote, who retired in 2000 after serving the University for twenty years.

Biomedical Engineering

<http://www.miami.edu/bme>

Dept. Code: BME

Introduction

Biomedical engineering is a multidisciplinary field that addresses problems at the interface of engineering, medicine, and the life sciences. Examples include the design of medical devices, implants and prostheses; the development of new biomaterials or drug delivery systems; the engineering of cells and tissues; the design of optical and laser systems for diagnostic and therapy; the development of medical imaging systems and algorithms for medical image processing; and the acquisition, interpretation and use of physiological signals to assess and control physiological function, such as the use of brain signals to control movement in brain computer interfaces. Biomedical engineering has an impact on virtually all fields of medicine.

The Department of Biomedical Engineering at the University of Miami was formally created in 1979 as a graduate program. The four-year undergraduate program leading to the B.S degree in BME was established approximately ten years later to address the need for professional biomedical engineers. The undergraduate BME program at the University of Miami was the first of its kind in Florida, with the first class of B.S.B.E. students graduating in 1993. It has been continuously accredited by the Engineering Accreditation Commission (EAC) of the Accreditation Board of Engineering and Technology (ABET) since 1997. The Department of Biomedical Engineering also offers graduate courses leading to the Master of Science and Doctor of Philosophy degrees and it includes a graduate program in Medical Physics. The PhD program in Biomedical Engineering is also a degree-granting program of the University's MD/PhD program. In addition, qualified undergraduate students may apply for the combined BS/MS program (details are provided following the curricula for the BS degrees).

Graduates of the biomedical engineering undergraduate program find employment in industry or continue their studies either in graduate school or in a professional school in medicine and other health-related disciplines (such as dentistry, optometry, orthotics), law or business.

Some special features of the program include the small class size and open-door policy of the faculty, which facilitates student-faculty interaction. The Department has very strong ties with the University of Miami Miller School of Medicine and with industry. Undergraduate students have a wide range of research and internship opportunities in some of the leading research laboratories in their respective field. The Department strongly encourages undergraduate student participation in research and professional activities.

Mission Statement

The mission of the biomedical engineering program is to prepare students to become knowledgeable and skilled engineers with an understanding of the ethical and other professional aspects of biomedical engineering. Design skills and an ability to work both independently and as part of a team are emphasized.

Educational Objectives

The educational objectives of the program are to graduate engineers who will apply their knowledge, technical skills, and ability to solve problems at the interface of engineering and life sciences. Within a few years after graduation they will be:

1. Working as professionals in biomedical engineering or related fields.
2. Continuing their education to advance their careers through professional development activities or through the pursuit of advanced degrees.

Program Description

Curriculum

The two educational objectives of the Biomedical Engineering program are achieved via the implementation of a curriculum with four parallel concentrations which include a common core and concentration-specific courses. The core curriculum is designed to provide a broad foundation in the basic sciences and in engineering. Concentration-specific courses provide the depth required to be proficient engineers.

The four concentrations are:

- Biomaterials and Tissue (B)
- Electrical (E),
- Mechanical (M),
- Premedical (P)

The Biomaterials and Tissue concentration provides training in the fundamental aspects of cell and tissue biology, design of biomaterial scaffolds and implants, and the application of tissue engineered constructs toward repair, restoration, and regeneration of damaged cells, tissues and organs. The Electrical concentration provides training in the fundamental aspects of electronics and signal processing, design of instrumentation, sensors, imaging systems and neural interfaces, and the application of biomedical technology to the measurement, control and rehabilitation of tissue and organ function. The Mechanical concentration provides training in the fundamental aspects of solid, fluid, and computational mechanics, design and modeling of biomedical devices such as artificial implants, and prostheses and the application of biomechanical principles toward assessment and restoration of tissue and organ function. The Premedical concentration is designed for students who plan to seek admission to medical school. In addition to providing core training in biomedical engineering, the Premedical concentration ensures that students meet the general requirements for admission to medical school.

The curriculum is designed to provide all graduates with the analytical and design skills required to formulate and solve problems at the interface of engineering, medicine and the life sciences. Required courses in the humanities and social sciences provide students with an awareness of social, ethical and environmental issues related to their profession. The curriculum has been carefully designed with the prerequisite structure in mind so that students have to draw from previously acquired knowledge to complete the upper level course requirements successfully. The curriculum includes two or three technical electives selected by the student based on their individual professional interests. The curriculum places a special emphasis on written and oral communication skills. Many of the Biomedical Engineering courses, as well as the capstone design project, include a requirement for a written term paper and oral presentation on a course-related topic related to the class.

Advanced Writing and Communication Skills

Biomedical Engineering students satisfy the University's Advanced Writing and Communication Skills requirement by completing a set of classroom courses, laboratory courses and design courses where they learn effective oral, graphical and technical writing skills. Biomedical Engineering students acquire Advanced Writing and Communication skills in the following core courses:

Code	Title	Credit Hours
BME 111	Introduction to Engineering I	3
BME 112	Introduction to Biomedical Engineering	2
BME 330	Foundations of Medical Imaging	3
BME 335	Biomaterials	3
BME 402	Senior Design I	2
BME 403	Senior Design II	1
BME 440	Biomedical Measurements	4
BME 450	Biomedical Transport Phenomena	3
BME 480	Biomedical Instrumentation	3

Design Experience

The biomedical engineering design experience is integrated in the curriculum throughout the four years of study, starting in the freshman year with the Introduction to Biomedical Engineering course. Each semester includes classroom or laboratory courses which place a heavy emphasis on theoretical and practical biomedical engineering design concepts. In the second semester of the junior year, students complete a 3 credit-hour course which covers the principles of biomedical engineering design, from problem identification and design conception to implementation and testing, including regulatory aspects. The design experience culminates in the senior year with a yearlong capstone Senior Design Project. The Senior Design Project is typically completed by teams of two to four students who build on their knowledge and previous design experience to solve one major design problem which integrates the various components of the curriculum.

Teaching and Design Laboratories

The Department of Biomedical Engineering houses several teaching laboratories which provide students hands-on experience in core areas of the curriculum, including cell and tissue engineering, tissue mechanics, medical instrumentation, measurements, and optics and physiology, among others. In particular, the Ben-Josef Cell and Tissue Laboratory provides undergraduate and graduate students a unique opportunity to gain hand-on experience in the field of cell and tissue engineering, biomaterials and tissue mechanics. The Department also houses a state-of-the art Scanning Electron Microscope and 3D printer which are used by students in their design and research projects. In addition, students have access to the College of Engineering's maker space and Johnson & Johnson 3D Printing Center of Excellence Collaborative Laboratory. The facility provides access to a wide variety of advanced 3-D printers and fabrication equipment, and has a full-time engineer/scientist available for training purposes. Students can use the facility for their design projects.

Undergraduate Research and Internships

Biomedical Engineering students are strongly encouraged to gain research or professional experience through internships. Most undergraduate students conduct research in laboratories at the Department of Biomedical Engineering and at the School of Medicine, or are hired as interns by the local biomedical industry.

Degree Programs

The department offers one degree program with four concentrations: Electrical, Mechanical, Biomaterials and Tissue, and Premed. A list of the core science and engineering courses common to all four concentrations is provided below, followed by a tabular listing of the course requirements for the degree Bachelor of Science in Biomedical Engineering for each concentration.

Dual Major

The College of Engineering offers a dual major in Biomedical Engineering for students that are majoring in another engineering Department. In order to obtain the dual major in Biomedical Engineering, the student will have to obtain, in parallel, a major in one of the fundamental engineering programs, plus 24 credit hours of course work, including 19 credit hours of required course work and 5 credit hours of elective course work from the lists given below. Of this total of 24 credit hours, at least 12 have to be at the level of 400 and above.

The required courses for the dual major are:

Code	Title	Credit Hours
BME 265	Medical Systems Physiology	3
BME 335	Biomaterials	3
BME 375	Fundamentals of Biomechanics	3
BME 440	Biomedical Measurements	4
BME 470	Biomedical Signal Analysis	3
BME 480	Biomedical Instrumentation	3
Total Credit Hours		19

The electives are to be chosen from the BME course list.

Departmental Honors

Upon request departmental honor is noted in a student's diploma and transcript upon fulfillment of the requirements specified in the College Bulletin.

Majors in Biomedical Engineering

The four concentrations in Biomedical Engineering include 112 core credits, with the remaining 21 credits pertaining to each concentrations. The core credits include General Education (24), Common-Core Math Science (39), and Common-Core Engineering (49). The table below details the common-core courses.

- B.S. in Biomedical Engineering - Biomaterials and Tissue Concentration (p. 602)
- B.S. in Biomedical Engineering - Electrical Concentration (p. 605)
- B.S. in Biomedical Engineering - Mechanical Concentration (p. 608)
- B.S. in Biomedical Engineering - Premed Concentration (p. 611)

Code	Title	Credit Hours
General Education		
ENG 105	English Composition I	3
ENG 107	English Composition II: Science and Technology	3
HA Cognates (3 Courses)		9
PS Cognates (3 Courses)		9
Total General Education		24
Common-Core Math Science		
BIL 150	General Biology	4
BIL 151	General Biology Laboratory	1
CHM 111	Principles of Chemistry I	3
CHM 112	Principles of Chemistry II	3
CHM 113	Chemistry Laboratory I	1
CHM 114	Chemistry Laboratory II	1

MTH 151	Calculus I for Engineers	5
MTH 162	Calculus II	4
MTH 311	Introduction to Ordinary Differential Equations	3
PHY 205	University Physics I	3
PHY 206	University Physics II	3
PHY 207	University Physics III	3
PHY 208	University Physics II Lab	1
PHY 209	University Physics III Lab	1
BME 312	Biomedical Statistics and Data Analysis	3
Total Common-Core Math Science		39
Common-Core Engineering		
BME 111	Introduction to Engineering I	3
BME 112	Introduction to Biomedical Engineering	2
BME 211	Introduction to Programming for Biomedical Engineers	3
BME 265	Medical Systems Physiology	3
BME 266	Human Physiology Laboratory	1
BME 310	Mathematical Analysis in Biomedical Engineering	3
BME 330	Foundations of Medical Imaging	3
BME 335	Biomaterials	3
BME 375	Fundamentals of Biomechanics	3
BME 401	Biomedical Design	3
BME 402	Senior Design I	2
BME 403	Senior Design II	1
BME 440	Biomedical Measurements	4.00
BME 450	Biomedical Transport Phenomena	3
BME 470	Biomedical Signal Analysis	3
BME 480	Biomedical Instrumentation	3
BME 512	Regulatory Control of Biomedical Devices	3
ECE 201	Electrical Circuit Theory	3
Total Common-Core Engineering		49

Dual B.S./M.S. Degrees in Biomedical Engineering

- B.S./M.S. in Biomedical Engineering - Electrical Concentration (p. 616)
- B.S./M.S. in Biomedical Engineering - Mechanical Concentration (p. 619)
- B.S./M.S. in Biomedical Engineering - Biomaterials and Tissue Concentration (p. 614)
- B.S./M.S. in Biomedical Engineering - Premed Concentration (p. 622)

B.S. in Biomedical Engineering - Biomaterials and Tissue Curriculum Requirements

In addition to the Common-Core courses, students in the Biomaterials and Tissue concentration are required to complete the following courses:

Code	Title	Credit Hours
Common Core - Mathematics and Science		
MTH 151	Calculus I for Engineers	5
MTH 162	Calculus II	4
MTH 311	Introduction to Ordinary Differential Equations	3
BME 312	Biomedical Statistics and Data Analysis	3
BIL 150	General Biology	4
BIL 151	General Biology Laboratory	1
CHM 111	Principles of Chemistry I	3
CHM 112	Principles of Chemistry II	3
CHM 113	Chemistry Laboratory I	1

CHM 114	Chemistry Laboratory II	1
PHY 205	University Physics I	3
PHY 206	University Physics II	3
PHY 207	University Physics III	3
PHY 208	University Physics II Lab	1
PHY 209	University Physics III Lab	1
Total Credit Hours		39

Code	Title	Credit Hours
Common Core - Engineering		
BME 111	Introduction to Engineering I	3
BME 112	Introduction to Biomedical Engineering	2
BME 211	Introduction to Programming for Biomedical Engineers	3
BME 265	Medical Systems Physiology	3
BME 266	Human Physiology Laboratory (Human Physiology Lab)	1
BME 310	Mathematical Analysis in Biomedical Engineering	3
BME 330	Foundations of Medical Imaging	3
BME 335	Biomaterials	3
BME 375	Fundamentals of Biomechanics	3
BME 401	Biomedical Design	3
BME 402	Senior Design I	2
BME 403	Senior Design II	1
BME 440	Biomedical Measurements	4
BME 450	Biomedical Transport Phenomena	3
BME 470	Biomedical Signal Analysis	3
BME 480	Biomedical Instrumentation	3
BME 512	Regulatory Control of Biomedical Devices	3
ECE 201	Electrical Circuit Theory	3
ECE 203	Electrical Circuits Laboratory	1
Select one of the following biomedical engineering laboratory courses:		1
BME 395	Undergraduate Research in Biomedical Engineering	
BME 506	Computer Aided Design in Biomedical Engineering	
BME 507	LabView Applications for Biomedical Engineering	
BME 566	Cell and Tissue Engineering Laboratory	
Total Credit Hours		51

Code	Title	Credit Hours
Cell-Tissue Concentration		
CHM 201	Organic Chemistry I (Lecture)	3
CHM 202	Organic Chemistry II (Lecture)	3
CHM 205	Organic Chemistry Laboratory I	1
BME 302	Cellular Engineering	3
BME 303 - Cell Engineering Lab		3
BME 565	Principles of Cellular and Tissue Engineering	3
BME 567 - Tissue Engineering Lab		1
BME Technical Elective		3
BME Technical Elective		3
Total Cell-Tissue Specific		21

Suggested Plan of Study

Course	Title	Credit Hours
Freshman Year		
Fall		
BME 111	Introduction to Engineering I	3
ENG 105	English Composition I	3
MTH 151	Calculus I for Engineers	5
PHY 205	University Physics I	3
PS/HA Cognate ¹		3
	Credit Hours	17
Spring		
BME 112	Introduction to Biomedical Engineering	2
CHM 111	Principles of Chemistry I	3
CHM 113	Chemistry Laboratory I	1
ENG 107	English Composition II: Science and Technology	3
MTH 162	Calculus II	4
PHY 206	University Physics II	3
PHY 208	University Physics II Lab	1
	Credit Hours	17
Sophomore Year		
Fall		
BIL 150	General Biology	4
BIL 151	General Biology Laboratory	1
BME 265	Medical Systems Physiology	3
BME 266	Human Physiology Laboratory (Human Physiology Lab)	1
CHM 112	Principles of Chemistry II	3
ECE 201	Electrical Circuit Theory	3
PHY 207	University Physics III	3
	Credit Hours	18
Spring		
BME 211	Introduction to Programming for Biomedical Engineers	3
BME 302	Cellular Engineering	3
BME 303 - Cell Engineering Lab		1
BME 310	Mathematical Analysis in Biomedical Engineering	3
CHM 114	Chemistry Laboratory II	1
MTH 311	Introduction to Ordinary Differential Equations	3
PHY 209	University Physics III Lab	1
PS/HA Cognate ¹		3
	Credit Hours	18
Junior Year		
Fall		
BME 312	Biomedical Statistics and Data Analysis	3
BME 330	Foundations of Medical Imaging	3
BME 375	Fundamentals of Biomechanics	3
CHM 201	Organic Chemistry I (Lecture)	3
CHM 205	Organic Chemistry Laboratory I	1
PS/HA Cognate ¹		3
	Credit Hours	16
Spring		
BME 335	Biomaterials	3
BME 401	Biomedical Design	3

BME 450	Biomedical Transport Phenomena	3
CHM 202	Organic Chemistry II (Lecture)	3
PS/HA Cognate ¹		3
	Credit Hours	15
Senior Year		
Fall		
BME 402	Senior Design I	2
BME 440	Biomedical Measurements	4.00
BME 565	Principles of Cellular and Tissue Engineering	3
BME 567 - Tissue Engineering Lab		1
Technical Elective ²		3
PS/HA Cognate ¹		3
	Credit Hours	16
Spring		
BME 403	Senior Design II	1
BME 470	Biomedical Signal Analysis	3
BME 480	Biomedical Instrumentation	3
BME 512	Regulatory Control of Biomedical Devices	3
Technical Elective ²		3
PS/HA Cognate ¹		3
	Credit Hours	16
	Total Credit Hours	133

¹ PS/HA Cognate: Students must complete a minimum of 1 People & Society (PS) cognate and 1 Humanities & Arts (HA) cognate, to be selected from the list of available cognates (<http://www.miami.edu/index.php/registrar/cognates>). Each cognate should be a minimum of 3 courses (9 credit hours).

² Technical Electives are chosen from the BME course offerings (300 level and above) with the approval of the advisor. Any other courses selected need to be approved by the advisor and the chairperson.

B.S. in Biomedical Engineering - Electrical

Curriculum Requirements

In addition to the Common-Core courses, students in the Electrical concentration are required to complete the following courses:

Code	Title	Credit Hours
Common Core - Mathematics and Science		
MTH 151	Calculus I for Engineers	5
MTH 162	Calculus II	4
MTH 311	Introduction to Ordinary Differential Equations	3
BME 312	Biomedical Statistics and Data Analysis	3
BIL 150	General Biology	4
BIL 151	General Biology Laboratory	1
CHM 111	Principles of Chemistry I	3
CHM 112	Principles of Chemistry II	3
CHM 113	Chemistry Laboratory I	1
CHM 114	Chemistry Laboratory II	1
PHY 205	University Physics I	3
PHY 206	University Physics II	3
PHY 207	University Physics III	3
PHY 208	University Physics II Lab	1
PHY 209	University Physics III Lab	1
Total Credit Hours		39

Code	Title	Credit Hours
Common Core - Engineering		
BME 111	Introduction to Engineering I	3
BME 112	Introduction to Biomedical Engineering	2
BME 211	Introduction to Programming for Biomedical Engineers	3
BME 265	Medical Systems Physiology	3
BME 266	Human Physiology Laboratory (Human Physiology Lab)	1
BME 310	Mathematical Analysis in Biomedical Engineering	3
BME 330	Foundations of Medical Imaging	3
BME 335	Biomaterials	3
BME 375	Fundamentals of Biomechanics	3
BME 401	Biomedical Design	3
BME 402	Senior Design I	2
BME 403	Senior Design II	1
BME 440	Biomedical Measurements	4
BME 450	Biomedical Transport Phenomena	3
BME 470	Biomedical Signal Analysis	3
BME 480	Biomedical Instrumentation	3
BME 512	Regulatory Control of Biomedical Devices	3
ECE 201	Electrical Circuit Theory	3
ECE 203	Electrical Circuits Laboratory	1
Select one of the following biomedical engineering laboratory courses:		1
BME 395	Undergraduate Research in Biomedical Engineering	
BME 506	Computer Aided Design in Biomedical Engineering	
BME 507	LabView Applications for Biomedical Engineering	
BME 566	Cell and Tissue Engineering Laboratory	
Total Credit Hours		51

Code	Title	Credit Hours
Electrical Concentration		
BME 507	LabView Applications for Biomedical Engineering	1
BME 540	Microcomputer-Based Medical Instrumentation	3
BME 541	Medical Electronic Systems Laboratory	2
BME Technical Elective		3
BME Technical Elective		3
BME Technical Elective Lab		1
ECE 202	Electronics I	3
ECE 203	Electrical Circuits Laboratory	1
ECE 211	Logic Design	3
ECE 315	Digital Design Laboratory	1
Total Electrical Specific		21

Electrical Concentration

Course	Title	Credit Hours
Freshman Year		
Fall		
BME 111	Introduction to Engineering I	3
ENG 105	English Composition I	3
MTH 151	Calculus I for Engineers	5
PHY 205	University Physics I	3
PS/HA Cognate ¹		3
Credit Hours		17

Spring		
BME 112	Introduction to Biomedical Engineering	2
CHM 111	Principles of Chemistry I	3
CHM 113	Chemistry Laboratory I	1
ENG 107	English Composition II: Science and Technology	3
MTH 162	Calculus II	4
PHY 206	University Physics II	3
PHY 208	University Physics II Lab	1
	Credit Hours	17
Sophomore Year		
Fall		
BIL 150	General Biology	4
BIL 151	General Biology Laboratory	1
CHM 112	Principles of Chemistry II	3
CHM 114	Chemistry Laboratory II	1
ECE 201	Electrical Circuit Theory	3
MTH 311	Introduction to Ordinary Differential Equations	3
PHY 207	University Physics III	3
	Credit Hours	18
Spring		
BME 211	Introduction to Programming for Biomedical Engineers	3
BME 265	Medical Systems Physiology	3
BME 266	Human Physiology Laboratory (Human Physiology Lab)	1
BME 310	Mathematical Analysis in Biomedical Engineering	3
ECE 203	Electrical Circuits Laboratory	1
PHY 209	University Physics III Lab	1
PS/HA Cognate ¹		3
	Credit Hours	15
Junior Year		
Fall		
BME 312	Biomedical Statistics and Data Analysis	3
BME 375	Fundamentals of Biomechanics	3
BME 450	Biomedical Transport Phenomena	3
ECE 202	Electronics I	3
ECE 211	Logic Design	3
PS/HA Cognate ¹		3
	Credit Hours	18
Spring		
BME 330	Foundations of Medical Imaging	3
BME 335	Biomaterials	3
BME 401	Biomedical Design	3
BME 440	Biomedical Measurements	4
ECE 315	Digital Design Laboratory	1
PS/HA Cognate ¹		3
	Credit Hours	17
Senior Year		
Fall		
BME 402	Senior Design I	2
BME 470	Biomedical Signal Analysis	3
BME 507	LabView Applications for Biomedical Engineering	1
BME 512	Regulatory Control of Biomedical Devices	3
Technical Elective ³		3

PS/HA Cognate ¹		3
	Credit Hours	15
Spring		
BME 403	Senior Design II	1
BME 480	Biomedical Instrumentation	3
BME 540	Microcomputer-Based Medical Instrumentation	3
BME 541	Medical Electronic Systems Laboratory	2
Technical Elective ³		3
Technical Elective Lab ²		1
PS/HA Cognate ¹		3
	Credit Hours	16
	Total Credit Hours	133

¹ PS/HA Cognate: Students must complete a minimum of 1 People & Society (PS) cognate and 1 Humanities & Arts (HA) cognate, to be selected from the list of available cognates (<http://www.miami.edu/index.php/registrar/cognates>). Each cognate should be a minimum of 3 courses (9 credit hours).

² Technical Elective Labs are selected from BME 506, BME 567, BME 303, or BME 395.

³ Technical Electives are chosen from the BME course offerings (300 level and above) with the approval of the advisor. Any other courses selected need to be approved by the advisor and the chairperson.

B.S. in Biomedical Engineering - Mechanical

Curriculum Requirements

In addition to the Common-Core courses, students in the Mechanical concentration are required to complete the following courses:

Code	Title	Credit Hours
Common Core - Mathematics and Science		
MTH 151	Calculus I for Engineers	5
MTH 162	Calculus II	4
MTH 311	Introduction to Ordinary Differential Equations	3
BME 312	Biomedical Statistics and Data Analysis	3
BIL 150	General Biology	4
BIL 151	General Biology Laboratory	1
CHM 111	Principles of Chemistry I	3
CHM 112	Principles of Chemistry II	3
CHM 113	Chemistry Laboratory I	1
CHM 114	Chemistry Laboratory II	1
PHY 205	University Physics I	3
PHY 206	University Physics II	3
PHY 207	University Physics III	3
PHY 208	University Physics II Lab	1
PHY 209	University Physics III Lab	1
Total Credit Hours		39

Code	Title	Credit Hours
Common Core - Engineering		
BME 111	Introduction to Engineering I	3
BME 112	Introduction to Biomedical Engineering	2
BME 211	Introduction to Programming for Biomedical Engineers	3
BME 265	Medical Systems Physiology	3
BME 266	Human Physiology Laboratory (Human Physiology Lab)	1
BME 310	Mathematical Analysis in Biomedical Engineering	3
BME 330	Foundations of Medical Imaging	3
BME 335	Biomaterials	3

BME 375	Fundamentals of Biomechanics	3
BME 401	Biomedical Design	3
BME 402	Senior Design I	2
BME 403	Senior Design II	1
BME 440	Biomedical Measurements	4
BME 450	Biomedical Transport Phenomena	3
BME 470	Biomedical Signal Analysis	3
BME 480	Biomedical Instrumentation	3
BME 512	Regulatory Control of Biomedical Devices	3
ECE 201	Electrical Circuit Theory	3
ECE 203	Electrical Circuits Laboratory	1
Select one of the following biomedical engineering laboratory courses:		1
BME 395	Undergraduate Research in Biomedical Engineering	
BME 506	Computer Aided Design in Biomedical Engineering	
BME 507	LabView Applications for Biomedical Engineering	
BME 566	Cell and Tissue Engineering Laboratory	
Total Credit Hours		51

Code	Title	Credit Hours
Mechanical Concentration		
BME 460	Introduction to Physiological Fluid Mechanics	3
BME 506	Computer Aided Design in Biomedical Engineering	1
BME 575	Biomechanics II	3
BME Technical Elective		3
BME Technical Elective		3
BME Technical Elective Lab		1
BME Technical Elective Lab		1
CAE 210	Mechanics of Solids I	3
MAE 202	Dynamics	3
Total Mechanical Specific		21

Mechanical Concentration

Course	Title	Credit Hours
Freshman Year		
Fall		
BME 111	Introduction to Engineering I	3
ENG 105	English Composition I	3
MTH 151	Calculus I for Engineers	5
PHY 205	University Physics I	3
PS/HA Cognate ¹		3
		Credit Hours
		17
Spring		
BME 112	Introduction to Biomedical Engineering	2
CHM 111	Principles of Chemistry I	3
CHM 113	Chemistry Laboratory I	1
ENG 107	English Composition II: Science and Technology	3
MTH 162	Calculus II	4
PHY 206	University Physics II	3
PHY 208	University Physics II Lab	1
		Credit Hours
		17

Sophomore Year		
Fall		
BIL 150	General Biology	4
BIL 151	General Biology Laboratory	1
BME 211	Introduction to Programming for Biomedical Engineers	3
BME 265	Medical Systems Physiology	3
BME 266	Human Physiology Laboratory (Human Physiology Lab)	1
CHM 112	Principles of Chemistry II	3
ECE 201	Electrical Circuit Theory	3
	Credit Hours	18
Spring		
CAE 210	Mechanics of Solids I	3
CHM 114	Chemistry Laboratory II	1
MTH 311	Introduction to Ordinary Differential Equations	3
PHY 207	University Physics III	3
PHY 209	University Physics III Lab	1
PS/HA Cognate ¹		3
BME Technical Elective Lab ³		1
	Credit Hours	15
Junior Year		
Fall		
BME 310	Mathematical Analysis in Biomedical Engineering	3
BME 312	Biomedical Statistics and Data Analysis	3
BME 330	Foundations of Medical Imaging	3
BME 440	Biomedical Measurements	4.00
MAE 202	Dynamics	3
	Credit Hours	16
Spring		
BME 335	Biomaterials	3
BME 401	Biomedical Design	3
BME 375	Fundamentals of Biomechanics	3
BME 460	Introduction to Physiological Fluid Mechanics	3
PS/HA Cognate ¹		3
PS/HA Cognate ¹		3
	Credit Hours	18
Senior Year		
Fall		
BME 402	Senior Design I	2
BME 480	Biomedical Instrumentation	3
BME 506	Computer Aided Design in Biomedical Engineering	1
BME 575	Biomechanics II	3
Technical Elective ²		3
Technical Elective Lab ³		1
PS/HA Cognate ¹		3
	Credit Hours	16
Spring		
BME 403	Senior Design II	1
BME 450	Biomedical Transport Phenomena	3
BME 470	Biomedical Signal Analysis	3
BME 512	Regulatory Control of Biomedical Devices	3
Technical Elective ²		3

PS/HA Cognate ¹	3
Credit Hours	16
Total Credit Hours	133

¹ PS/HA Cognate: Students must complete a minimum of 1 People & Society (PS) cognate and 1 Humanities & Arts (HA) cognate, to be selected from the list of available cognates (<http://www.miami.edu/index.php/registrar/cognates>). Each cognate should be a minimum of 3 courses (9 credit hours).

² Technical Electives are chosen from the BME course offerings (300 level and above) with the approval of the advisor. Any other courses selected need to be approved by the advisor and the chairperson.

³ Technical Elective Labs are selected from BME 507, BME 567, BME 303, or BME 395.

B.S. in Biomedical Engineering - Premed

Curriculum Requirements

In addition to the Common-Core courses, students in the Pre-Med concentration are required to complete the following courses:

Code	Title	Credit Hours
Common Core - Mathematics and Science		
MTH 151	Calculus I for Engineers	5
MTH 162	Calculus II	4
MTH 311	Introduction to Ordinary Differential Equations	3
BME 312	Biomedical Statistics and Data Analysis	3
BIL 150	General Biology	4
BIL 151	General Biology Laboratory	1
CHM 111	Principles of Chemistry I	3
CHM 112	Principles of Chemistry II	3
CHM 113	Chemistry Laboratory I	1
CHM 114	Chemistry Laboratory II	1
PHY 205	University Physics I	3
PHY 206	University Physics II	3
PHY 207	University Physics III	3
PHY 208	University Physics II Lab	1
PHY 209	University Physics III Lab	1
Total Credit Hours		39

Code	Title	Credit Hours
Common Core - Engineering		
BME 111	Introduction to Engineering I	3
BME 112	Introduction to Biomedical Engineering	2
BME 211	Introduction to Programming for Biomedical Engineers	3
BME 265	Medical Systems Physiology	3
BME 266	Human Physiology Laboratory (Human Physiology Lab)	1
BME 310	Mathematical Analysis in Biomedical Engineering	3
BME 330	Foundations of Medical Imaging	3
BME 335	Biomaterials	3
BME 375	Fundamentals of Biomechanics	3
BME 401	Biomedical Design	3
BME 402	Senior Design I	2
BME 403	Senior Design II	1
BME 440	Biomedical Measurements	4
BME 450	Biomedical Transport Phenomena	3
BME 470	Biomedical Signal Analysis	3
BME 480	Biomedical Instrumentation	3
BME 512	Regulatory Control of Biomedical Devices	3

ECE 201	Electrical Circuit Theory	3
ECE 203	Electrical Circuits Laboratory	1
Select one of the following biomedical engineering laboratory courses:		1
BME 395	Undergraduate Research in Biomedical Engineering	
BME 506	Computer Aided Design in Biomedical Engineering	
BME 507	LabView Applications for Biomedical Engineering	
BME 566	Cell and Tissue Engineering Laboratory	
Total Credit Hours		51

Code	Title	Credit Hours
Premed Concentration		
Advanced BioScience Elective		3
Advanced BioScience Elective		3
BIL 160	Evolution and Biodiversity	4
BIL 161	Evolution and Biodiversity Laboratory	1
CHM 201	Organic Chemistry I (Lecture)	3
CHM 205	Organic Chemistry Laboratory I	1
BME 303 - Cell Engineering Lab		1
BME Technical Elective Lab		1
BME Technical Elective		3
BME Technical/Science Lab		1
Total Premed Specific		21

Premed Concentration

Course	Title	Credit Hours
Freshman Year		
Fall		
BME 111	Introduction to Engineering I	3
ENG 105	English Composition I	3
MTH 151	Calculus I for Engineers	5
PHY 205	University Physics I	3
PS/HA Cognate ¹		3
Credit Hours		17
Spring		
BME 112	Introduction to Biomedical Engineering	2
CHM 111	Principles of Chemistry I	3
CHM 113	Chemistry Laboratory I	1
ENG 107	English Composition II: Science and Technology	3
MTH 162	Calculus II	4
PHY 206	University Physics II	3
PHY 208	University Physics II Lab	1
Credit Hours		17
Sophomore Year		
Fall		
BIL 150	General Biology	4
BIL 151	General Biology Laboratory	1
BME 211	Introduction to Programming for Biomedical Engineers	3
CHM 112	Principles of Chemistry II	3
CHM 114	Chemistry Laboratory II	1
ECE 201	Electrical Circuit Theory	3
MTH 311	Introduction to Ordinary Differential Equations	3
Credit Hours		18

Spring		
BIL 160	Evolution and Biodiversity	4
BIL 161	Evolution and Biodiversity Laboratory	1
BME 265	Medical Systems Physiology	3
BME 266	Human Physiology Laboratory (Human Physiology Lab)	1
CHM 201	Organic Chemistry I (Lecture)	3
PHY 207	University Physics III	3
PHY 209	University Physics III Lab	1
	Credit Hours	16
Junior Year		
Fall		
BME 310	Mathematical Analysis in Biomedical Engineering	3
BME 335	Biomaterials	3
BME 401	Biomedical Design	3
CHM 205	Organic Chemistry Laboratory I	1
BME 303 - Cell Engineering Lab		1
Advanced Bioscience Elective ^{2†}		3
PS/HA Cognate ¹		3
	Credit Hours	17
Spring		
BME 330	Foundations of Medical Imaging	3
BME 375	Fundamentals of Biomechanics	3
BME 440	Biomedical Measurements	4.00
BME 312	Biomedical Statistics and Data Analysis	3
PS/HA Cognate ¹		3
	Credit Hours	16
Senior Year		
Fall		
BME 402	Senior Design I	2
BME 450	Biomedical Transport Phenomena	3
BME 470	Biomedical Signal Analysis	3
BME 512	Regulatory Control of Biomedical Devices	3
Technical Elective Lab ³		1
PS/HA Cognate ¹		3
	Credit Hours	15
Spring		
BME 403	Senior Design II	1
BME 480	Biomedical Instrumentation	3
Technical Elective ⁴		3
Advanced Bioscience Elective ²		3
Technical or Science Lab Elective ⁴		1
PS/HA Cognate ¹		3
PS/HA Cognate ¹		3
	Credit Hours	17
	Total Credit Hours	133

¹ PS/HA Cognate: Students must complete a minimum of 1 People & Society (PS) cognate and 1 Humanities & Arts (HA) cognate, to be selected from the list of available cognates (<http://www.miami.edu/index.php/registrar/cognates>). Each cognate should be a minimum of 3 courses (9 credit hours). Students in the Premed Concentration are highly encouraged to choose cognates that include PSY 110 and SOC 101.

² Advanced Bioscience Elective is to be chosen from BIL 250, BIL 255, BIL 268, CHM 202, or BMB 401. Students should verify admission requirements of their medical school of interest to verify Adv. Bioscience requirements, e.g. organic chemistry II, biochemistry, or both.

³ Technical Lab Elective is selected from BME 506, BME 507, BME 567, or BME 395; Science Lab Elective is selected from a science lab complementing the Adv. Bioscience Elective (e.g., CHM or BIL lab).

- ⁴ Technical Electives are chosen from BME course offerings (300 level & above) with the approval of the advisor. Any other course selected need to be approved by the advisor and the department chairperson.
- [†] Students planning on taking the MCAT should take BMB 401 Biochemistry for the Biomedical Sciences as their first Adv. Bioscience Elective.

B.S./M.S. in Biomedical Engineering - Biomaterials and Tissue Concentration

- Juniors from any of the four BME Concentrations who have maintained at least a 3.0 CGPA have the option to apply for admission to the combined BS-MS in Biomedical Engineering program.
- Those who are accepted into this accelerated program must maintain at least a 3.0 CGPA and a minimum of a 3.0 GPA for the final 30 credit hours to meet the requirements of the Graduate School.
- The participants are excused from BME 402/BME 403, but are required to complete BME 705/BME 706.
- Up to 12 credit hours of Technical electives earned during the fourth year can be counted toward the 30 credit hours required for the MS degree.
- Students must be registered for a minimum of 12 undergraduate credit hours per semester in their senior year.
- Students can register for a maximum of 6 graduate credit hours per semester in their senior year.
- A typical curriculum of the BS/MS is shown below for the Biomaterials and Tissue Concentration.
- If a student needs to withdraw from the BS/MS BME program then all the requirements for the specific BS BME Concentration must be completed for graduation with the BS BME degree.

Suggested Plan of Study

Course	Title	Credit Hours
Freshman Year		
Fall		
BME 111	Introduction to Engineering I	3
ENG 105	English Composition I	3
MTH 151	Calculus I for Engineers	5
PHY 205	University Physics I	3
PS/HA Cognate ¹		3
	Credit Hours	17
Spring		
BME 112	Introduction to Biomedical Engineering	3
CHM 111	Principles of Chemistry I	3
CHM 113	Chemistry Laboratory I	1
ENG 107	English Composition II: Science and Technology	3
MTH 162	Calculus II	4
PHY 206	University Physics II	3
PHY 208	University Physics II Lab	1
	Credit Hours	18
Sophomore Year		
Fall		
BIL 150	General Biology	4
BIL 151	General Biology Laboratory	1
BME 265	Medical Systems Physiology	3
BME 266	Human Physiology Laboratory (Human Physiology Lab)	1
CHM 112	Principles of Chemistry II	3
ECE 201	Electrical Circuit Theory	3
PHY 207	University Physics III	3
	Credit Hours	18
Spring		
BME 211	Introduction to Programming for Biomedical Engineers	3
BME 302	Cellular Engineering	3
BME 310	Mathematical Analysis in Biomedical Engineering	3
CHM 114	Chemistry Laboratory II	1
MTH 311	Introduction to Ordinary Differential Equations	3

PHY 209	University Physics III Lab	1
BME 303 - Cell Engineering Lab		1
PS/HA Cognate ¹		3
	Credit Hours	18
Junior Year		
Fall		
BME 312	Biomedical Statistics and Data Analysis	3
BME 330	Foundations of Medical Imaging	3
BME 375	Fundamentals of Biomechanics	3
CHM 201	Organic Chemistry I (Lecture)	3
CHM 205	Organic Chemistry Laboratory I	1
PS/HA Cognate ¹		3
	Credit Hours	16
Spring		
BME 335	Biomaterials	3
BME 401	Biomedical Design	3
BME 450	Biomedical Transport Phenomena	3
CHM 202	Organic Chemistry II (Lecture)	3
PS/HA Cognate ¹		3
	Credit Hours	15
Senior Year		
Fall		
BME 440	Biomedical Measurements	4.00
BME 565	Principles of Cellular and Tissue Engineering	3
BME 567 - Tissue Engineering Lab		1
PS/HA Cognate ¹		3
Undergraduate Elective ²		0-3
Technical Elective (Graduate) ³		3
Technical Elective (Graduate) ³		3
	Credit Hours	17-20
Spring		
BME 470	Biomedical Signal Analysis	3
BME 480	Biomedical Instrumentation	3
BME 512	Regulatory Control of Biomedical Devices	3
PS/HA Cognate ¹		3
Undergraduate Elective ²		0-3
BME 705	Master's Design Project I	3
Technical Elective (Graduate) ³		3
	Credit Hours	18-21
Fifth Year (Graduate)		
Fall		
BME 706	Master's Design Project II	3
Technical Elective ³		3
Technical Elective (700 level) ³		3
	Credit Hours	9
Spring		
Technical Elective ³		3
Technical Elective ³		3
Technical Elective (700 level) ³		3
	Credit Hours	9
	Total Credit Hours	155-161

- 1 PS/HA Cognate: Students must complete a minimum of 1 People & Society (PS) cognate and 1 Humanities & Arts (HA) cognate, to be selected from the list of available cognates (<http://www.miami.edu/index.php/registrar/cognates>). Each cognate should be a minimum of 3 courses (9 credit hours).
- 2 The undergraduate elective is any undergraduate level course with a number of credit hours sufficient to ensure that the student is enrolled for a total of 12 undergraduate credit hours during each semester of the senior year. The undergraduate elective can be any undergraduate class, but students are encouraged to select an engineering or science course.
- 3 All Technical Electives are taken as graduate courses. They are graduate-level courses (600 level and above) chosen from the BME course offerings with the approval of the advisor. A minimum of 6 credit hours of technical electives must be taken at the 700 level. Non-BME courses need to be approved by the advisor and the chairperson.

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B.S./M.S. in Biomedical Engineering - Electrical Concentration

- Juniors from any of the four BME Concentrations who have maintained at least a 3.0 CGPA have the option to apply for admission to the combined BS-MS in Biomedical Engineering program.
- Those who are accepted into this accelerated program must maintain at least a 3.0 CGPA and a minimum of a 3.0 GPA for the final 30 credit hours to meet the requirements of the Graduate School.
- The participants are excused from BME 402/BME 403, but are required to complete BME 705/BME 706.
- Up to 12 credit hours of Technical electives earned during the fourth year can be counted toward the 30 credit hours required for the MS degree.
- Students must be registered for a minimum of 12 undergraduate credit hours per semester in their senior year.
- Students can register for a maximum of 6 graduate credit hours per semester in their senior year.
- A typical curriculum of the BS/MS is shown below for the Electrical Concentration.
- If a student needs to withdraw from the BS/MS BME program then all the requirements for the specific BS BME Concentration must be completed for graduation with the BS BME degree.

Code	Title	Credit Hours
Engineering Courses		
BME 111	Introduction to Engineering I	3
BME 112	Introduction to Biomedical Engineering	2
BME 211	Introduction to Programming for Biomedical Engineers	3
BME 265	Medical Systems Physiology	3
BME 266	Human Physiology Laboratory	1
BME 310	Mathematical Analysis in Biomedical Engineering	3
BME 312	Biomedical Statistics and Data Analysis	3
BME 330	Foundations of Medical Imaging	3
BME 335	Biomaterials	3
BME 375	Fundamentals of Biomechanics	3
BME 401	Biomedical Design	3
BME 440	Biomedical Measurements	4.00
BME 450	Biomedical Transport Phenomena	3
BME 470	Biomedical Signal Analysis	3
BME 480	Biomedical Instrumentation	3
BME 507	LabView Applications for Biomedical Engineering	1
BME 512	Regulatory Control of Biomedical Devices	3
BME 540	Microcomputer-Based Medical Instrumentation	3
BME 541	Medical Electronic Systems Laboratory	2
BME 705	Master's Design Project I	3
BME 706	Master's Design Project II	3
ECE 201	Electrical Circuit Theory	3
ECE 202	Electronics I	3
ECE 203	Electrical Circuits Laboratory	1
ECE 211	Logic Design	3
ECE 315	Digital Design Laboratory	1
Graduate Technical Elective		9

Technical Elective		9
Technical Elective Lab		1
Technical Elective 700 Level		6
Math and Science Courses		
MTH 151	Calculus I for Engineers	5
MTH 162	Calculus II	4
MTH 311	Introduction to Ordinary Differential Equations	3
BIL 150	General Biology	4
BIL 151	General Biology Laboratory	1
CHM 111	Principles of Chemistry I	3
CHM 112	Principles of Chemistry II	3
CHM 113	Chemistry Laboratory I	1
CHM 114	Chemistry Laboratory II	1
PHY 205	University Physics I	3
PHY 206	University Physics II	3
PHY 207	University Physics III	3
PHY 208	University Physics II Lab	1
PHY 209	University Physics III Lab	1
Additional Requirements		
ENG 105	English Composition I	3
ENG 107	English Composition II: Science and Technology	3
Arts and Humanities Cognate		9
People and Society Cognate		9
Undergraduate Elective		0-6
Total Credit Hours		154-160

B.S./M.S. in Biomedical Engineering - Electrical Concentration

Course	Title	Credit Hours
Freshman Year		
Fall		
BME 111	Introduction to Engineering I	3
ENG 105	English Composition I	3
MTH 151	Calculus I for Engineers	5
PHY 205	University Physics I	3
PS/HA Cognate ¹		3
	Credit Hours	17
Spring		
BME 112	Introduction to Biomedical Engineering	2
CHM 111	Principles of Chemistry I	3
CHM 113	Chemistry Laboratory I	1
ENG 107	English Composition II: Science and Technology	3
MTH 162	Calculus II	4
PHY 206	University Physics II	3
PHY 208	University Physics II Lab	1
	Credit Hours	17
Sophomore Year		
Fall		
BIL 150	General Biology	4
BIL 151	General Biology Laboratory	1
CHM 112	Principles of Chemistry II	3
CHM 114	Chemistry Laboratory II	1
ECE 201	Electrical Circuit Theory	3

MTH 311	Introduction to Ordinary Differential Equations	3
PHY 207	University Physics III	3
Credit Hours		18
Spring		
BME 265	Medical Systems Physiology	3
BME 266	Human Physiology Laboratory (Human Physiology Lab)	1
BME 310	Mathematical Analysis in Biomedical Engineering	3
BME 211	Introduction to Programming for Biomedical Engineers	3
ECE 203	Electrical Circuits Laboratory	1
PHY 209	University Physics III Lab	1
PS/HA Cognate ¹		3
Credit Hours		15
Junior Year		
Fall		
BME 312	Biomedical Statistics and Data Analysis	3
BME 375	Fundamentals of Biomechanics	3
BME 450	Biomedical Transport Phenomena	3
ECE 202	Electronics I	3
ECE 211	Logic Design	3
PS/HA Cognate ¹		3
Credit Hours		18
Spring		
BME 330	Foundations of Medical Imaging	3
BME 335	Biomaterials	3
BME 401	Biomedical Design	3
BME 440	Biomedical Measurements	4
ECE 315	Digital Design Laboratory	1
PS/HA Cognate ¹		3
Credit Hours		17
Senior Year		
Fall		
BME 470	Biomedical Signal Analysis	3
BME 507	LabView Applications for Biomedical Engineering	1
BME 512	Regulatory Control of Biomedical Devices	3
PS/HA Cognate ¹		3
Undergraduate Elective ³		0-3
Technical Elective (Graduate) ⁴		3
Technical Elective (Graduate) ⁴		3
Credit Hours		16-19
Spring		
BME 480	Biomedical Instrumentation	3
BME 540	Microcomputer-Based Medical Instrumentation	3
BME 541	Medical Electronic Systems Laboratory	2
Technical Elective Lab ²		1
PS/HA Cognate ¹		3
Undergraduate Elective ³		0-3
BME 705	Master's Design Project I	3
Technical Elective (Graduate) ⁴		3
Credit Hours		18-21
Fifth Year (Graduate)		
Fall		
BME 706	Master's Design Project II	3

Technical Elective ⁴	3
Technical Elective (700 level) ⁴	3
Credit Hours	9
Spring	
Technical Elective ⁴	3
Technical Elective ⁴	3
Technical Elective (700 level) ⁴	3
Credit Hours	9
Total Credit Hours	154-160

¹ PS/HA Cognate: Students must complete a minimum of 1 People & Society (PS) cognate and 1 Humanities & Arts (HA) cognate, to be selected from the list of available cognates (<http://www.miami.edu/index.php/registrar/cognates>). Each cognate should be a minimum of 3 courses (9 credit hours).

² Technical Elective Labs are selected from BME 506, BME 566 or BME 395.

³ The undergraduate elective is any undergraduate level course with a number of credit hours sufficient to ensure that the student is enrolled for a total of 12 undergraduate credit hours during each semester of the senior year. The undergraduate elective can be any undergraduate class, but students are encouraged to select an engineering or science course.

⁴ All Technical Electives are taken as graduate courses. They are graduate-level courses (600 level and above) chosen from the BME course offerings with the approval of the advisor. A minimum of 6 credit hours of technical electives must be taken at the 700 level. Non-BME courses need to be approved by the advisor and the chairperson.

B.S./M.S. in Biomedical Engineering - Mechanical Concentration

- Juniors from any of the four BME Concentrations who have maintained at least a 3.0 CGPA have the option to apply for admission to the combined BS-MS in Biomedical Engineering program.
- Those who are accepted into this accelerated program must maintain at least a 3.0 CGPA and a minimum of a 3.0 GPA for the final 30 credit hours to meet the requirements of the Graduate School.
- The participants are excused from BME 402/BME 403, but are required to complete BME 705/BME 706.
- Up to 12 credit hours of Technical electives earned during the fourth year can be counted toward the 30 credit hours required for the MS degree.
- Students must be registered for a minimum of 12 undergraduate credit hours per semester in their senior year.
- Students can register for a maximum of 6 graduate credit hours per semester in their senior year.
- A typical curriculum of the BS/MS is shown below for the Mechanical Concentration.
- If a student needs to withdraw from the BS/MS BME program then all the requirements for the specific BS BME Concentration must be completed for graduation with the BS BME degree.

Code	Title	Credit Hours
Engineering Courses		
BME 111	Introduction to Engineering I	3
BME 112	Introduction to Biomedical Engineering	2
BME 211	Introduction to Programming for Biomedical Engineers	3
BME 265	Medical Systems Physiology	3
BME 266	Human Physiology Laboratory	1
BME 310	Mathematical Analysis in Biomedical Engineering	3
BME 312	Biomedical Statistics and Data Analysis	3
BME 330	Foundations of Medical Imaging	3
BME 335	Biomaterials	3
BME 375	Fundamentals of Biomechanics	3
BME 401	Biomedical Design	3
BME 440	Biomedical Measurements	4.00
BME 450	Biomedical Transport Phenomena	3
BME 460	Introduction to Physiological Fluid Mechanics	3
BME 470	Biomedical Signal Analysis	3
BME 480	Biomedical Instrumentation	3
BME 506	Computer Aided Design in Biomedical Engineering	1
BME 512	Regulatory Control of Biomedical Devices	3

BME 575	Biomechanics II	3
BME 705	Master's Design Project I	3
BME 706	Master's Design Project II	3
CAE 210	Mechanics of Solids I	3
ECE 201	Electrical Circuit Theory	3
MAE 202	Dynamics	3
Technical Elective		9
Technical Elective Lab		1
Technical Elective Lab		1
Technical Electives 700 level		6
Graduate Technical Electives		9
Math and Science Courses		
MTH 151	Calculus I for Engineers	5
MTH 162	Calculus II	4
MTH 311	Introduction to Ordinary Differential Equations	3
BIL 150	General Biology	4
BIL 151	General Biology Laboratory	1
CHM 111	Principles of Chemistry I	3
CHM 112	Principles of Chemistry II	3
CHM 113	Chemistry Laboratory I	1
CHM 114	Chemistry Laboratory II	1
PHY 205	University Physics I	3
PHY 206	University Physics II	3
PHY 207	University Physics III	3
PHY 208	University Physics II Lab	1
PHY 209	University Physics III Lab	1
Additional Requirements		
ENG 105	English Composition I	3
ENG 107	English Composition II: Science and Technology	3
Arts and Humanities Cognate		9
People and Society Cognate		9
Undergraduate Electives		0-6
Total Credit Hours		154-160

B.S./M.S. in Biomedical Engineering - Mechanical Concentration

Course	Title	Credit Hours
Freshman Year		
Fall		
BME 111	Introduction to Engineering I	3
ENG 105	English Composition I	3
MTH 151	Calculus I for Engineers	5
PHY 205	University Physics I	3
PS/HA Cognate ¹		3
	Credit Hours	17
Spring		
BME 112	Introduction to Biomedical Engineering	2
CHM 111	Principles of Chemistry I	3
CHM 113	Chemistry Laboratory I	1
ENG 107	English Composition II: Science and Technology	3
MTH 162	Calculus II	4
PHY 206	University Physics II	3

PHY 208	University Physics II Lab	1
	Credit Hours	17
Sophomore Year		
Fall		
BIL 150	General Biology	4
BIL 151	General Biology Laboratory	1
BME 211	Introduction to Programming for Biomedical Engineers	3
BME 265	Medical Systems Physiology	3
BME 266	Human Physiology Laboratory (Human Physiology Lab)	1
CHM 112	Principles of Chemistry II	3
ECE 201	Electrical Circuit Theory	3
	Credit Hours	18
Spring		
CAE 210	Mechanics of Solids I	3
CHM 114	Chemistry Laboratory II	1
MTH 311	Introduction to Ordinary Differential Equations	3
PHY 209	University Physics III Lab	1
PHY 207	University Physics III	3
BME Technical Elective Lab		1
PS/HA Cognate ¹		3
	Credit Hours	15
Junior Year		
Fall		
BME 310	Mathematical Analysis in Biomedical Engineering	3
BME 312	Biomedical Statistics and Data Analysis	3
BME 330	Foundations of Medical Imaging	3
BME 440	Biomedical Measurements	4.00
MAE 202	Dynamics	3
	Credit Hours	16
Spring		
BME 335	Biomaterials	3
BME 375	Fundamentals of Biomechanics	3
BME 401	Biomedical Design	3
BME 470	Biomedical Signal Analysis	3
PS/HA Cognate ¹		3
PS/HA Cognate ¹		3
	Credit Hours	18
Senior Year		
Fall		
BME 480	Biomedical Instrumentation	3
BME 506	Computer Aided Design in Biomedical Engineering	1
BME 575	Biomechanics II	3
Technical Elective Lab ²		1
PS/HA Cognate ¹		3
Undergraduate Elective ³		0-3
Technical Elective (Graduate) ⁴		3
Technical Elective (Graduate) ⁴		3
	Credit Hours	17-20
Spring		
BME 450	Biomedical Transport Phenomena	3
BME 460	Introduction to Physiological Fluid Mechanics	3
BME 512	Regulatory Control of Biomedical Devices	3

PS/HA Cognate ¹		3
BME 705	Master's Design Project I	3
Technical Elective (Graduate) ⁴		3
Undergraduate Elective ³		0-3
	Credit Hours	18-21
Fifth Year (Graduate)		
Fall		
BME 706	Master's Design Project II	3
Technical Elective ⁴		3
Technical Elective (700 level) ⁴		3
	Credit Hours	9
Spring		
Technical Elective ⁴		3
Technical Elective ⁴		3
Technical Elective (700 level) ⁴		3
	Credit Hours	9
	Total Credit Hours	154-160

¹ PS/HA Cognate: Students must complete a minimum of 1 People & Society (PS) cognate and 1 Humanities & Arts (HA) cognate, to be selected from the list of available cognates (<http://www.miami.edu/index.php/registrar/cognates>). Each cognate should be a minimum of 3 courses (9 credit hours).

² Technical Elective Labs are selected from BME 507, BME 566 or BME 395.

³ The undergraduate elective is any undergraduate level course with a number of credit hours sufficient to ensure that the student is enrolled for a total of 12 undergraduate credit hours during each semester of the senior year. The undergraduate elective can be any undergraduate class, but students are encouraged to select an engineering or science course.

⁴ All Technical Electives are taken as graduate courses. They are graduate-level courses (600 level and above) chosen from the BME course offerings with the approval of the advisor. A minimum of 6 credit hours of technical electives must be taken at the 700 level. Non BME Courses need to be approved by the advisor and the chairperson.

B.S./M.S. in Biomedical Engineering - Premed Concentration

- Juniors from any of the four BME Concentrations who have maintained at least a 3.0 CGPA have the option to apply for admission to the combined BS-MS in Biomedical Engineering program.
- Those who are accepted into this accelerated program must maintain at least a 3.0 CGPA and a minimum of a 3.0 GPA for the final 30 credit hours to meet the requirements of the Graduate School.
- The participants are excused from BME 402/BME 403, but are required to complete BME 705/BME 706.
- Up to 12 credit hours of Technical electives earned during the fourth year can be counted toward the 30 credit hours required for the MS degree.
- Students must be registered for a minimum of 12 undergraduate credit hours per semester in their senior year.
- Students can register for a maximum of 6 graduate credit hours per semester in their senior year.
- A typical curriculum of the BS/MS is shown below for the Premed Concentration.
- If a student needs to withdraw from the BS/MS BME program then all the requirements for the specific BS BME Concentration must be completed for graduation with the BS BME degree.

Curriculum Requirements

Code	Title	Credit Hours
Engineering Courses		
BME 111	Introduction to Engineering I	3
BME 112	Introduction to Biomedical Engineering	2
BME 211	Introduction to Programming for Biomedical Engineers	3
BME 265	Medical Systems Physiology	3
BME 266	Human Physiology Laboratory	1
BME 303 - Cell Engineering Lab		1
BME 312	Biomedical Statistics and Data Analysis	3
BME 330	Foundations of Medical Imaging	3

BME 335	Biomaterials	3
BME 375	Fundamentals of Biomechanics	3
BME 401	Biomedical Design	3
BME 440	Biomedical Measurements	4.00
BME 450	Biomedical Transport Phenomena	3
BME 470	Biomedical Signal Analysis	3
BME 480	Biomedical Instrumentation	3
BME 512	Regulatory Control of Biomedical Devices	3
BME 705	Master's Design Project I	3
BME 706	Master's Design Project II	3
ECE 201	Electrical Circuit Theory	3
Advanced Bioscience Elective		6
Technical Elective		9
Technical Elective Lab		1
Technical or Science Lab Elective		1
Graduate Technical Elective		6
Technical Elective 600 Level		3
Technical Elective 700 Level		3
Math and Science Courses		
MTH 151	Calculus I for Engineers	5
MTH 162	Calculus II	4
MTH 211	Calculus III	3
MTH 311	Introduction to Ordinary Differential Equations	3
BIL 150	General Biology	4
BIL 151	General Biology Laboratory	1
BIL 160	Evolution and Biodiversity	4
BIL 161	Evolution and Biodiversity Laboratory	1
CHM 111	Principles of Chemistry I	3
CHM 112	Principles of Chemistry II	3
CHM 113	Chemistry Laboratory I	1
CHM 114	Chemistry Laboratory II	1
CHM 201	Organic Chemistry I (Lecture)	3
CHM 205	Organic Chemistry Laboratory I	1
PHY 205	University Physics I	3
PHY 206	University Physics II	3
PHY 207	University Physics III	3
PHY 208	University Physics II Lab	1
PHY 209	University Physics III Lab	1
Additional Requirements		
ENG 105	English Composition I	3
ENG 107	English Composition II: Science and Technology	3
Arts and Humanities Cognate		9
People and Society Cognate		9
Total Credit Hours		154

Suggested Plan of Study - Premed Concentration

Course	Title	Credit Hours
Freshman Year		
Fall		
BME 111	Introduction to Engineering I	3
ENG 105	English Composition I	3
MTH 151	Calculus I for Engineers	5

PHY 205	University Physics I	3
PS/HA Cognate ¹		3
	Credit Hours	17
Spring		
BME 112	Introduction to Biomedical Engineering	2
CHM 111	Principles of Chemistry I	3
CHM 113	Chemistry Laboratory I	1
ENG 107	English Composition II: Science and Technology	3
MTH 162	Calculus II	4
PHY 206	University Physics II	3
PHY 208	University Physics II Lab	1
	Credit Hours	17
Sophomore Year		
Fall		
BIL 150	General Biology	4
BIL 151	General Biology Laboratory	1
BME 211	Introduction to Programming for Biomedical Engineers	3
CHM 112	Principles of Chemistry II	3
CHM 114	Chemistry Laboratory II	1
ECE 201	Electrical Circuit Theory	3
MTH 311	Introduction to Ordinary Differential Equations	3
	Credit Hours	18
Spring		
BIL 160	Evolution and Biodiversity	4
BIL 161	Evolution and Biodiversity Laboratory	1
BME 265	Medical Systems Physiology	3
BME 266	Human Physiology Laboratory (Human Physiology Lab)	1
BME 211	Introduction to Programming for Biomedical Engineers	3
CHM 201	Organic Chemistry I (Lecture)	3
PHY 207	University Physics III	3
PHY 209	University Physics III Lab	1
	Credit Hours	19
Junior Year		
Fall		
Advanced Bioscience Elective ^{2†}		3
BME 303 - Cell Engineering Lab		1
BME 330	Foundations of Medical Imaging	3
BME 335	Biomaterials	3
BME 401	Biomedical Design	3
CHM 205	Organic Chemistry Laboratory I	1
PS/HA Cognate ¹		3
	Credit Hours	17
Spring		
BME 312	Biomedical Statistics and Data Analysis	3
BME 330	Foundations of Medical Imaging	3
BME 375	Fundamentals of Biomechanics	3
BME 440	Biomedical Measurements	4.00
PS/HA Cognate ¹		3
	Credit Hours	16
Senior Year		
Fall		
BME 450	Biomedical Transport Phenomena	3

BME 470	Biomedical Signal Analysis	3
BME 512	Regulatory Control of Biomedical Devices	3
Technical Elective Lab ⁴		1
Technical or Science Lab Elective ³		1
Undergraduate Elective ⁶		0-3
PS/HA Cognate ¹		3
Technical Elective (Graduate) ⁵		3
	Credit Hours	17-20
Spring		
Advanced Bioscience Elective ²		3
BME 480	Biomedical Instrumentation	3
PS/HA Cognate ¹		3
PS/HA Cognate ¹		3
BME 705	Master's Design Project I	3
Technical Elective (Graduate) ⁵		3
Undergraduate Elective ⁶		0-3
	Credit Hours	18-21
Fifth Year (Graduate)		
Fall		
BME 706	Master's Design Project II	3
Technical Elective ⁵		3
Technical Elective (600 level) ⁵		3
	Credit Hours	9
Spring		
Technical Elective ⁵		3
Technical Elective ⁵		3
Technical Elective (700 level) ⁵		3
	Credit Hours	9
	Total Credit Hours	157-163

¹ Students must complete a minimum of 1 PS cognate and 1 HA cognate to be selected from the list of available cognates (<http://www.miami.edu/index.php/registrar/cognates>). Each cognate should be a minimum of 3 courses (9 credit hours). Students in the Premed Concentration are highly encouraged to choose cognates that include PSY 110 and SOC 101.

² Advanced Bioscience Elective is to be chosen from BIL 250, BIL 255, BIL 268, CHM 202, or BMB 402. Students should verify admission requirements of their medical school of interest to verify Adv. Bioscience requirements, e.g. organic chemistry II, biochemistry, or both

³ Technical or Science Elective Lab is selected from BME 506, BME 507, BME 566 or BME 395 or from a science lab complementing the Adv Bioscience Elective (e.g., CHM or BIL lab).

⁴ Technical Elective Lab is selected from BME 506, BME 507, BME 566 or BME 395

⁵ All Technical Electives are taken as graduate courses. They are graduate-level courses (600 level and above) chosen from the BME course offerings with the approval of the advisor. A minimum of 6 credit hours of technical electives must be taken at the 700 level. Non-BME courses need to be approved by the advisor and the chairperson.

⁶ The undergraduate elective is any undergraduate level course with a number of credit hours sufficient to ensure that the student is enrolled for a total of 12 undergraduate credit hours during each semester of the senior year. The undergraduate elective can be any undergraduate class, but students are encouraged to select an engineering or science course.

† Students planning on taking the MCAT should take BMB 401 as their first Adv. Bioscience Elective.

Civil, Architectural and Environmental Engineering

<http://www.cae.miami.edu>

Dept. Code: CAE

Mission Statement

The mission of the Department of Civil, Architectural, and Environmental Engineering is to:

- Provide high-quality undergraduate and graduate education in civil, architectural, and environmental engineering that will prepare graduates for professional careers and a lifetime of learning
- Conduct high-quality research that will advance the body of knowledge and improve the quality of human life
- Serve the engineering profession and society through active involvement in professional organizations and contribution of professional expertise

The department offers three undergraduate degrees:

- Bachelor of Science in Civil Engineering,
- Bachelor of Science in Architectural Engineering, and
- Bachelor of Science in Environmental Engineering.

Civil Engineering

Civil engineers are leaders in the planning, design, construction, and operation of systems that are essential to modern life. These systems include: buildings, highways, airports, pipelines, bridges, dams, irrigation systems, drainage systems, water-supply and distribution systems, and wastewater collection and treatment works. Civil engineers are employed by government agencies, public utility companies, private consulting firms, construction companies, architectural firms, and universities.

Architectural Engineering

Architectural engineers are leaders in the planning, design, construction, and operation of engineered systems for commercial, industrial, and institutional buildings and other facilities. These engineered systems include electrical, communications and control, lighting, heating, ventilating, air conditioning, fire protection, plumbing, acoustic, and structural components. Architectural engineers are employed by consulting firms, construction companies, facility management companies, HVAC equipment manufacturers, architectural firms, government agencies, and universities.

Environmental Engineering

Environmental engineers are leaders in the application of engineering principles to improve and maintain the environment for the protection of human health, for the protection of nature's beneficial ecosystems, and for environment-related enhancement of the quality of human life. Environmental engineers are employed by government agencies, consulting firms, and universities.

Educational Objectives

The educational objectives of the Civil Engineering Program are to have graduates who within the first several years following graduation are either

1. Working as a professional in an area closely related to civil engineering, or
2. Pursuing a graduate or professional degree.

The educational objectives of the Architectural Engineering Program are to have graduates who within the first several years following graduation are either

1. Working as a professional in an area closely related to architectural engineering, or
2. Pursuing a graduate or professional degree.

The educational objectives of the Environmental Engineering Program are to have graduates who within the first several years following graduation are either

1. Working as a professional in an area closely related to the water environment, or
2. Pursuing a graduate or professional degree.

Advanced Writing and Communication Skills

Civil, Architectural, and Environmental Engineering students satisfy the University's Advanced Writing and Communication Skills requirement by completing a set of classroom courses, laboratory courses and design courses where they learn effective oral, graphical and technical writing skills. Civil, Architectural, and Environmental Engineering students acquire Advanced Writing and Communication skills in the following core courses:

- CAE 111 - Introduction to Engineering
- CAE 212 - Structures Laboratory (Civil and Architectural Engineering)
- CAE 345 - Environmental Laboratory (Environmental Engineering)
- CAE 371 - Geotechnical Laboratory (Civil and Architectural Engineering)
- CAE 402 - Professional Engineering Practice

Majors in Civil, Architectural, and Environmental Engineering

- B.S. in Civil Engineering (p. 627)
- B.S. in Architectural Engineering (p. 629)

- B.S. in Environmental Engineering (p. 632)

Dual B.S./M.S. Degrees in Civil, Architectural, and Environmental Engineering

- B.S./M.S. in Civil Engineering (p. 635)
- B.S./M.S. in Architectural Engineering (p. 636)
- B.S. in Environmental Engineering/M.S. in Civil Engineering (p. 636)
- B.S. in Architectural Engineering and Master of Architecture Dual Degree Program (p. 637)

Minor in Civil, Architectural, and Environmental Engineering

- Civil Engineering (p. 640)
- Architectural Engineering (p. 640)
- Environmental Engineering (p. 641)

B.S. in Civil Engineering

Civil Engineering Curriculum

The Civil Engineering curriculum provides an integrated educational experience in mathematics, basic sciences, humanities, social sciences, engineering sciences, and civil engineering design. The first two years of the Civil Engineering curriculum provide a strong foundation in mathematics, basic sciences, and engineering sciences. During the next two years of the four-year program, the Civil Engineering curriculum integrates engineering sciences with design applications in the areas of structural, environmental, geotechnical, and water resources engineering. The curriculum culminates with a major senior-level design project that includes design applications from the major specialty areas of civil engineering.

Graduate study is offered leading to the degrees of Master of Science and Doctor of Philosophy in Civil Engineering (p. 1101). For detailed information on graduate studies, see the Graduate Studies Bulletin.

A tabular listing of the course requirements for the degree of Bachelor of Science in Civil Engineering is shown below.

Curriculum Requirements

Code	Title	Credit Hours
Engineering Courses		
CAE 111	Introduction to Engineering I	3
CAE 115	Introduction to Engineering II (Surveying)	1
CAE 210	Mechanics of Solids I	3
CAE 211	Mechanics of Solids II	3
CAE 212	Structural Laboratory	1
CAE 310	Structural Analysis	3
CAE 320	Concrete Structures	3
CAE 321	Steel Structures	3
CAE 330	Fluid Mechanics	3
CAE 340	Introduction to Environmental Engineering	3
CAE 350	Transportation Engineering I	3
CAE 370	Geotechnical Engineering I	3
CAE 371	Geotechnical Laboratory	1
CAE 402	Professional Engineering Practice	3
CAE 403	Senior Design Project I - Engineering Design	3
CAE 404	Senior Design Project II - Construction Documents	3
CAE 430	Water-Resources Engineering I	3
CAE 440	Water Quality Control Systems	3
CAE 450	Transportation Engineering II	3
CAE 470	Foundations and Earth Retaining Systems	3
CAE 530	Water Resources Engineering II	3
MAE 303	Thermodynamics I	3
IEN 311	Applied Probability and Statistics	3
CEN Tech Elective Course		3

CEN Structural Design Elective		3
Math and Science Courses		
MTH 151	Calculus I for Engineers	5
MTH 162	Calculus II	4
MTH 211	Calculus III	3
MTH 311	Introduction to Ordinary Differential Equations	3
CHM 151	Chemistry for Engineers	3
CHM 153	Chemistry Laboratory for Engineers	1
PHY 205	University Physics I	3
PHY 206	University Physics II	3
PHY 207	University Physics III	3
PHY 208	University Physics II Lab	1
PHY 209	University Physics III Lab	1
Additional Required Courses		
ENG 105	English Composition I	3
ENG 107	English Composition II: Science and Technology	3
GEG 198	Geographic Information System for Engineers	1
Arts and Humanities Cognate		9
People and Society Cognate		9
Basic Science Elective		3
Total Credit Hours		127

* "Internships, Practical Training, or other types of practicum are neither required nor optional credit-earning components in the established undergraduate curriculum. Credit earned through these experiences via UMI 305 will not count towards any CAE degree requirements."

Plan of Study

Course	Title	Credit Hours
Freshman Year		
Fall		
CAE 111	Introduction to Engineering I	3
ENG 105	English Composition I	3
MTH 151	Calculus I for Engineers	5
PHY 205	University Physics I	3
	Credit Hours	14
Spring		
CAE 115	Introduction to Engineering II (Surveying)	1
GEG 198	Geographic Information System for Engineers	1
ENG 107	English Composition II: Science and Technology	3
MTH 162	Calculus II	4
PHY 206	University Physics II	3
PHY 208	University Physics II Lab	1
CAE 210	Mechanics of Solids I	3
	Credit Hours	16
Sophomore Year		
Fall		
CAE 211	Mechanics of Solids II	3
CAE 212	Structural Laboratory	1
IEN 311	Applied Probability and Statistics	3
PHY 207	University Physics III	3
PHY 209	University Physics III Lab	1
MTH 211	Calculus III	3

HA Cognate ²		3
	Credit Hours	17
Spring		
CAE 310	Structural Analysis ¹	3
MTH 311	Introduction to Ordinary Differential Equations	3
CHM 151	Chemistry for Engineers	3
CHM 153	Chemistry Laboratory for Engineers	1
Basic Science Elective ²		3
HA Cognate ²		3
	Credit Hours	16
Junior Year		
Fall		
CAE 320	Concrete Structures ¹	3
CAE 330	Fluid Mechanics	3
CAE 340	Introduction to Environmental Engineering ¹	3
CAE 350	Transportation Engineering I ¹	3
MAE 303	Thermodynamics I	3
PS Cognate ²		3
	Credit Hours	18
Spring		
CAE 321	Steel Structures ¹	3
CAE 370	Geotechnical Engineering I ¹	3
CAE 371	Geotechnical Laboratory ¹	1
CAE 430	Water-Resources Engineering I ¹	3
CAE 440	Water Quality Control Systems ¹	3
CAE 450	Transportation Engineering II ¹	3
	Credit Hours	16
Senior Year		
Fall		
CAE 403	Senior Design Project I - Engineering Design ¹	3
CAE 470	Foundations and Earth Retaining Systems ¹	3
CAE 530	Water Resources Engineering II ¹	3
HA Cognate ²		3
PS Cognate ²		3
	Credit Hours	15
Spring		
CAE 402	Professional Engineering Practice	3
CAE 404	Senior Design Project II - Construction Documents ¹	3
CEN Tech Elective Course		3
CEN Structural Design Elective ³		3
PS Cognate ²		3
	Credit Hours	15
	Total Credit Hours	127

¹ Only offered once a year

² To be selected from lists of approved People and Society (PS)/Humanities and Arts (HA) cognates, Technical, CEN Technical, and Basic Science electives. Students take a minimum of 3 courses (9 credit hours) in HA cognate and 3 courses in PS Cognate (9 credit hours)

³ CAE 520 or CAE 521

B.S. in Architectural Engineering

The Architectural Engineering curriculum provides an integrated educational experience in mathematics, basic sciences, humanities, social sciences, engineering sciences, and architectural engineering design. The Architectural Engineering program integrates design applications across the

curriculum, beginning with building construction and architectural design in the sophomore year, and continuing with structural, building mechanical and electrical systems design, and construction management in the junior and senior years. The curriculum culminates with a major comprehensive design experience that includes applications from the major specialty areas of architectural engineering.

Graduate study is offered leading to the degree of Master of Science in Architectural Engineering (p. 1101). For detailed information on graduate studies, see the Graduate Studies Bulletin..

Curriculum Requirements

Code	Title	Credit Hours
Engineering Courses		
CAE 111	Introduction to Engineering I	3
CAE 115	Introduction to Engineering II (Surveying)	1
CAE 210	Mechanics of Solids I	3
CAE 211	Mechanics of Solids II	3
CAE 212	Structural Laboratory	1
CAE 310	Structural Analysis	3
CAE 320	Concrete Structures	3
CAE 321	Steel Structures	3
CAE 330	Fluid Mechanics	3
CAE 370	Geotechnical Engineering I	3
CAE 371	Geotechnical Laboratory	1
CAE 380	Electrical and Illumination Systems for Buildings	3
CAE 381	Building Mechanical Systems I: Hvac Fundamentals	3
CAE 402	Professional Engineering Practice	3
CAE 403	Senior Design Project I - Engineering Design	3
CAE 404	Senior Design Project II - Construction Documents	3
CAE 460	Construction Management	3
CAE 470	Foundations and Earth Retaining Systems	3
CAE 480	Plumbing and Life Safety for Buildings	3
CAE 481	Building Mechanical Systems II: HVAC Systems	3
CAE 581	Energy-Efficient Building Design	3
IEN 311	Applied Probability and Statistics	3
MAE 303	Thermodynamics I	3
Technical Elective		3
Math and Science Courses		
MTH 151	Calculus I for Engineers	5
MTH 162	Calculus II	4
MTH 211	Calculus III	3
MTH 311	Introduction to Ordinary Differential Equations	3
CHM 151	Chemistry for Engineers	3
CHM 153	Chemistry Laboratory for Engineers	1
PHY 205	University Physics I	3
PHY 206	University Physics II	3
PHY 207	University Physics III	3
PHY 208	University Physics II Lab	1
PHY 209	University Physics III Lab	1
Additional Required Courses		
ARC 230	Building Technology I: Materials and Methods	3
ARC 292	Introduction to Architecture Design I	3
ARC 293	Introduction to Architecture Design II	3
ARC 294	Introduction to the Development of Architecture	3
ARC 268	History of Architecture II: Baroque through Contemporary	3
ENG 105	English Composition I	3

ENG 107	English Composition II: Science and Technology	3
GEG 198	Geographic Information System for Engineers	1
People and Society Cognate		9
Total Credit Hours		127

*"Internships, Practical Training, or other types of practicum are neither required nor optional credit-earning components in the established undergraduate curriculum. Credit earned through these experiences via UMI 305 will not count towards any CAE degree requirements."

Plan of Study

Course	Title	Credit Hours
Freshman Year		
Fall		
CAE 111	Introduction to Engineering I	3
ENG 105	English Composition I	3
MTH 151	Calculus I for Engineers	5
PHY 205	University Physics I	3
	Credit Hours	14
Spring		
CAE 115	Introduction to Engineering II (Surveying)	1
GEG 198	Geographic Information System for Engineers	1
CAE 210	Mechanics of Solids I	3
ENG 107	English Composition II: Science and Technology	3
MTH 162	Calculus II	4
PHY 206	University Physics II	3
PHY 208	University Physics II Lab	1
	Credit Hours	16
Sophomore Year		
Fall		
CAE 211	Mechanics of Solids II	3
CAE 212	Structural Laboratory	1
ARC 230	Building Technology I: Materials and Methods	3
ARC 267	History of Architecture I: Ancient, Medieval and Renaissance	3
PHY 207	University Physics III	3
PHY 209	University Physics III Lab	1
IEN 311	Applied Probability and Statistics	3
	Credit Hours	17
Spring		
CAE 310	Structural Analysis ¹	3
ARC 292	Introduction to Architecture Design I ¹	3
CHM 151	Chemistry for Engineers	3
CHM 153	Chemistry Laboratory for Engineers	1
MTH 211	Calculus III	3
MTH 311	Introduction to Ordinary Differential Equations	3
	Credit Hours	16
Junior Year		
Fall		
CAE 320	Concrete Structures ¹	3
CAE 330	Fluid Mechanics	3
MAE 303	Thermodynamics I	3
ARC 293	Introduction to Architecture Design II ¹	3
PS Cognate* ²		3

PS Cognate*		3
	Credit Hours	18
Spring		
CAE 321	Steel Structures ¹	3
CAE 370	Geotechnical Engineering I ¹	3
CAE 371	Geotechnical Laboratory ¹	1
CAE 380	Electrical and Illumination Systems for Buildings ¹	3
CAE 381	Building Mechanical Systems I: Hvac Fundamentals ¹	3
ARC 268	History of Architecture II: Baroque through Contemporary	3
	Credit Hours	16
Senior Year		
Fall		
CAE 403	Senior Design Project I - Engineering Design ¹	3
CAE 470	Foundations and Earth Retaining Systems ¹	3
CAE 480	Plumbing and Life Safety for Buildings ¹	3
CAE 481	Building Mechanical Systems II: HVAC Systems ¹	3
PS Cognate ²		3
	Credit Hours	15
Spring		
CAE 402	Professional Engineering Practice	3
CAE 460	Construction Management ¹	3
CAE 404	Senior Design Project II - Construction Documents ¹	3
CAE 581	Energy-Efficient Building Design ¹	3
Tech Elective		3
	Credit Hours	15
	Total Credit Hours	127

¹ Only offered once a year

B.S. in Environmental Engineering

The Environmental Engineering curriculum provides an integrated educational experience in mathematics, basic sciences, humanities, social sciences, engineering sciences, and environmental engineering design. The first two years of the Environmental Engineering curriculum provide a strong foundation in mathematics, basic sciences, and engineering sciences. The next two years of the four-year program, integrate engineering sciences with design applications with particular emphasis in the areas of water and wastewater engineering .

Design courses emphasize an integrated approach that considers all environmental media in the prevention and control of environmental problems. The curriculum culminates with a major senior-level design project that includes design applications from the major specialty areas of environmental engineering.

Curriculum Requirements

Code	Title	Credit Hours
Engineering Courses		
CAE 111	Introduction to Engineering I	3
CAE 115	Introduction to Engineering II (Surveying)	1
CAE 210	Mechanics of Solids I	3
CAE 211	Mechanics of Solids II	3
CAE 330	Fluid Mechanics	3
CAE 345	Environmental Laboratory and Analysis	3
CAE 340	Introduction to Environmental Engineering	3
CAE 402	Professional Engineering Practice	3
CAE 403	Senior Design Project I - Engineering Design	3
CAE 404	Senior Design Project II - Construction Documents	3
CAE 430	Water-Resources Engineering I	3

CAE 440	Water Quality Control Systems	3
CAE 530	Water Resources Engineering II	3
ECE 205	Principles of Electrical Engineering-I	3
IEN 311	Applied Probability and Statistics	3
MAE 303	Thermodynamics I	3
Environmental Engineering Courses		9
Technical Elective		3
Marine Science Courses		
MSC 301	Introduction to Physical Oceanography	3
RSMAS Course		3
Math and Science Courses		
MTH 151	Calculus I for Engineers	5
MTH 162	Calculus II	4
MTH 211	Calculus III	3
MTH 311	Introduction to Ordinary Differential Equations	3
CHM 111	Principles of Chemistry I	3
CHM 112	Principles of Chemistry II	3
CHM 113	Chemistry Laboratory I	1
CHM 114	Chemistry Laboratory II	1
PHY 205	University Physics I	3
PHY 206	University Physics II	3
PHY 207	University Physics III	3
PHY 208	University Physics II Lab	1
PHY 209	University Physics III Lab	1
Additional Required Courses		
ENG 105	English Composition I	3
ENG 107	English Composition II: Science and Technology	3
GEG 198	Geographic Information System for Engineers	1
Arts and Humanities Cognate		9
People and Society Cognate		9
Biology Elective		3
Total Credit Hours		126

* "Internships, Practical Training, or other types of practicum are neither required nor optional credit-earning components in the established undergraduate curriculum. Credit earned through these experiences via UMI 305 will not count towards any CAE degree requirements."

Plan of Study

Course	Title	Credit Hours
Freshman Year		
Fall		
CAE 111	Introduction to Engineering I ¹	3
ENG 105	English Composition I	3
MTH 151	Calculus I for Engineers	5
PHY 205	University Physics I	3
Credit Hours		14
Spring		
CAE 115	Introduction to Engineering II (Surveying)	1
GEG 198	Geographic Information System for Engineers	1
ENG 107	English Composition II: Science and Technology	3
MTH 162	Calculus II	4
PHY 206	University Physics II	3
PHY 208	University Physics II Lab	1

PS Cognate ²		3
	Credit Hours	16
Sophomore Year		
Fall		
CAE 210	Mechanics of Solids I	3
MTH 211	Calculus III	3
CHM 111	Principles of Chemistry I	3
CHM 113	Chemistry Laboratory I	1
IEN 311	Applied Probability and Statistics	3
PHY 207	University Physics III	3
PHY 209	University Physics III Lab	1
	Credit Hours	17
Spring		
CAE 211	Mechanics of Solids II ³	3
CHM 112	Principles of Chemistry II	3
CHM 114	Chemistry Laboratory II	1
ECE 205	Principles of Electrical Engineering-I	3
MTH 311	Introduction to Ordinary Differential Equations	3
Biology Elective ²		3
	Credit Hours	16
Junior Year		
Fall		
CAE 330	Fluid Mechanics	3
CAE 340	Introduction to Environmental Engineering ¹	3
MAE 303	Thermodynamics I	3
Technical Elective		3
HA Cognate* ²		3
PS Cognate* ²		3
	Credit Hours	18
Spring		
CAE 345	Environmental Laboratory and Analysis ¹	3
CAE 430	Water-Resources Engineering I ¹	3
CAE 440	Water Quality Control Systems ¹	3
MSC 301	Introduction to Physical Oceanography	3
Environmental Eng. Course ⁴		3
	Credit Hours	15
Senior Year		
Fall		
CAE 403	Senior Design Project I - Engineering Design ¹	3
CAE 530	Water Resources Engineering II ¹	3
Environmental Eng. Course ⁴		3
RSMAS Course		3
HA Cognate ²		3
	Credit Hours	15
Spring		
CAE 402	Professional Engineering Practice	3
CAE 404	Senior Design Project II - Construction Documents ¹	3
Environmental Eng. Course ⁴		3
HA Cognate ²		3

PS Cognate ²	3
Credit Hours	15
Total Credit Hours	126

- ¹ Only offered once a year.
- ² To be selected from approved lists of People and Society (PS)/Humanities and Arts (HA) cognates and Biology Electives. Students take a minimum of 3 courses (9 credit hours) in HA cognate and 3 courses in PS Cognate (9 credit hours).
- ³ Co-requisite CAE 212 not required for EnE majors.
- ⁴ CAE 540, CAE 533 and CAE 542 offered on a 3-semester rotation. Students **must** take these three courses.
- * Note: students must select the RSMAS course from the list of required (non-elective) courses in either the Ocean Engineering Track or the Marine Policy Track. A minor in Marine Science will be awarded for 15 credit hours of MSC, OCE or other RSMAS courses provided these include MSC 111, MSC 301 and at least 6 credit hours at the 300 level or higher. Required courses in the track count towards the 6 credit hours at the 300 level or higher.

RSMAS Track 1: Ocean Engineering

Code	Title	Credit Hours
MSC 403	Marine Environmental Toxicology	3
OCE 509	Coastal Physics and Engineering	3
Select one elective from any MSC course or any RSMAS 500-level course		3
Total Credit Hours		9

RSMAS Track 2: Marine Policy

Code	Title	Credit Hours
MSC 340	Ocean Policy	3
MSC 313	Coastal Law	3
MSC 314	Ocean Law	3
Total Credit Hours		9

B.S./M.S. in Civil Engineering

The Department also offers three 5-year programs leading to the B.S. and the M.S. degrees (BSCE-MSCE (p.); BSAE-MSAE (p.); and BSEnE-MSCE (p.)). These programs are open to students who are admitted to the graduate program at the end of their junior year. Students applying for this program must have a minimum grade point average of 3.0, and score more than 310 on the Graduate Record Examination. The course requirements for the MS portion of the five-year BS/MS programs can be met as follows:

Course	Title	Credit Hours
Senior Year		
First Semester		
Graduate Level Course		3
Graduate Level Course		3
Credit Hours		6
Second Semester		
1) Do not register for CAE 404; and		
2) Register for the following courses as G.:		
CAE 604	Master's Design Project	3
Graduate Level Course		3
Credit Hours		6
Graduate Year		
First Semester		
Graduate Level Course		3
Graduate Level Course		3
Graduate Level Course		3
Credit Hours		9

Second Semester	
Graduate Level Course	3
Graduate Level Course	3
Graduate Level Course	3
Credit Hours	9
Total Credit Hours	30

¹ Take PS or HA Cognate course in Freshman Semester (3 Credit Hours)

B.S./M.S. in Architectural Engineering

The Department also offers three 5-year programs leading to the B.S. and the M.S. degrees (BSCE-MSCE; (p.) BSAE-MSAE (p.); and BSEnE-MSCE (p.)). These programs are open to students who are admitted to the graduate program at the end of their junior year. Students applying for this program must have a minimum grade point average of 3.0, and score more than 310 on the Graduate Record Examination. The course requirements for the MS portion of the five-year BS/MS programs can be met as follows:

Course	Title	Credit Hours
Senior Year		
First Semester		
Graduate Level Course		3
Graduate Level Course		3
Credit Hours		6
Second Semester		
CAE 604	Master's Design Project	3
Graduate Level Course		3
Credit Hours		6
Graduate Year		
First Semester		
Graduate Level Course		3
Graduate Level Course		3
Graduate Level Course		3
Credit Hours		9
Second Semester		
Graduate Level Course		3
Graduate Level Course		3
Graduate Level Course		3
Credit Hours		9
Total Credit Hours		30

B.S. in Environmental Engineering/M.S. in Civil Engineering

The Department also offers three 5-year programs leading to the B.S. and the M.S. degrees (BSCE-MSCE (p.); BSAE-MSAE (p.); and BSEnE-MSCE (p.)). These programs are open to students who are admitted to the graduate program at the end of their junior year. Students applying for this program must have a minimum grade point average of 3.0, and score more than 310 on the Graduate Record Examination. The course requirement for the MS portion of the five-year BS/MS programs can be met as follows:

Course	Title	Credit Hours
Senior Year		
First Semester		
Graduate Level Course		3
Graduate Level Course		3
Credit Hours		6
Second Semester		
Graduate Level Course		3

CAE 604	Master's Design Project	3
	Credit Hours	6
Graduate Year		
First Semester		
Graduate Level Course		3
Graduate Level Course		3
Graduate Level Course		3
	Credit Hours	9
Second Semester		
Graduate Level Course		3
Graduate Level Course		3
Graduate Level Course		3
	Credit Hours	9
	Total Credit Hours	30

B.S.in Architectural Engineering/Master of Architecture

A six-year dual degree program leading to a Bachelor of Science in Architectural Engineering and a Master of Architecture is available. The program is open to exceptional students who are admitted to the graduate program at the end of their junior year. Upon completion of this program, graduates are eligible for professional registration as both an engineer and an architect.

Curriculum Requirements

Code	Title	Credit Hours
Engineering Courses		
CAE 111	Introduction to Engineering I	3
CAE 115	Introduction to Engineering II (Surveying)	1
CAE 210	Mechanics of Solids I	3
CAE 211	Mechanics of Solids II	3
CAE 212	Structural Laboratory	1
CAE 310	Structural Analysis	3
CAE 320	Concrete Structures	3
CAE 321	Steel Structures	3
CAE 330	Fluid Mechanics	3
CAE 370	Geotechnical Engineering I	3
CAE 371	Geotechnical Laboratory	1
CAE 380	Electrical and Illumination Systems for Buildings	3
CAE 381	Building Mechanical Systems I: Hvac Fundamentals	3
CAE 402	Professional Engineering Practice	3
CAE 403	Senior Design Project I - Engineering Design	3
CAE 404	Senior Design Project II - Construction Documents	3
CAE 460	Construction Management	3
CAE 470	Foundations and Earth Retaining Systems	3
CAE 480	Plumbing and Life Safety for Buildings	3
CAE 481	Building Mechanical Systems II: HVAC Systems	3
CAE 581	Energy-Efficient Building Design	3
IEN 311	Applied Probability and Statistics	3
MAE 303	Thermodynamics I	3
Technical Elective		3
Architecture Courses		
ARC 121	Architecture and Culture	1
ARC 230	Building Technology I: Materials and Methods	3
ARC 267	History of Architecture I: Ancient, Medieval and Renaissance	3
ARC 268	History of Architecture II: Baroque through Contemporary	3

ARC 500	Architecture Theory	3
ARC 501	Architecture Design and Theory I	6
ARC 502	Architecture Design and Theory II	6
ARC 503	Architectural Design and Theory III	6
ARC 504	Architecture Design and Theory I	6
ARC 511	Visual Representation I	3
ARC 608	Architecture Design	6
ARC 609	Architecture Design	6
ARC 610	Architecture Design Degree Project	6
ARC 613	Advanced Visual Representation	3
ARC 620	Responsible Architecture	3
ARC 652	Management of Professional Practice	3
ARC 699	Directed Research (Architecture Thesis Prep)	6
Architecture Elective		9
Architecture History Elective		3
Math and Science Courses		
MTH 151	Calculus I for Engineers	5
MTH 162	Calculus II	4
MTH 211	Calculus III	3
MTH 311	Introduction to Ordinary Differential Equations	3
CHM 151	Chemistry for Engineers	3
CHM 153	Chemistry Laboratory for Engineers	1
PHY 205	University Physics I	3
PHY 206	University Physics II	3
PHY 207	University Physics III	3
PHY 208	University Physics II Lab	1
PHY 209	University Physics III Lab	1
Additional Required Courses		
ENG 105	English Composition I	3
ENG 107	English Composition II: Science and Technology	3
GEG 198	Geographic Information System for Engineers	1
Arts and Humanities Cognate ^{3 Courses Embedded in Curriculum}		3
People and Society Cognate ^{3 Courses}		3
Total Credit Hours		194

Plan of Study

Course	Title	Credit Hours
Year One		
First Semester		
CAE 111	Introduction to Engineering I	3
ENG 105	English Composition I	3
MTH 151	Calculus I for Engineers	5
PHY 205	University Physics I	3
ARC 121	Architecture and Culture	1
Credit Hours		15
Second Semester		
CAE 115	Introduction to Engineering II (Surveying)	1
CAE 210	Mechanics of Solids I	3
ENG 107	English Composition II: Science and Technology	3
GEG 198	Geographic Information System for Engineers	1
MTH 162	Calculus II	4
PHY 206	University Physics II	3

PHY 208	University Physics II Lab	1
	Credit Hours	16
Year Two		
First Semester		
CAE 211	Mechanics of Solids II	3
CAE 212	Structural Laboratory	1
ARC 230	Building Technology I: Materials and Methods	3
ARC 267	History of Architecture I: Ancient, Medieval and Renaissance	3
PHY 207	University Physics III	3
PHY 209	University Physics III Lab	1
IEN 311	Applied Probability and Statistics	3
	Credit Hours	17
Second Semester		
CAE 310	Structural Analysis	3
CHM 151	Chemistry for Engineers	3
CHM 153	Chemistry Laboratory for Engineers	1
MTH 311	Introduction to Ordinary Differential Equations	3
MAE 303	Thermodynamics I	3
MTH 211	Calculus III	3
	Credit Hours	16
Year Three		
First Semester		
CAE 320	Concrete Structures (ARC 533)	3
CAE 330	Fluid Mechanics	3
PS Cognate ¹		3
ARC 511	Visual Representation I	3
ARC 501	Architecture Design and Theory I (ARC 292)	6
	Credit Hours	18
Second Semester		
CAE 321	Steel Structures (ARC 532)	3
CAE 380	Electrical and Illumination Systems for Buildings (ARC 563)	3
CAE 381	Building Mechanical Systems I: Hvac Fundamentals (ARC 562)	3
ARC 502	Architecture Design and Theory II (ARC 293)	6
ARC 613	Advanced Visual Representation	3
	Credit Hours	18
Summer (Required 10-week semester)		
ARC 503	Architectural Design and Theory III	6
	Credit Hours	6
Year Four		
First Semester		
CAE 480	Plumbing and Life Safety for Buildings	3
ARC 500	Architecture Theory	3
ARC 504	Architecture Design and Theory I (Comprehensive)	6
Tech Elective		3
	Credit Hours	15
Second Semester		
CAE 370	Geotechnical Engineering I	3
CAE 371	Geotechnical Laboratory	1
CAE 402	Professional Engineering Practice	3
CAE 460	Construction Management (Arch Elective)	3
ARC 268	History of Architecture II: Baroque through Contemporary	3

Architecture Elective		3
	Credit Hours	16
Year Five		
First Semester		
CAE 403	Senior Design Project I - Engineering Design	3
CAE 470	Foundations and Earth Retaining Systems	3
CAE 481	Building Mechanical Systems II: HVAC Systems	3
ARC 608	Architecture Design	6
	Credit Hours	15
Second Semester		
CAE 404	Senior Design Project II - Construction Documents	3
ARC 609	Architecture Design	6
Architecture Elective		3
PS Cognate ¹		3
	Credit Hours	15
Year Six		
First Semester		
ARC 699	Directed Research	3
ARC 652	Management of Professional Practice	3
History of Architecture Elective		3
Architecture Elective		3
PS Cognate ¹		3
	Credit Hours	15
Second Semester		
CAE 581	Energy-Efficient Building Design	3
ARC 610	Architecture Design Degree Project	6
Architecture Elective		3
	Credit Hours	12
	Total Credit Hours	194

¹ To be selected from lists of approved People and Society (PS)/Humanities and Arts (HA) cognates and Technical electives. Students take a minimum of 3 courses (9 credit hours) in HA cognate and 3 courses in PS Cognate (9 credit hours). Students are advised to select the HA Cognate that includes the following courses: ARC 230 or ARC 630; ARC 268 or ARC 476; and ARC 594.

Minor in Architectural Engineering

Code	Title	Credit Hours
CAE 210	Mechanics of Solids I	3
CAE Electives ¹		12
Total Credit Hours		15

- ¹ CAE Electives are chosen in consultation with CAE Faculty Advisor.
- * Pre-requisites need to be satisfied for all courses taken.
- ** A 2.0 grade point average is required in all courses taken for the minor.

Minor in Civil Engineering

Code	Title	Credit Hours
CAE 210	Mechanics of Solids I	3
CAE Electives ¹		12
Total Credit Hours		15

¹ CAE Electives are chosen in consultation with CAE Faculty Advisor.

- * Pre-requisites need to be satisfied for all courses taken.
- ** A 2.0 grade point average is required in all courses taken for the minor.

Minor in Environmental Engineering

Code	Title	Credit Hours
CAE 210	Mechanics of Solids I	3
CAE Electives ¹		12
Total Credit Hours		15

- ¹ CAE Electives are chosen in consultation with CAE Faculty Advisor.
- * Pre-requisites need to be satisfied for all courses taken.
- ** A 2.0 grade point average is required in all courses taken for the minor.

Electrical and Computer Engineering

<http://www.coe.miami.edu/dept-eec/>

Dept. Code: ECE

Mission Statement

The mission of the Department of Electrical and Computer Engineering is to achieve and maintain, through a continuous improvement process, excellence in undergraduate and graduate education, research, and service to the community and the nation. We endeavor to accomplish this by providing high-quality education and research programs which will impart the requisite knowledge and skills to our students enabling them to assume leadership roles in contributing to the advancement of the underlying electrical and computer engineering technologies which sustain the current world economy, to promote a strong commitment to life-long learning, to prepare them for a variety of alternative career paths and to participate as responsible citizens in a rapidly changing and shrinking global community.

Introduction

Electrical and Computer Engineering are complementary disciplines that are at the forefront of the continuing development and evolution of our modern technological society. Electrical and computer engineers have initiated and contributed to the development of such important and diverse areas as integrated electronics and photonics, telecommunication systems and computer networks, computer hardware and software, image processing and computer vision, automation and robotics, electrical power generating and transmission systems, as well as participated in the development of significant applications to biotechnology. These technologies have significantly transformed how our evolving society will live, learn, work, communicate and do business in the 21st century and are critical to the development of a sustainable world economy. It is an exciting and challenging discipline offering a variety of rewarding career paths. The Department of Electrical and Computer Engineering offers a number of innovative academic and research programs to help prepare students to achieve a variety of career goals.

The Department offers two undergraduate degree programs as well as two five year BS/MS degree programs:

- Bachelor of Science in Electrical Engineering degree program (B.S.E.E.)
- Bachelor of Science in Computer Engineering degree program (B.S.Cp.E.)
- Bachelor of Science in Computer Engineering/Master of Science in Electrical and Computer Engineering (B.S.Cp.E./M.S.E.C.E.)
- Bachelor of Science in Electrical Engineering/Master of Science in Electrical and Computer Engineering (B.S.E.E./M.S.E.C.E.)

The Electrical Engineering and the Computer Engineering degree programs are accredited by the Engineering Accreditation Commission (EAC) of the Accreditation Board for Engineering and Technology (ABET).

In addition, the Department offers graduate courses leading to the:

- Degree of Master of Science in Electrical and Computer Engineering (M.S.E.C.E.), and the
- Doctor of Philosophy degree (Ph.D.).

For further information see the Bulletin of the Graduate School (p. 1082).

Bachelor of Science in Electrical Engineering (B.S.E.E.)

This degree program endeavors to achieve its objectives by imparting to its students the fundamental principles underlying modern electrical engineering, along with the necessary skills and experiences to apply standard practices, methodologies and available tools for solving electrical engineering problems. The major areas of Electrical Engineering include electronics, analog and digital circuits, microprocessors, communications and control systems. The design sequence is spread throughout the educational experience curricula, culminating in the two-semester senior design

project. Graduates are expected to keep pace with this rapidly evolving discipline. To this end, the faculty stresses the importance of continued education and life-long professional development by trying to instill in their students a sense of excitement for the prospects of this evolving technology, tempered by a strong sense of responsibility and concern for its potential impacts on society.

Educational Objectives

We expect that our alumni will exhibit the following:

1. Successful careers in dynamic and multidisciplinary technical fields with the ability to apply engineering practices within societal, global, and environmental contexts in an ethical manner.
2. Continuous professional improvement through life-long learning including but not limited to the admission to and completion of professional or graduate studies of the highest standard.

Degree Program

The Electrical Engineering degree program has three options:

1. Electrical Engineering Option (p. 656)
2. Audio Engineering Option (p. 653)
3. Electrical Engineering Pre-Med Option (p. 658)

These options require specialized courses as well as the 49 Engineering Credit Hours required in the accredited Electrical Engineering degree program.

Double Degree Program - B.S.E.E. & B.S.B.E.

A BME student who satisfies the requirement of the Bachelor of Science in Biomedical Engineering (B.S.B.E.) degree with electrical orientation as described in this Bulletin may also qualify for the B.S.E.E. degree by taking the following additional courses:

Code	Title	Credit Hours
ECE 218	Data Structures	3
ECE 301	Electromagnetic Field Theory	3
ECE 302	Electronics II	3
ECE 303	Electronics Laboratory	1
ECE 212	Processors: Hardware, Software, and Interfacing	3
ECE 316	Structured Digital Design	1
ECE 336	Discrete-Time Signals and Systems	3
Select one ECE Design Elective		3
Select two EE Core Electives		6
Select three ECE Electives		9
Senior Project (ECE Faculty as co-sponsor)		
Total Credit Hours		35

Bachelor of Science in Computer Engineering (B.S.Cp.E.)

Computer engineering is a rapidly changing and evolving discipline driven by new technological developments and marketplace conditions. To adequately train students to meet the challenges of the future and to assume leadership roles in the practice of computer engineering, the department offers an up-to-date curriculum that reflects new technological developments that have the potential for significantly impacting professional practice in the industry. The curriculum is constantly updated to incorporate new technological, scientific and economic developments.

Alternatively, students can earn a Bachelor of Science in Computer Engineering under the Software Engineering option, which is primarily focused on the systematic and disciplined development of software systems. This option focuses on the application of computer engineering and computer science principles and practices to the creation, operation, and maintenance of software applications and systems.

Educational Objectives

We expect that our alumni will exhibit the following:

1. Successful careers in dynamic and multidisciplinary technical fields with the ability to apply engineering practices within societal, global, and environmental contexts in an ethical manner.
2. Continuous professional improvement through life-long learning including but not limited to the admission to and completion of professional or graduate studies of the highest standard.

Degree Program

This degree program endeavors to achieve its objectives by imparting to its students the fundamental principles underlying modern computer engineering, along with the necessary skills and experiences to apply standard practices, methodologies and modern tools for solving computer engineering problems.

The computer engineering design sequence is spread throughout the curriculum, culminating in a two semester senior design project.

Graduates are expected to keep pace with this rapidly-evolving discipline. To this end, the faculty stress the importance of continued education and life-long professional development, by trying to instill in the students a sense of excitement for the prospects of this evolving technology, tempered by a strong sense of responsibility and concern for its potential impacts on society.

The Computer Engineering degree program has three options:

1. Computer Engineering Option (p. 646)
2. Software Engineering Option (p. 648)
3. Computer Engineering Pre-Med Option (p. 651)

These options require a common engineering core, which is followed by specialized courses in each area along with elective courses.

Dual Majors

Computer Engineering or Electrical Engineering students who want to do additional majors or minors must meet with their academic advisor to plan out their course work.

Computer Engineering students wanting to do Computer Science as a second major must:

1. Have an additional 6 advisor-approved technical credit hours beyond that required for the CE major, and
2. Take PHI 115.

Five-Year Dual B.S./M.S. Degrees

Purpose

Intended for exceptional students to acquire both a Bachelor of Science and a Master of Science degree simultaneously, in five years rather than the 4 plus 2 years (approximately) it normally requires.

Requirements

You must be an undergraduate student in the College of Engineering (CoE). A master's degree is considered the first professional degree in engineering. The Admission Committee will carefully review academic credentials for admission into our M.S. program. Students should discuss the program and possibility of entering with an academic adviser. Completed applications are due prior to the beginning of the final exams in your junior year.

Get the application form (it is different for US students and International students) from the CoE Office of Research and Graduate Studies, fill it out and then return it to the same office. The application fee is waived for currently enrolled students in the CoE.

Take the GRE Examination before the end of your senior year and attain a combined score of more than 1000 on the Verbal and Quantitative portions. You must have a cumulative GPA of at least 3.0 at the time of application.

For further information about admission into the graduate school see the Bulletin of the Graduate School (p. 1082).

For more detailed information about the CoE Five-Year programs, please refer to the College of Engineering Bulletin section (p. 597). The Department of Electrical and Computer Engineering has two Five-Year degree programs, B.S.Cp.E./M.S.E.C.E. and B.S.E.E./M.S.E.C.E. Each of these programs has two options listed below.

The B.S.Cp.E./M.S.E.C.E. program has two options:

1. Computer Engineering Option (p. 660)
2. Software Engineering Option (p. 663)

The B.S.E.E./M.S.E.C.E. program has two options:

1. Audio Engineering Option (p. 667)
2. Electrical Engineering Option (p. 670)

Departmental Laboratories

The Department maintains a variety of well-equipped laboratories and computers adequate for undergraduate instruction and graduate research. The laboratories and computer facilities include:

- Computer Vision and Image Processing Laboratory
- Digital Audio and Speech Processing Laboratory
- Digital Signal Processing Laboratory
- Digital Systems Design Laboratory
- Electronics Laboratory
- Electro-Optics and Micro-Devices Laboratory
- Embedded Systems Laboratory
- Fortinet Cyber Security Laboratory
- Information Technology Laboratory
- Microprocessor Laboratory
- Multimedia Laboratory (Arnold Center for Confluent Media Studies)
- Networks Laboratory
- Optics and Fiber Communications Laboratory
- Underwater Imaging Laboratory

Departmental Electives

Code	Title	Credit Hours
Humanities and Arts/People and Society Cognates		
Humanities and Arts (HA) Cognates, and People and Society (PS) Cognates can be selected from the appropriate University list, the link of which can be found in the Engineering section.		
EE Core Electives		
ECE 301	Electromagnetic Field Theory	3
ECE 308	Linear Control Systems	3
ECE 404	Communication Systems	3
ECE 405	Solid-State Electronics	3
ECE 436	Digital Signal Processing	3
ECE Electives		
Select from all ECE elective classes at the 300 level or above.		
Technical Electives		
Select from all ECE or any 200 level or above CoE courses, as well as courses from Math, Physics, Chemistry, Biology, Computer Science, selected in consultation with, and with the approval of, the academic advisor.		
Audio Engineering Electives		
Select from the following set of courses:		
MMI 361	Acoustics	3
MMI 504	Audio Signal Processing III	3
MMI 505	Current Trends in Music Engineering I	3
MMI 508	Current Trends in Music Engineering III	3
MMI 510	Computational Psychoacoustics	3
MTC 506	Digital Editing and Sequencing	3
EE Design Elective		
Select one of the following:		
ECE 417	Embedded Microprocessor System Design	3
ECE 454	Digital System Design and Testing	3
ECE 505	Semiconductor Photonic Devices	3
ECE 532	VLSI Systems	3
or any ECE course approved by the Academic Advisor		
Basic Science (/Lab) Electives		
Basic Science (/Lab) Electives are selected in consultation with the Academic Advisor from courses in Biology, Chemistry, Environmental Science, Geological Science, Marine Science, or Physics.		

Computer Engineering (CE) Technical Electives

Select from all ECE at any 300 level or above in consultation with, and with the approval of, the academic advisor. Additionally, one elective course may be selected from the following computer science courses:

CSC 317	Data Structures and Algorithm Analysis	3
CSC 427	Theory of Computing	3
CSC 518	Interpreters and Compiler Theory	3
CSC 529	Introduction to Computer Graphics	3
CSC 540	Algorithm Design and Analysis	3
CSC 555	Multimedia Systems	3

Software Engineering (SE) Technical Electives

Select from all ECE at any 300 level or above in consultation with, and with the approval of, the academic advisor. Additionally, one elective course may be selected from the following computer science courses:

CSC 329	Introduction to Game Programming	3
CSC 424	Computer Networks	3
CSC 427	Theory of Computing	3
CSC 507	Data Security and Cryptography	3
CSC 529	Introduction to Computer Graphics	3
CSC 540	Algorithm Design and Analysis	3
CSC 545	Introduction to Artificial Intelligence	3
CSC 547	Computational Geometry	3
CSC 555	Multimedia Systems	3

Advanced Writing and Communication Skills

Electrical and Computer Engineering students satisfy the University's Advanced Writing and Communication Skills requirement by completing a set of classroom, laboratory, and design procedures where they learn effective oral, graphical and technical writing skills. Electrical and Computer Engineering students acquire Advanced Writing and Communication skills in the following core courses: ECE 212 and ECE 481.

Internship Program

The Department of Electrical and Computer Engineering encourages its students to take advantage of the College of Engineering Internship Cooperative Program with Industry.

Students may pursue an internship either on a part-time or a full-time arrangement. Students who wish to intern full-time for one semester or for twelve weeks in the summer may apply to earn as much as 3 credit hours that could be applied to their degree requirement as a Technical Elective. Students interested in such a possibility need to submit a proposal to the ECE Department describing the type of work they expect to accomplish approved by the industrial supervisor. If the proposal is approved the student will be assigned a Faculty Supervisor and will be able to register under ECE 499. At the end of the Internship Program, the student is expected to submit to the ECE Department a technical report with comments from the student industrial supervisor. The Faculty advisor will review the report and submit the appropriate grade for ECE 499.

NOTE 1: An ECE course for which another ECE course is a prerequisite may not be taken unless the student has completed the ECE prerequisite course with a grade of C- or better.

NOTE 2: All ECE courses at the 300 level or above must be taken at UM.

Departmental Honors

See College of Engineering (p. 592) section.

Majors/Options in Electrical and Computer Engineering

Electrical Engineering

- B.S. in Electrical Engineering (p. 656)
- B.S. in Electrical Engineering - Audio Engineering Option (p. 653)
- Electrical Engineering - Pre-Medical Option (p. 658)

Computer Engineering

- B.S. in Computer Engineering (p. 646)
- B.S. in Computer Engineering - Software Engineering Option (p. 648)

- Computer Engineering - Pre-Medical Option (p. 651)

Dual B.S./M.S. Degrees in Electrical and Computer Engineering

- B.S./M.S. in Electrical Engineering (p. 670)- Five Year Dual Degree Program (p. 670)
- B.S./M.S. in Electrical Engineering (p. 670) (p. 667)- Audio Engineering Option (p. 667) - (p. 667)Five Year Dual Degree Program (p. 670)
- B.S./M.S. (p. 670) in (p. 660)Computer Engineering (p. 660)- (p. 660)Five Year Dual Degree Program (p. 670)
- B.S./M.S. in (p. 663)Computer Engineering - Software Engineering Option (p. 663) - (p. 663)Five Year Dual Degree Program (p. 670)

Minors in Electrical and Computer Engineering

- Electrical Engineering (p. 674)
- Computer Engineering (p. 673)

B.S. in Computer Engineering

Computer engineering is concerned with the characterization, design, analysis and implementation of hardware, software and the overall architecture of computers and computer systems, and with the development of applications enabled by such configurations. This ranges from embedded microprocessors and associated software supporting a variety of familiar devices, to large-scale distributed computer systems interconnected by high-speed telecommunication networks controlled by sophisticated communication protocols. Since modern electronic computing systems are digital in nature, the program provides in-depth coverage of a range of topics dealing with digital information processing systems. Among the topics covered are digital system design, computer organization and architecture, operating systems, software engineering, programming, data structures, algorithms, database systems, microprocessor-based systems, and embedded systems.

The department also offers electives in digital communications, computer networks, wireless and mobile networks, very large scale integration (VLSI), microelectronics, nanotechnology, application specific integrated circuits (ASIC), microelectromechanical systems (MEMS), image processing and computer vision, artificial intelligence, machine learning, data mining, agent technology, and cybersecurity (application, information, network, systems security etc.).

Curriculum Requirements

Code	Title	Credit Hours
Common Engineering Requirements		
ECE 111	Introduction to Engineering I	3
ECE 112	Introduction to Engineering II	2
ECE 118	Introduction to Programming	3
ECE 201	Electrical Circuit Theory	3
ECE 202	Electronics I	3
ECE 203	Electrical Circuits Laboratory	1
ECE 211	Logic Design	3
ECE 212	Processors: Hardware, Software, and Interfacing	3
ECE 218	Data Structures	3
ECE 315	Digital Design Laboratory	1
ECE 316	Structured Digital Design	1
ECE 318	Algorithms	3
ECE 322	Systems Programming	3
ECE 414	Computer Organization and Design	3
ECE 417	Embedded Microprocessor System Design	3
ECE 421	Computer Operating Systems	3
ECE 467	Database Design and Management	3
ECE 481	Senior Project I	1
ECE 482	Senior Project II	2
Engineering and Technical Electives		
ECE 206	Circuits, Signals, and Systems	3
ECE 302	Electronics II	3
ECE 303	Electronics Laboratory	1
ECE 454	Digital System Design and Testing	3
ECE 455	Design-for-Testability Laboratory	1

CE Technical Electives	12
Other Courses	
Math & Basic Science Credit Hours	35
General Education Credit Hours	24
Total Credit Hours	129

Suggested Plan of Study

Course	Title	Credit Hours
Freshman Year		
Fall		
ECE 111	Introduction to Engineering I	3
ECE 118	Introduction to Programming	3
ENG 105	English Composition I	3
MTH 151	Calculus I for Engineers	5
	Credit Hours	14
Spring		
ECE 112	Introduction to Engineering II	2
ECE 218	Data Structures	3
ENG 107	English Composition II: Science and Technology	3
MTH 162	Calculus II	4
PHY 205	University Physics I	3
	Credit Hours	15
Sophomore Year		
Fall		
ECE 211	Logic Design	3
ECE 318	Algorithms	3
MTH 210	Introduction to Linear Algebra	3
PHY 206 or 207	University Physics II or University Physics III	3
PHY 208 or 209	University Physics II Lab or University Physics III Lab	1
HA Cognate (Humanities and Arts Elective) ¹		3
	Credit Hours	16
Spring		
ECE 201	Electrical Circuit Theory	3
ECE 212	Processors: Hardware, Software, and Interfacing	3
ECE 315	Digital Design Laboratory	1
ECE 310 or IEN 310	Introduction to Engineering Probability or Introduction to Engineering Probability	3
MTH 309	Discrete Mathematics I	3
PS Cognate (People and Society Elective) ¹		3
	Credit Hours	16
Junior Year		
Fall		
ECE 202	Electronics I	3
ECE 203	Electrical Circuits Laboratory	1
ECE 316	Structured Digital Design	1
ECE 322	Systems Programming	3
Basic Science Elective ¹		3
Basic Science Lab Elective ¹		1
HA Cognate (Humanities and Arts Elective) ¹		3
	Credit Hours	15

Spring		
ECE 302	Electronics II	3
ECE 454	Digital System Design and Testing	3
ECE 455	Design-for-Testability Laboratory	1
ECE 467	Database Design and Management	3
MTH 311	Introduction to Ordinary Differential Equations	3
Basic Science Elective ¹		3
PS Cognate (People and Society Elective) ¹		3
	Credit Hours	19
Senior Year		
Fall		
ECE 206	Circuits, Signals, and Systems	3
ECE 303	Electronics Laboratory	1
ECE 414	Computer Organization and Design	3
ECE 417	Embedded Microprocessor System Design	3
ECE 481	Senior Project I ²	1
CE Technical Elective ¹		3
HA Cognate (Adv. HA. Elective) ¹		3
	Credit Hours	17
Spring		
ECE 421	Computer Operating Systems	3
ECE 482	Senior Project II	2
CE Technical Elective ¹		3
CE Technical Elective ¹		3
CE Technical Elective ¹		3
PS Cognate (Adv. PS Elective) ¹		3
	Credit Hours	17
	Total Credit Hours	129

¹ See description of electives under the Departmental Electives Section.

² Offered only in the Fall semester.

B.S. in Computer Engineering - Software Engineering Option

Software Engineering is concerned primarily with the systematic and disciplined approach to developing software systems. It requires the application of both computer engineering and computer science principles and practices to the creation, operation, and maintenance of software systems and applications. The Software Engineering Option of the Bachelor of Science in Computer Engineering degree at the University of Miami is a unique interdisciplinary program developed and administered collaboratively by the Department of Electrical and Computer Engineering and the Department of Computer Science.

This Option prepares students for successful careers in software engineering. Software systems are becoming increasingly complex, and emerging technologies are pushing the boundaries of reusable components and software quality assurance. To prepare students to meet these challenges, this Option establishes a solid foundation of software system fundamentals, coupled with strong hands-on experience and an understanding of professional practice and conduct.

In addition to the core curriculum in software engineering, students are introduced to the paradigms of real-time, adaptive, and collaborative software systems, through a wide range of technical elective courses from both the Department of Electrical and Computer Engineering and the Department of Computer Science. Students may also use courses from other departments with academic advisor approval. The technical electives allow students to apply the knowledge they have gained to different application areas. This provides valuable hands-on experience in contemporary application areas, which enhances the students' potential career development opportunities.

Students pursuing the Software Engineering Option of the Bachelor of Science in Computer Engineering degree must earn at least 15 credit hours in Computer Science as part of their degree requirements.

Curriculum Requirements

Code	Title	Credit Hours
Common Engineering Requirements		
ECE 111	Introduction to Engineering I	3
ECE 112	Introduction to Engineering II	2
ECE 118	Introduction to Programming	3
ECE 201	Electrical Circuit Theory	3
ECE 202	Electronics I	3
ECE 203	Electrical Circuits Laboratory	1
ECE 211	Logic Design	3
ECE 212	Processors: Hardware, Software, and Interfacing	3
ECE 218	Data Structures	3
ECE 315	Digital Design Laboratory	1
ECE 316	Structured Digital Design	1
ECE 318	Algorithms	3
ECE 322	Systems Programming	3
ECE 414	Computer Organization and Design	3
ECE 417	Embedded Microprocessor System Design	3
ECE 481	Senior Project I	1
ECE 482	Senior Project II	2
Engineering and Technical Electives		
ECE 412	Software Engineering and Architecture	3
ECE 413	Software Design and Verification	3
ECE 421	Computer Operating Systems	3
or CSC 421	Principles of Computer Operating Systems	
ECE 467	Database Design and Management	3
or CSC 423	Database Systems	
ECE 470	Network Client-Server Programming	3
SE Technical Electives		9
Other Courses		
Computer Science Credit Hours		
CSC 317	Data Structures and Algorithm Analysis	3
CSC 419	Programming Languages	3
Math & Basic Science Credit Hours		
General Education Credit Hours		
Total Credit Hours		127

Suggested Plan of Study

Course	Title	Credit Hours
Freshman Year		
Fall		
ECE 111	Introduction to Engineering I	3
ECE 118	Introduction to Programming	3
ENG 105	English Composition I	3
MTH 151	Calculus I for Engineers	5
Credit Hours		14
Spring		
ECE 112	Introduction to Engineering II	2
ECE 218	Data Structures	3
ENG 107	English Composition II: Science and Technology	3
MTH 162	Calculus II	4

PHY 205	University Physics I	3
	Credit Hours	15
Sophomore Year		
Fall		
ECE 211	Logic Design	3
ECE 318	Algorithms	3
MTH 210	Introduction to Linear Algebra	3
PHY 206 or 207	University Physics II or University Physics III	3
PHY 208 or 209	University Physics II Lab or University Physics III Lab	1
PS Cognate (People and Society Elective) ¹		3
	Credit Hours	16
Spring		
ECE 201	Electrical Circuit Theory	3
ECE 212	Processors: Hardware, Software, and Interfacing	3
ECE 310 or IEN 310	Introduction to Engineering Probability or Introduction to Engineering Probability	3
ECE 315	Digital Design Laboratory	1
MTH 309	Discrete Mathematics I	3
HA Cognate(Humanities and Arts Elective) ¹		3
	Credit Hours	16
Junior Year		
Fall		
ECE 202	Electronics I	3
ECE 203	Electrical Circuits Laboratory	1
ECE 322	Systems Programming	3
ECE 412	Software Engineering and Architecture	3
Basic Science Elective ¹		3
Basic Science Lab Elective ¹		1
PS Cognate (People and Society Elective) ¹		3
	Credit Hours	17
Spring		
ECE 316	Structured Digital Design	1
ECE 413	Software Design and Verification	3
ECE 421 or CSC 421	Computer Operating Systems or Principles of Computer Operating Systems	3
ECE 467 or CSC 423	Database Design and Management ² or Database Systems	3
Basic Science Elective ¹		3
HA Cognate (Humanities and Arts Elective) ¹		3
	Credit Hours	16
Senior Year		
Fall		
ECE 414	Computer Organization and Design	3
ECE 417	Embedded Microprocessor System Design	3
ECE 481	Senior Project I ³	1
CSC 317	Data Structures and Algorithm Analysis	3
SE Technical Elective ¹		3
PS Cognate (Adv. PS Elective) ¹		3
	Credit Hours	16
Spring		
ECE 470	Network Client-Server Programming	3

ECE 482	Senior Project II	2
CSC 419	Programming Languages	3
SE Technical Elective ¹		3
SE Technical Elective ¹		3
HA Cognate (Adv. HA Elective) ¹		3
	Credit Hours	17
	Total Credit Hours	127

¹ See description of electives under the Departmental Electives Section.

² With advisor approval.

³ Offered only in the Fall semester.

* **Students must earn at least 15 credit hours in Computer Science (CSC)**

** **Students must have at least 32 credit hours of Math and Science**

Computer Engineering - Pre-Med Option

Our Department offers a pre-medical option that allows motivated students to obtain the rigorous education of a bachelors degree in computer engineering while simultaneously completing the basic science requirements necessary for applying to medical or dental school. Much of the excitement in engineering involves applications of electrical and computer engineering to problems in health, such as the development of nano-scale biosensors, or the signal processing analysis of DNA sequences or the development and/or use of new hardware and software tools to better serve both medical professionals and patients. With the rapid advancement and application of technology in the medical field, the pre-med option ensures that students learn and understand the fundamentals of Electrical and Computer Engineering while preparing them for entry into either medical school, advanced graduate study, or industry.

Curriculum Requirements

Code	Title	Credit Hours
ECE 111	Introduction to Engineering I	3
ECE 112	Introduction to Engineering II	2
ECE 118	Introduction to Programming	3
ECE 201	Electrical Circuit Theory	3
ECE 202	Electronics I	3
ECE 203	Electrical Circuits Laboratory	1
ECE 211	Logic Design	3
ECE 212	Processors: Hardware, Software, and Interfacing	3
ECE 218	Data Structures	3
ECE 315	Digital Design Laboratory	1
ECE 316	Structured Digital Design	1
ECE 318	Algorithms	3
ECE 322	Systems Programming	3
ECE 414	Computer Organization and Design	3
ECE 417	Embedded Microprocessor System Design	3
ECE 421	Computer Operating Systems	3
ECE 467	Database Design and Management	3
ECE 481	Senior Project I	1
ECE 482	Senior Project II	2
CE Core Elective		3
Engineering and Technical Electives		
CE Elective		6
Other Courses		
Math & Basic Science Credit Hours		33
Biology and Chemistry Credit hours		25
General Education Credit hours		24
Total Credit Hours		138

Suggested Plan of Study

Course	Title	Credit Hours
Freshman Year		
Fall		
ECE 111	Introduction to Engineering I	3
ECE 118	Introduction to Programming	3
ENG 105	English Composition I	3
MTH 151	Calculus I for Engineers	5
PHY 205	University Physics I	3
	Credit Hours	17
Spring		
ECE 112	Introduction to Engineering II	2
ECE 218	Data Structures	3
ENG 107	English Composition II: Science and Technology	3
MTH 162	Calculus II	4
PHY 206	University Physics II	3
PHY 207	University Physics III	3
	Credit Hours	18
Sophomore Year		
Fall		
ECE 211	Logic Design	3
ECE 318	Algorithms	3
PHY 208	University Physics II Lab	1
CHM 111	Principles of Chemistry I	3
CHM 113	Chemistry Laboratory I	1
BIL 150	General Biology	4
BIL 151	General Biology Laboratory	1
	Credit Hours	16
Spring		
ECE 212	Processors: Hardware, Software, and Interfacing	3
ECE 315	Digital Design Laboratory	1
MTH 210	Introduction to Linear Algebra	3
PHY 209	University Physics III Lab	1
CHM 112	Principles of Chemistry II	3
CHM 114	Chemistry Laboratory II	1
BIL 160	Evolution and Biodiversity	4
BIL 161	Evolution and Biodiversity Laboratory	1
	Credit Hours	17
Junior Year		
Fall		
ECE 201	Electrical Circuit Theory	3
ECE 316	Structured Digital Design	1
ECE 322	Systems Programming	3
MTH 309	Discrete Mathematics I	3
CHM 201	Organic Chemistry I (Lecture)	3
CHM 202	Organic Chemistry II (Lecture)	3
Arts and Humanities Cognate		3
	Credit Hours	19
Spring		
ECE 202	Electronics I	3
ECE 203	Electrical Circuits Laboratory	1

CHM 205	Organic Chemistry Laboratory I	1
ECE 467	Database Design and Management	3
CHM 206	Organic Chemistry Laboratory II	1
CE Core Elective ²		3
People and Society Cognate ⁴		3
	Credit Hours	15
Senior Year		
Fall		
ECE 414	Computer Organization and Design	3
ECE 417	Embedded Microprocessor System Design	3
ECE 481	Senior Project I	1
CE Elective ¹		3
Advanced Bioscience Elective ³		3
People and Society Cognate ⁴		3
Arts and Humanities Cognate ⁴		3
	Credit Hours	19
Spring		
ECE 310	Introduction to Engineering Probability	3
ECE 421	Computer Operating Systems	3
ECE 482	Senior Project II	2
CE Elective ¹		3
People and Society Cognate ⁴		3
Arts and Humanities Cognate ⁴		3
	Credit Hours	17
	Total Credit Hours	138

¹ See description of electives under the Departmental Electives Section.

² CE Core Elective is selected from ECE 302, ECE 454/ECE 455, ECE 412

³ Advanced Bioscience Elective is to be chosen from BMB 260 , BIL 250, BIL 255, BIL 268, or BMB 401, in consultation with their academic advisor. Students should verify admission requirements of their medical school of interest to verify Adv. Bioscience requirements.

⁴ Students in the Premed Concentration are highly encouraged to choose cognates that include PSY 110 and SOC 101

B.S. in Electrical Engineering - Audio Engineering Option

Audio Engineering at the University of Miami was established 1992. The program brings together faculty expertise from Electrical and Computer Engineering and from the Frost School of Music. It uniquely meets the needs of industry, training professionals with solid foundations in technical areas where sound and acoustics play a key role. Students gain theoretical knowledge from engineering and music, along with analytical, technical and design skills that can only be acquired with an engineering degree.

Fully ABET-accredited, the Audio Engineering curriculum combines traditional electrical engineering areas such as electronics, digital systems, microprocessors and digital signal processing with audio studies in acoustics, digital speech and audio, and acoustic transducers. Students work in modern laboratory facilities where they can experiment with electronics, digital design, microprocessors, audio recording, audio synthesis and acoustics. UM Audio Engineering graduates are audio-specialized electrical engineers who are highly sought-after by the industry.

During its 26 successful years, Audio Engineering at UM has produced an impressive group of alumni successful careers in music, gaming and entertainment, telecommunications, the analog and digital electronics, computer and software industries, and in the biomedical systems and instrumentation industry. Many have pursued graduate degrees at other top universities. The program implements continuous improvements, including innovative teaching and hands-on audio engineering design projects, as well as ever-deeper links with industry.

Curriculum Requirements

Code	Title	Credit Hours
Common Engineering Requirements		
ECE 111	Introduction to Engineering I	3
ECE 112	Introduction to Engineering II	2
ECE 118	Introduction to Programming	3

ECE 201	Electrical Circuit Theory	3
ECE 202	Electronics I	3
ECE 203	Electrical Circuits Laboratory	1
ECE 206	Circuits, Signals, and Systems	3
ECE 211	Logic Design	3
ECE 212	Processors: Hardware, Software, and Interfacing	3
ECE 218	Data Structures	3
ECE 302	Electronics II	3
ECE 303	Electronics Laboratory	1
ECE 315	Digital Design Laboratory	1
ECE 316	Structured Digital Design	1
ECE 336	Discrete-Time Signals and Systems	3
ECE 481	Senior Project I	1
ECE 482	Senior Project II	2
EE Core Electives		6
ECE Design Elective		3
Engineering and Technical Electives		
ECE 437	Real-Time Digital Signal Processing Laboratory	1
ECE 502	Engineering Acoustics	3
ECE 540	Digital Speech and Audio Processing	3
Audio Engineering or Technical Electives		6
Other Courses		
MMI (Music Media) Credit Hours		13
MTC (Music Theory) Credit Hours		3
Math & Basic Science Credit Hours		33
General Education Credit Hours		24
Total Credit Hours		134

Suggested Plan of Study

Course	Title	Credit Hours
Freshman Year		
Fall		
ECE 111	Introduction to Engineering I	3
ENG 105	English Composition I	3
MTH 151	Calculus I for Engineers	5
PHY 205	University Physics I	3
MMI 201	Introduction to Music Recording	3
	Credit Hours	17
Spring		
ECE 112	Introduction to Engineering II	2
ECE 118	Introduction to Programming	3
ENG 107	English Composition II: Science and Technology	3
MTH 162	Calculus II	4
PHY 206	University Physics II	3
PHY 208	University Physics II Lab	1
	Credit Hours	16
Sophomore Year		
Fall		
ECE 201	Electrical Circuit Theory	3
ECE 218	Data Structures	3
MTH 311	Introduction to Ordinary Differential Equations	3
PHY 207	University Physics III	3

PHY 209	University Physics III Lab	1
HA Cognate (Humanities and Arts Elective) ²		3
Credit Hours		16
Spring		
ECE 202	Electronics I	3
ECE 203	Electrical Circuits Laboratory	1
ECE 206	Circuits, Signals, and Systems	3
ECE 211	Logic Design	3
CHM 151	Chemistry for Engineers	3
CHM 153	Chemistry Laboratory for Engineers	1
MTH 210	Introduction to Linear Algebra	3
Credit Hours		17
Junior Year		
Fall		
ECE 302	Electronics II	3
ECE 303	Electronics Laboratory	1
ECE 315	Digital Design Laboratory	1
ECE 336	Discrete-Time Signals and Systems	3
ECE 310 or IEN 310	Introduction to Engineering Probability or Introduction to Engineering Probability	3
MMI 502	Audio Signal Processing I	3
HA Cognate ²		3
Credit Hours		17
Spring		
ECE 212	Processors: Hardware, Software, and Interfacing	3
ECE 316	Structured Digital Design	1
ECE 436	Digital Signal Processing	3
EE Core Elective ¹		3
MMI 172	Audio Design Workshop III	1
MMI 503	Audio Signal Processing II	3
HA Cognate (Adv. HA Elective) ²		3
Credit Hours		17
Senior Year		
Fall		
ECE 437	Real-Time Digital Signal Processing Laboratory	1
ECE 481	Senior Project I	1
ECE 502	Engineering Acoustics	3
ECE Design Elective ¹		3
Audio Engineering or Tech. Elective ¹		3
Audio Engineering Elective ¹		3
PS Cognate (People and Society Elective) ¹		3
Credit Hours		17
Spring		
ECE 482	Senior Project II	2
ECE 540	Digital Speech and Audio Processing	3
MMI 436	Audio Postproduction ⁴	3
MMI 501	Transducer Theory	3
PS Cognate (People and Society Elective) ¹		3
PS Cognate (Adv. PS Elective) ¹		3
Credit Hours		17
Total Credit Hours		134

- 1 See description of electives under the Electrical and Computer Engineering Section.
- 2 Recommended a cognate that includes a Musicology Elective.
- 3 Offered only in the Fall semester.
- 4 Note that MMI 504 could be substituted for MMI 436.

B.S. in Electrical Engineering

Electrical Engineering is concerned with the design, analysis and implementation of a variety of systems, components and devices, primarily of an electrical or electronic nature, which form the cornerstone of our complex and technologically oriented society. For example, this ranges from small-scale integrated electronics and photonics systems and devices, the technological drivers of the information technology revolution, to large-scale electrical power systems and power generators, which supply the nation's energy needs and form the basis for sustained economic growth. Furthermore, Electrical engineering also involves the design of micro and nano devices, integrated circuits, hardware, and large-scale systems for telecommunications and networking that engender our increasingly networked life. Therefore, electrical engineering is a vast and rich discipline involved in the design of systems, components, and devices for a variety of applications and areas such as portable electronics (e.g., cell phones), communications and networks, biomedical sensing and medical systems, energy harvesting, next generation displays, lasers, optical and wireless transmission, audio/video compression and recognition, radar and tracking/guidance systems, and remote sensing systems.

The University of Miami's electrical engineering curriculum is focused on the fundamentals of the discipline, in the first two years building a firm foundation in mathematics, basic science, and basic engineering principles such as basic circuits, electronics, software and programming, computer hardware, and signal and system analysis. The students build upon this foundation through more advanced courses and focused specialization, culminating in a capstone major design experience. We continually update our curriculum and laboratories to incorporate new scientific and technological developments, and industry practices. Our graduates have gone on to successful careers in industry, or to graduate school in science and engineering, as well as law school, business school, and medical school.

Curriculum Requirements

Code	Title	Credit Hours
Common Engineering Requirements		
ECE 111	Introduction to Engineering I	3
ECE 112	Introduction to Engineering II	2
ECE 118	Introduction to Programming	3
ECE 201	Electrical Circuit Theory	3
ECE 202	Electronics I	3
ECE 203	Electrical Circuits Laboratory	1
ECE 206	Circuits, Signals, and Systems	3
ECE 211	Logic Design	3
ECE 212	Processors: Hardware, Software, and Interfacing	3
ECE 218	Data Structures	3
ECE 302	Electronics II	3
ECE 303	Electronics Laboratory	1
ECE 315	Digital Design Laboratory	1
ECE 316	Structured Digital Design	1
ECE 336	Discrete-Time Signals and Systems	3
ECE 481	Senior Project I	1
ECE 482	Senior Project II	2
EE Core Electives		6
ECE Design Elective		3
Engineering and Technical Electives		
ECE 301	Electromagnetic Field Theory	3
ECE Electives		9
Technical Electives		9
Other Courses		
Math & Basic Science Credit Hours		33
General Education Credit Hours		24
Total Credit Hours		126

Suggested Plan of Study

Course	Title	Credit Hours
Freshman Year		
Fall		
ECE 111	Introduction to Engineering I	3
ENG 105	English Composition I	3
MTH 151	Calculus I for Engineers	5
PHY 205	University Physics I	3
	Credit Hours	14
Spring		
ECE 112	Introduction to Engineering II	2
ECE 118	Introduction to Programming	3
ENG 107	English Composition II: Science and Technology	3
MTH 162	Calculus II	4
PHY 206	University Physics II	3
PHY 208	University Physics II Lab	1
	Credit Hours	16
Sophomore Year		
Fall		
ECE 201	Electrical Circuit Theory	3
ECE 218	Data Structures	3
MTH 311	Introduction to Ordinary Differential Equations	3
PHY 207	University Physics III	3
PHY 209	University Physics III Lab	1
HA Cognate (Humanities and Arts Elective) ¹		3
	Credit Hours	16
Spring		
ECE 202	Electronics I	3
ECE 203	Electrical Circuits Laboratory	1
ECE 206	Circuits, Signals, and Systems	3
ECE 211	Logic Design	3
MTH 210	Introduction to Linear Algebra	3
CHM 151	Chemistry for Engineers	3
CHM 153	Chemistry Laboratory for Engineers	1
	Credit Hours	17
Junior Year		
Fall		
ECE 301	Electromagnetic Field Theory	3
ECE 302	Electronics II	3
ECE 303	Electronics Laboratory	1
ECE 315	Digital Design Laboratory	1
ECE 336	Discrete-Time Signals and Systems	3
ECE 310 or IEN 310	Introduction to Engineering Probability or Introduction to Engineering Probability	3
PS Cognate (People and Society Elective) ¹		3
	Credit Hours	17
Spring		
ECE 212	Processors: Hardware, Software, and Interfacing	3
ECE 316	Structured Digital Design	1
EE Core Elective ¹		3
EE Core Elective ¹		3
ECE Elective ¹		3

PS Cognate (People and Society Elective) ¹		3
	Credit Hours	16
Senior Year		
Fall		
ECE 481	Senior Project I	1
ECE Elective ¹		3
ECE Elective ¹		3
ECE Design Elective ¹		3
Technical Elective ¹		3
PS Cognate (Adv. PS Elective) ¹		3
	Credit Hours	16
Spring		
ECE 482	Senior Project II	2
Technical Elective ¹		3
Technical Elective ¹		3
HA Cognate (Humanities and Arts Elective) ¹		3
HA Cognate (Adv. HA Elective) ¹		3
	Credit Hours	14
	Total Credit Hours	126

¹ See description of electives under the Departmental Electives Section.

² Offered only in the Fall semester.

Electrical Engineering - Pre-Med Option

Our Department offers a pre-medical option that allows motivated students to obtain the rigorous education of a bachelors degree in electrical engineering while simultaneously completing the basic science requirements necessary for applying to medical or dental school. Much of the excitement in engineering involves applications of electrical and computer engineering to problems in health, such as the development of nano-scale biosensors, or the signal processing analysis of DNA sequences. The pre-med option allows students to learn the fundamentals of Electrical and Computer Engineering while preparing them for entry into either medical school, advanced graduate study, or industry.

Curriculum Requirements

Code	Title	Credit Hours
ECE 111	Introduction to Engineering I	3
ECE 112	Introduction to Engineering II	2
ECE 118	Introduction to Programming	3
ECE 201	Electrical Circuit Theory	3
ECE 202	Electronics I	3
ECE 203	Electrical Circuits Laboratory	1
ECE 206	Circuits, Signals, and Systems	3
ECE 211	Logic Design	3
ECE 212	Processors: Hardware, Software, and Interfacing	3
ECE 218	Data Structures	3
ECE 302	Electronics II	3
ECE 303	Electronics Laboratory	1
ECE 315	Digital Design Laboratory	1
ECE 316	Structured Digital Design	1
ECE 336	Discrete-Time Signals and Systems	3
ECE 481	Senior Project I	1
ECE 482	Senior Project II	2
EE Core Electives		6
ECE Design Elective		3
Engineering and Technical Electives		

ECE Elective	3
Technical Elective	3
Other Courses	
Math & Basic Science Credit Hours	33
Biology and Chemistry Credit Hours	25
General Education Credit Hours	24
Total Credit Hours	136

Suggested Plan of Study

Course	Title	Credit Hours
Freshman Year		
Fall		
ECE 111	Introduction to Engineering I	3
ENG 105	English Composition I	3
MTH 151	Calculus I for Engineers	5
PHY 205	University Physics I	3
AH Cognate (Humanities and Arts Elective) ⁴		3
	Credit Hours	17
Spring		
ECE 112	Introduction to Engineering II	2
ENG 107	English Composition II: Science and Technology	3
MTH 162	Calculus II	4
PHY 206	University Physics II	3
PHY 208	University Physics II Lab	1
CHM 111	Principles of Chemistry I	3
CHM 113	Chemistry Laboratory I	1
	Credit Hours	17
Sophomore Year		
Fall		
ECE 201	Electrical Circuit Theory	3
MTH 311	Introduction to Ordinary Differential Equations	3
PHY 207	University Physics III	3
CHM 112	Principles of Chemistry II	3
CHM 114	Chemistry Laboratory II	1
BIL 150	General Biology	4
BIL 151	General Biology Laboratory	1
	Credit Hours	18
Spring		
ECE 118	Introduction to Programming	3
ECE 202	Electronics I	3
ECE 203	Electrical Circuits Laboratory	1
PHY 209	University Physics III Lab	1
CHM 201	Organic Chemistry I (Lecture)	3
CHM 205	Organic Chemistry Laboratory I	1
BIL 160	Evolution and Biodiversity	4
BIL 161	Evolution and Biodiversity Laboratory	1
	Credit Hours	17
Junior Year		
Fall		
ECE 206	Circuits, Signals, and Systems	3
ECE 211	Logic Design	3
ECE 218	Data Structures	3

ECE 302	Electronics II	3
ECE 303	Electronics Laboratory	1
CHM 202	Organic Chemistry II (Lecture)	3
CHM 206	Organic Chemistry Laboratory II	1
	Credit Hours	17
Spring		
ECE 212	Processors: Hardware, Software, and Interfacing	3
ECE 315	Digital Design Laboratory	1
ECE 336	Discrete-Time Signals and Systems	3
Advanced Bioscience Elective ²		3
MTH 210	Introduction to Linear Algebra	3
PS Cognate (People and Society Elective) ⁴		3
	Credit Hours	16
Senior Year		
Fall		
ECE 310	Introduction to Engineering Probability	3
ECE 316	Structured Digital Design	1
ECE 481	Senior Project I	1
EE Elective ¹		3
EE Elective ¹		3
People and Society Cognate ⁴		3
Arts and Humanities Cognate ⁴		3
	Credit Hours	17
Spring		
ECE 482	Senior Project II	2
EE Design Elective ¹		3
ECE Elective		3
Technical Elective ¹		3
Arts and Humanities Cognate ⁴		3
People and Society Cognate ⁴		3
	Credit Hours	17
	Total Credit Hours	136

¹ See description of electives under the Departmental Electives Section.

² Advanced Bioscience Elective is to be chosen from BMB 260 BIL 250, BIL 255, BIL 268, or BMB 401, in consultation with their academic advisor. Students should verify admission requirements of their medical school of interest to verify Adv. Bioscience requirements.

³ Offered only in the Fall semester.

⁴ Students in the Premed Concentration are highly encouraged to choose cognates that include PSY 110 and SOC 101.

B.S./M.S. in Computer Engineering

This is a structured and integrated program of 154/156 credit hours (depending on the undergraduate option). Students may pursue this program from either of the undergraduate options available for Computer Engineering Majors. It includes two required courses, ECE 715 and ECE 716 as well as the selection of advanced technical electives.

- At least 30 credit hours must be at the graduate (600 or 700) level. Of these, at least 12 credit hours must be in courses open to graduate students only (700 level).
- Interested Computer Engineering juniors with cumulative GPA above 3.0 may declare their intent to participate by submitting an official application to the Departmental Graduate Committee for admission into the M.S.E.C.E. portion of the program.
- A student wishing to drop out of the five-year program without the M.S.E.C.E. degree could receive the B.S.Cp.E. degree after completing all its requirements, including the senior design project.
- All students must take the Graduate Record Examination (G.R.E.) before beginning their fifth-year courses.
- To qualify for the M.S.E.C.E. degree, students must meet all the pertinent Graduate School requirements, including an acceptable GRE score and a minimum of 3.0 GPA in the 30 credit hours applied towards the M.S.E.C.E. degree.

- The student is awarded both the B.S.Cp.E. and the M.S.E.C.E. degrees after the requirements for both degrees are satisfied.

For more information about the BS/MS Program please refer to the College of Engineering Section (p. 597).

Curriculum Requirements

Code	Title	Credit Hours
Engineering Courses		
ECE 111	Introduction to Engineering I	3
ECE 118	Introduction to Programming	3
ECE 112	Introduction to Engineering II	2
ECE 201	Electrical Circuit Theory	3
ECE 202	Electronics I	3
ECE 203	Electrical Circuits Laboratory	1
ECE 206	Circuits, Signals, and Systems	3
ECE 211	Logic Design	3
ECE 212	Processors: Hardware, Software, and Interfacing	3
ECE 218	Data Structures	3
ECE 302	Electronics II	3
ECE 303	Electronics Laboratory	1
ECE 315	Digital Design Laboratory	1
ECE 316	Structured Digital Design	1
ECE 318	Algorithms	3
ECE 322	Systems Programming	3
ECE 414	Computer Organization and Design	3
ECE 417	Embedded Microprocessor System Design	3
ECE 421	Computer Operating Systems	3
ECE 454	Digital System Design and Testing	3
ECE 455	Design-for-Testability Laboratory	1
ECE 467	Database Design and Management	3
ECE 481	Senior Project I	1
ECE 715	M.S. Design Project I	3
ECE 716	M.S. Design Project II	3
ECE Technical Elective ¹		3
SE 600 Level Electives ^{1,3}		6
CE 600 Level Electives ^{1,3}		12
CE Technical Electives ¹		6
700 Level Technical Elective ^{1,3}		6
Math and Science Courses		
ECE 310 or IEN 310	Introduction to Engineering Probability	3
MTH 151	Calculus I for Engineers	5
MTH 162	Calculus II	4
MTH 210	Introduction to Linear Algebra	3
MTH 309	Discrete Mathematics I	3
MTH 311	Introduction to Ordinary Differential Equations	3
PHY 205	University Physics I	3
PHY 206 or PHY 207	University Physics II	3
PHY 208 or PHY 209	University Physics III Lab	1
Basic Science Electives		6
Basic Science Lab Elective		1
Additional Required Courses		

ENG 105	English Composition I	3
ENG 107	English Composition II: Science and Technology	3
Arts and Humanities Cognate		9
People and Society Cognate		9
Total Credit Hours		154

Suggested Plan of Study

Course	Title	Credit Hours
Freshman Year		
Fall		
ECE 111	Introduction to Engineering I	3
ECE 118	Introduction to Programming	3
ENG 105	English Composition I	3
MTH 151	Calculus I for Engineers	5
	Credit Hours	14
Spring		
ECE 112	Introduction to Engineering II	2
ENG 107	English Composition II: Science and Technology	3
ECE 218	Data Structures	3
MTH 162	Calculus II	4
PHY 205	University Physics I	3
PS Cognate (People and Society Elective) ¹		3
	Credit Hours	18
Sophomore Year		
Fall		
ECE 211	Logic Design	3
ECE 318	Algorithms	3
MTH 210	Introduction to Linear Algebra	3
PHY 206 or 207	University Physics II or University Physics III	3
PHY 208 or 209	University Physics II Lab or University Physics III Lab	1
HA Cognate (Humanities and Arts Elective) ¹		3
	Credit Hours	16
Spring		
ECE 201	Electrical Circuit Theory	3
ECE 212	Processors: Hardware, Software, and Interfacing	3
ECE 315	Digital Design Laboratory	1
ECE 310 or IEN 310	Introduction to Engineering Probability or Introduction to Engineering Probability	3
MTH 309	Discrete Mathematics I	3
PS Cognate (People and Society Elective) ¹		3
	Credit Hours	16
Junior Year		
Fall		
ECE 202	Electronics I	3
ECE 203	Electrical Circuits Laboratory	1
ECE 316	Structured Digital Design	1
MTH 311	Introduction to Ordinary Differential Equations	3
Basic Science Elective ¹		3
Basic Science Lab Elective ¹		1

HA Cognate (Humanities and Arts Elective) ¹		3
	Credit Hours	15
Spring		
ECE 206	Circuits, Signals, and Systems	3
ECE 302	Electronics II	3
ECE 454	Digital System Design and Testing	3
ECE 455	Design-for-Testability Laboratory	1
ECE 467	Database Design and Management	3
Basic Science Elective ¹		3
PS Cognate (Adv. PS Elective) ¹		3
	Credit Hours	19
Senior Year		
Fall		
ECE 303	Electronics Laboratory	1
ECE 322	Systems Programming	3
ECE 414	Computer Organization and Design	3
ECE 417	Embedded Microprocessor System Design	3
ECE 481	Senior Project I ²	1
SE 600 Level Elective ^{1,3}		3
SE 600 Level Elective ^{1,3}		3
HA Cognate (Adv. HA Elective) ¹		3
	Credit Hours	20
Spring		
ECE 421	Computer Operating Systems	3
CE Technical Elective ¹		3
CE Technical Elective ¹		3
CE 600 Level Elective ^{1,3}		3
CE 600 Level Elective ^{1,3}		3
ECE Technical Elective ¹		3
	Credit Hours	18
Fifth Year		
Fall		
ECE 715	M.S. Design Project I	3
CE 600 Level Elective ^{1,3}		3
700 Level Technical Elective ^{1,3}		3
	Credit Hours	9
Spring		
ECE 716	M.S. Design Project II	3
CE 600 Level Elective ^{1,3}		3
700 Level Technical Elective ^{1,3}		3
	Credit Hours	9
	Total Credit Hours	154

¹ See description of electives under the Departmental Electives Section.

² Offered only in the Fall semester.

³ Should be taken as Graduate (G) courses.

B.S./M.S. in Computer Engineering - Software Engineering Option

This is a structured and integrated program of 154/156 credit hours (depending on the undergraduate option). Students may pursue this program from either of the undergraduate options available for Computer Engineering Majors. It includes two required courses, ECE 715 and ECE 716 as well as the selection of advanced technical electives.

- At least 30 credit hours must be at the graduate (600 or 700) level. Of these, at least 12 credit hours must be in courses open to graduate students only (700 level).
- Interested Computer Engineering juniors with cumulative GPA above 3.0 may declare their intent to participate by submitting an official application to the Departmental Graduate Committee for admission into the M.S.E.C.E. portion of the program.
- A student wishing to drop out of the five-year program without the M.S.E.C.E. degree could receive the B.S.Cp.E. degree after completing all its requirements, including the senior design project.
- All students must take the Graduate Record Examination (G.R.E.) before beginning their fifth-year courses.
- To qualify for the M.S.E.C.E. degree, students must meet all the pertinent Graduate School requirements, including an acceptable GRE score and a minimum of 3.0 GPA in the 30 credit hours applied towards the M.S.E.C.E. degree.
- The student is awarded both the B.S.Cp.E. and the M.S.E.C.E. degrees after the requirements for both degrees are satisfied.

For more information about the BS/MS Program please refer to the College of Engineering Section (p. 597).

Curriculum Requirements

Code	Title	Credit Hours
Engineering Courses		
ECE 111	Introduction to Engineering I	3
ECE 112	Introduction to Engineering II	2
ECE 118	Introduction to Programming	3
ECE 201	Electrical Circuit Theory	3
ECE 202	Electronics I	3
ECE 203	Electrical Circuits Laboratory	1
ECE 211	Logic Design	3
ECE 212	Processors: Hardware, Software, and Interfacing	3
ECE 218	Data Structures	3
ECE 315	Digital Design Laboratory	1
ECE 316	Structured Digital Design	1
ECE 318	Algorithms	3
ECE 322	Systems Programming	3
ECE 412	Software Engineering and Architecture	3
ECE 413	Software Design and Verification	3
ECE 414	Computer Organization and Design	3
ECE 417	Embedded Microprocessor System Design	3
ECE 470	Network Client-Server Programming	3
ECE 481	Senior Project I ²	1
ECE 715	M.S. Design Project I	3
ECE 716	M.S. Design Project II	3
SE Technical Elective ¹		9
CE 600 Elective ^{1,3}		12
SE 600 Elective ^{1,3}		6
700 Level Technical Elective ^{1,3}		6
Math and Science Courses		
ECE 310 or IEN 310	Introduction to Engineering Probability Introduction to Engineering Probability	3
MTH 151	Calculus I for Engineers	5
MTH 162	Calculus II	4
MTH 210	Introduction to Linear Algebra	3
MTH 309	Discrete Mathematics I	3
PHY 205	University Physics I	3
PHY 206 or PHY 207	University Physics II University Physics III	3
PHY 208 or PHY 209	University Physics II Lab University Physics III Lab	1

Basic Science	6	
Basic Science Lab	1	
Additional Required Courses		
ECE 421 or CSC 421	Computer Operating Systems Principles of Computer Operating Systems	3
ECE 467 or CSC 423	Database Design and Management Database Systems	3
CSC 317	Data Structures and Algorithm Analysis	3
CSC 419	Programming Languages	3
ENG 105	English Composition I	3
ENG 107	English Composition II: Science and Technology	3
Arts and Humanities Cognate		9
People and Society Cognate		9
Total Credit Hours		155

¹ See description of electives under the Departmental Electives Section.

² Offered only in the Fall semester.

³ Should be taken as Graduate (G) courses.

Suggested Plan of Study

Course	Title	Credit Hours
Freshman Year		
Fall		
ECE 111	Introduction to Engineering I	3
ECE 118	Introduction to Programming	3
ENG 105	English Composition I	3
MTH 151	Calculus I for Engineers	5
	Credit Hours	14
Spring		
ECE 112	Introduction to Engineering II	2
ECE 218	Data Structures	3
ENG 107	English Composition II: Science and Technology	3
MTH 162	Calculus II	4
PHY 205	University Physics I	3
	Credit Hours	15
Sophomore Year		
Fall		
ECE 211	Logic Design	3
ECE 318	Algorithms	3
MTH 210	Introduction to Linear Algebra	3
PHY 206 or 207	University Physics II or University Physics III	3
PHY 208 or 209	University Physics II Lab or University Physics III Lab	1
PS Cognate (People and Society Elective) ¹		3
	Credit Hours	16
Spring		
ECE 201	Electrical Circuit Theory	3
ECE 212	Processors: Hardware, Software, and Interfacing	3
ECE 310 or IEN 310	Introduction to Engineering Probability or Introduction to Engineering Probability	3
ECE 315	Digital Design Laboratory	1
MTH 309	Discrete Mathematics I	3

HS Cognate (Humanities and Arts Elective) ¹		3
	Credit Hours	16
Junior Year		
Fall		
ECE 202	Electronics I	3
ECE 203	Electrical Circuits Laboratory	1
ECE 322	Systems Programming	3
ECE 412	Software Engineering and Architecture	3
Basic Science Elective ¹		3
Basic Science Lab Elective ¹		1
PS Cognate (People and Society Elective) ¹		3
	Credit Hours	17
Spring		
ECE 316	Structured Digital Design	1
ECE 413	Software Design and Verification	3
ECE 421 or CSC 421	Computer Operating Systems or Principles of Computer Operating Systems	3
ECE 467 or CSC 423	Database Design and Management or Database Systems	3
SE Technical Elective ¹		3
Basic Science Elective ¹		3
HA Cognate (Humanities and Arts Elective) ¹		3
	Credit Hours	19
Senior Year		
Fall		
ECE 414	Computer Organization and Design	3
ECE 417	Embedded Microprocessor System Design	3
ECE 481	Senior Project I ²	1
CSC 317	Data Structures and Algorithm Analysis	3
SE 600 Level Elective ^{1,3}		3
SE 600 Level Elective ^{1,3}		3
PS Cognate (Adv. PS Elective) ¹		3
	Credit Hours	19
Spring		
ECE 470	Network Client-Server Programming	3
CSC 419	Programming Languages	3
SE Technical Elective ¹		3
SE Technical Elective ¹		3
CE 600 Level Elective ^{1,3}		3
HA Cognate (Adv. HA Elective) ¹		3
	Credit Hours	18
Fifth Year		
Fall		
ECE 715	M.S. Design Project I	3
CE 600 Level Elective ^{1,3}		3
CE 600 Level Elective ^{1,3}		3
700 Level Technical Elective ^{1,3}		3
	Credit Hours	12
Spring		
ECE 716	M.S. Design Project II	3
CE 600 Level Elective ^{1,3}		3

700 Level Technical Elective ^{1,3}	3
Credit Hours	9
Total Credit Hours	155

¹ See description of electives under the Departmental Electives Section.

² Offered only in the Fall semester.

³ Should be taken as Graduate (G) courses.

B.S./M.S. in Electrical Engineering - Audio Engineering Option

This is a structured and integrated program of 152/154 credit hours (depending on the undergraduate option). Students may pursue this program from either of the undergraduate option available for Electrical Engineering Majors. It includes two required courses, ECE 715 and ECE 716, as well as the selection of advanced technical electives.

Note the following:

- At least 30 credit hours must be at the graduate (600 or 700) level. Of these, at least 12 credit hours must be in courses open to graduate students only (700 level).
- Interested ECE Juniors with cumulative GPA above 3.0 may declare their intent to participate by submitting an official application to the Departmental Graduate Committee for admission into the M.S.E.C.E. portion of the program.
- A student wishing to drop out of the five-year program without the M.S.E.C.E. degree could receive the B.S.E.E. degree after completing all its requirements, including the senior design project.
- All students must take the Graduate Record Examination (G.R.E.) before beginning their fifth-year courses.
- To qualify for the M.S.E.C.E. degree, students must meet all the pertinent Graduate School requirements, including an acceptable G.R.E. score and a minimum of 3.0 GPA in the 30 credit hours applied towards the M.S.E.C.E. degree.
- The student is awarded both the B.S.E.E. and the M.S.E.C.E. degrees after the requirements for both degrees are satisfied.

For more information about the BS/MS Program please refer to the College of Engineering Section (p. 597).

Curriculum Requirements

Code	Title	Credit Hours
Engineering Courses		
ECE 111	Introduction to Engineering I	3
ECE 112	Introduction to Engineering II	2
ECE 118	Introduction to Programming	3
ECE 201	Electrical Circuit Theory	3
ECE 202	Electronics I	3
ECE 203	Electrical Circuits Laboratory	1
ECE 206	Circuits, Signals, and Systems	3
ECE 211	Logic Design	3
ECE 212	Processors: Hardware, Software, and Interfacing	3
ECE 218	Data Structures	3
ECE 302	Electronics II	3
ECE 303	Electronics Laboratory	1
ECE 315	Digital Design Laboratory	1
ECE 316	Structured Digital Design	1
ECE 336	Discrete-Time Signals and Systems	3
ECE 436	Digital Signal Processing	3
ECE 437	Real-Time Digital Signal Processing Laboratory	1
ECE 481	Senior Project I	1
ECE 602	Engineering Acoustics	3
ECE 640	Digital Speech and Audio Processing	3
ECE 715	M.S. Design Project I	3
ECE 716	M.S. Design Project II	3
ECE Electives ^{1,4}		6

ECE 600 Level Elective ^{1,4}		3
EE Core Elective ¹		3
EE Design Elective ¹		3
Audio or Technical Electives ^{1,4}		6
700 Level Technical Elective ^{1,4}		6
Audio Engineering Courses		
MMI 172	Audio Design Workshop III	1
MMI 201	Introduction to Music Recording	3.00
MMI 436	Audio Postproduction	3
MMI 501	Transducer Theory	3
MMI 502	Audio Signal Processing I	3.00
MMI 503	Audio Signal Processing II	3
Math and Science Courses		
ECE 310	Introduction to Engineering Probability	3
or IEN 310	Introduction to Engineering Probability	
MTH 151	Calculus I for Engineers	5
MTH 162	Calculus II	4
MTH 210	Introduction to Linear Algebra	3
MTH 311	Introduction to Ordinary Differential Equations	3
CHM 151	Chemistry for Engineers	3
CHM 153	Chemistry Laboratory for Engineers	1
PHY 205	University Physics I	3
PHY 206	University Physics II	3
PHY 207	University Physics III	3
PHY 208	University Physics II Lab	1
PHY 209	University Physics III Lab	1
Additional Required Courses		
ENG 105	English Composition I	3
ENG 107	English Composition II: Science and Technology	3
Arts and Humanities Cognate		9
People and Society Cognate		9
Total Credit Hours		153

¹ See description of electives under the Departmental Electives Section.

² Recommended a cognate that includes a Musicology Elective.

³ Offered only in the Fall semester.

⁴ Should be taken as Graduate (G) courses.

⁵ Note that MMI 504 could be substituted for MMI 436.

Suggested Plan of Study

Course	Title	Credit Hours
Freshman Year		
Fall		
ECE 111	Introduction to Engineering I	3
ENG 105	English Composition I	3
MTH 151	Calculus I for Engineers	5
PHY 205	University Physics I	3
MMI 201	Introduction to Music Recording	3
	Credit Hours	17
Spring		
ECE 112	Introduction to Engineering II	2
ECE 118	Introduction to Programming	3

ENG 107	English Composition II: Science and Technology	3
MTH 162	Calculus II	4
PHY 206	University Physics II	3
PHY 208	University Physics II Lab	1
	Credit Hours	16
Sophomore Year		
Fall		
ECE 201	Electrical Circuit Theory	3
ECE 218	Data Structures	3
MTH 311	Introduction to Ordinary Differential Equations	3
PHY 207	University Physics III	3
PHY 209	University Physics III Lab	1
HA Cognate (Humanities and Arts Elective) ²		3
	Credit Hours	16
Spring		
ECE 202	Electronics I	3
ECE 203	Electrical Circuits Laboratory	1
ECE 206	Circuits, Signals, and Systems	3
ECE 211	Logic Design	3
CHM 151	Chemistry for Engineers	3
CHM 153	Chemistry Laboratory for Engineers	1
MTH 210	Introduction to Linear Algebra	3
	Credit Hours	17
Junior Year		
Fall		
ECE 302	Electronics II	3
ECE 303	Electronics Laboratory	1
ECE 315	Digital Design Laboratory	1
ECE 336	Discrete-Time Signals and Systems	3
ECE 310 or IEN 310	Introduction to Engineering Probability or Introduction to Engineering Probability	3
MMI 502	Audio Signal Processing I	3
HA Cognate (Humanities and Arts Elective) ²		3
	Credit Hours	17
Spring		
ECE 212	Processors: Hardware, Software, and Interfacing	3
ECE 316	Structured Digital Design	1
ECE 436	Digital Signal Processing	3
EE Core Elective ¹		3
MMI 172	Audio Design Workshop III	1
MMI 503	Audio Signal Processing II	3
HA Cognate (Adv. HA Elective) ²		3
	Credit Hours	17
Senior Year		
Fall		
ECE 481	Senior Project I	1
ECE 437	Real-Time Digital Signal Processing Laboratory	1
ECE Design Elective ¹		3
ECE 602	Engineering Acoustics	3
Audio or Technical Electives ^{1,4}		6
PS Cognate (People and Society Elective) ¹		3
	Credit Hours	17

Spring		
MMI 436	Audio Postproduction ⁵	3
MMI 501	Transducer Theory	3
ECE 640	Digital Speech and Audio Processing	3
ECE 600 Level Elective ^{1,4}		3
PS Cognate (People and Society Elective) ¹		3
PS Cognate (Adv. PS Elective) ¹		3
	Credit Hours	18
Fifth Year		
Fall		
ECE 715	M.S. Design Project I	3
ECE Elective ^{1,4}		3
700 Level Technical Elective ^{1,4}		3
	Credit Hours	9
Spring		
ECE 716	M.S. Design Project II	3
ECE Elective ^{1,4}		3
700 Level Technical Elective ^{1,4}		3
	Credit Hours	9
	Total Credit Hours	153

¹ See description of electives under the Departmental Electives Section.

² Recommended a cognate that includes a Musicology Elective.

³ Offered only in the Fall semester.

⁴ Should be taken as Graduate (G) courses.

⁵ Note that MMI 504 could be substituted for MMI 436.

B.S./M.S. in Electrical Engineering

This is a structured and integrated program of 152/154 credit hours (depending on the undergraduate option). Students may pursue this program from either of the undergraduate option available for Electrical Engineering Majors. It includes two required courses, ECE 715 and ECE 716, as well as the selection of advanced technical electives.

Note the following:

- At least 30 credit hours must be at the graduate (600 or 700) level. Of these, at least 12 credit hours must be in courses open to graduate students only (700 level).
- Interested ECE Juniors with cumulative GPA above 3.0 may declare their intent to participate by submitting an official application to the Departmental Graduate Committee for admission into the M.S.E.C.E. portion of the program.
- A student wishing to drop out of the five-year program without the M.S.E.C.E. degree could receive the B.S.E.E. degree after completing all its requirements, including the senior design project.
- All students must take the Graduate Record Examination (G.R.E.) before beginning their fifth-year courses.
- To qualify for the M.S.E.C.E. degree, students must meet all the pertinent Graduate School requirements, including an acceptable G.R.E. score and a minimum of 3.0 GPA in the 30 credit hours applied towards the M.S.E.C.E. degree.
- The student is awarded both the B.S.E.E. and the M.S.E.C.E. degrees after the requirements for both degrees are satisfied.

For more information about the BS/MS Program please refer to the College of Engineering Section (p. 597).

Curriculum Requirements

Code	Title	Credit Hours
Engineering Courses		
ECE 111	Introduction to Engineering I	3
ECE 112	Introduction to Engineering II	2
ECE 118	Introduction to Programming	3
ECE 201	Electrical Circuit Theory	3

ECE 202	Electronics I	3
ECE 203	Electrical Circuits Laboratory	1
ECE 206	Circuits, Signals, and Systems	3
ECE 211	Logic Design	3
ECE 212	Processors: Hardware, Software, and Interfacing	3
ECE 218	Data Structures	3
ECE 301	Electromagnetic Field Theory	3
ECE 302	Electronics II	3
ECE 303	Electronics Laboratory	1
ECE 315	Digital Design Laboratory	1
ECE 316	Structured Digital Design	1
ECE 336	Discrete-Time Signals and Systems	3
ECE 481	Senior Project I	1
ECE 715	M.S. Design Project I	3
ECE 716	M.S. Design Project II	3
EE Core Electives ¹		6
EE Design Elective ¹		3
ECE Electives ^{1,3}		18
ECE 600 Level Electives ^{1,3}		6
Technical Electives ¹		9
700 Level Technical Electives ^{1,3}		6
Math and Science Courses		
ECE 310	Introduction to Engineering Probability	3
or IEN 310	Introduction to Engineering Probability	
MTH 151	Calculus I for Engineers	5
MTH 162	Calculus II	4
MTH 210	Introduction to Linear Algebra	3
MTH 311	Introduction to Ordinary Differential Equations	3
CHM 151	Chemistry for Engineers	3
CHM 153	Chemistry Laboratory for Engineers	1
PHY 205	University Physics I	3
PHY 206	University Physics II	3
PHY 207	University Physics III	3
PHY 208	University Physics II Lab	1
PHY 209	University Physics III Lab	1
Additional Required Courses		
ENG 105	English Composition I	3
ENG 107	English Composition II: Science and Technology	3
Arts and Humanities Cognate		9
People and Society Cognate		9
Total Credit Hours		151

¹ See description of electives under the Departmental Electives Section.

² Offered only in the Fall semester.

³ Should be taken as Graduate (G) courses.

Suggested Plan of Study

The first three years are the same as in the undergraduate B.S.E.E. program with 97 credit hours. The remaining 55 credit hours shown below should include at least ten graduate courses of which, at least four are at the 700 level. Also see description of electives under the Electrical and Computer Engineering Section.

Course	Title	Credit Hours
Freshman Year		
Fall		
ECE 111	Introduction to Engineering I	3
ENG 105	English Composition I	3
MTH 151	Calculus I for Engineers	5
PHY 205	University Physics I	3
	Credit Hours	14
Spring		
ECE 112	Introduction to Engineering II	2
ECE 118	Introduction to Programming	3
ENG 107	English Composition II: Science and Technology	3
MTH 162	Calculus II	4
PHY 206	University Physics II	3
PHY 208	University Physics II Lab	1
	Credit Hours	16
Sophomore Year		
Fall		
ECE 201	Electrical Circuit Theory	3
ECE 218	Data Structures	3
MTH 311	Introduction to Ordinary Differential Equations	3
PHY 207	University Physics III	3
PHY 209	University Physics III Lab	1
HA Cognate (Humanities and Arts Elective) ¹		3
	Credit Hours	16
Spring		
ECE 202	Electronics I	3
ECE 203	Electrical Circuits Laboratory	1
ECE 206	Circuits, Signals, and Systems	3
ECE 211	Logic Design	3
MTH 210	Introduction to Linear Algebra	3
CHM 151	Chemistry for Engineers	3
CHM 153	Chemistry Laboratory for Engineers	1
	Credit Hours	17
Junior Year		
Fall		
ECE 301	Electromagnetic Field Theory	3
ECE 302	Electronics II	3
ECE 303	Electronics Laboratory	1
ECE 315	Digital Design Laboratory	1
ECE 336	Discrete-Time Signals and Systems	3
ECE 310 or IEN 310	Introduction to Engineering Probability or Introduction to Engineering Probability	3
PS Cognate (People and Society Elective) ¹		3
	Credit Hours	17
Spring		
ECE 212	Processors: Hardware, Software, and Interfacing	3
ECE 316	Structured Digital Design	1
EE Core Elective ¹		3
EE Core Elective ¹		3
ECE Elective ¹		3

HA Cognate (Humanities and Arts Elective) ¹		3
	Credit Hours	16
Senior Year		
Fall		
ECE 481	Senior Project I	1
ECE Elective ¹		3
ECE 600 Level Elective ^{1,3}		3
ECE Elective ^{1,3}		3
EE Design Elective ¹		3
Technical Elective ¹		3
PS Cognate (Adv. PS Elective)		3
	Credit Hours	19
Spring		
Technical Elective ¹		3
Technical Elective ¹		3
ECE 600 Level Elective ^{1,3}		3
ECE Elective ^{1,3}		3
PS Cognate (People and Society Elective) ¹		3
HA Cognate (Adv. HA Elective) ¹		3
	Credit Hours	18
Fifth Year		
Fall		
ECE 715	M.S. Design Project I	3
ECE Elective ^{1,3}		3
700 Level Technical Elective ^{1,3}		3
	Credit Hours	9
Spring		
ECE 716	M.S. Design Project II	3
ECE Elective ^{1,3}		3
700 Level Technical Elective ^{1,3}		3
	Credit Hours	9
	Total Credit Hours	151

¹ See description of electives under the Departmental Electives Section.

² Offered only in the Fall semester.

³ Should be taken as Graduate (G) courses.

Minor in Computer Engineering

Requirements

Students must follow these guidelines in order to qualify for this minor:

- No more than 6 credits hours may be taken outside the ECE department.
- Students must maintain a minimum 2.0 grade point average in all ECE courses taken.
- Students with a major in Electrical Engineering wishing to add a minor in Computer Engineering must take 6 Computer Engineering course credit hours in addition to those needed to satisfy their degree requirements.

Curriculum

Students wishing to minor in Computer Engineering must satisfy 18 credits hours specified as follows:

Code	Title	Credit Hours
Core Courses		
ECE 118	Introduction to Programming	3
ECE 211	Logic Design	3

ECE 212	Processors: Hardware, Software, and Interfacing	3
ECE 218	Data Structures	3
Select a minimum of 6 credit hours of computer engineering electives from the following:		6
ECE 315	Digital Design Laboratory	
ECE 316	Structured Digital Design	
ECE 318	Algorithms	
ECE 322	Systems Programming	
ECE 412	Software Engineering and Architecture	
ECE 413	Software Design and Verification	
ECE 414	Computer Organization and Design	
ECE 421	Computer Operating Systems	
ECE 454 & ECE 455	Digital System Design and Testing and Design-for-Testability Laboratory	
ECE 467	Database Design and Management	
ECE 511	Computability, Complexity, and Algorithms	
ECE 534	Communication Networks	
ECE 537	Principles of Artificial Intelligence	
ECE 548	Machine Learning	
Total Credit Hours		18

Minor in Electrical Engineering

Requirements

Students must follow these guidelines in order to qualify for this minor:

- No more than 6 credits hours may be taken outside the ECE department.
- Students must maintain a minimum 2.0 grade point average in all ECE courses taken.
- Students with a major in Computer Engineering wishing to add a minor in Electrical Engineering must take 6 Electrical Engineering course credit hours in addition to those needed to satisfy their degree requirements.

Curriculum

Students wishing to minor in Electrical Engineering should satisfy a 15 credit hour requirement specified as follows:

Code	Title	Credit Hours
Electrical engineering core electives		
ECE 201	Electrical Circuit Theory	3
ECE 202	Electronics I	3
ECE 203	Electrical Circuits Laboratory	1
Select a minimum of 8 credit hours of electrical engineering electives of the following:		8
ECE 206	Circuits, Signals, and Systems	
ECE 211	Logic Design	
ECE 301	Electromagnetic Field Theory	
ECE 302	Electronics II	
ECE 303	Electronics Laboratory	
ECE 308	Linear Control Systems	
ECE 336	Discrete-Time Signals and Systems	
ECE 404	Communication Systems	
ECE 405	Solid-State Electronics	
ECE 417	Embedded Microprocessor System Design	
ECE 436	Digital Signal Processing	
ECE 454	Digital System Design and Testing	
ECE 502	Engineering Acoustics	
ECE 503	Laser Communications	

ECE 504	Fundamentals of Optical
ECE 505	Semiconductor Photonic Devices
ECE 506	Microfabrication
ECE 532	VLSI Systems
ECE 533	Random Signals and Noise
ECE 538	Introduction to Digital Image Processing
ECE 543	BioNanotechnology
ECE 540	Digital Speech and Audio Processing
Total Credit Hours	
15	

Engineering Science

Introduction

The curricula in the engineering sciences have been designed to prepare a student to fill the gap between the pure and applied sciences. The programs have been planned to enable the graduate to meet, work, and communicate with scientists and engineers at all levels of research and development, design and production, sales and distribution and to participate in the rapid and efficient translation of the latest scientific discoveries into technological achievements.

The general curriculum outlined below has been developed to give the student a firm foundation in the engineering sciences supported by a thorough grounding and facility in mathematics, physics and chemistry. In addition, each student will choose an area of specialization in at least one of the Engineering fields of architectural, civil, biomedical, electrical, industrial, or mechanical, and mathematics, chemistry or physics. By being well grounded in both the basic and applied sciences, the student, upon graduation, will be well prepared to assume responsibilities in his/her field of specialization or continue his/her professional development through graduate studies.

The engineering science program is intended primarily for students who expect to pursue graduate studies, and it will not satisfy the licensure requirements for professional engineering registration.

Premedical Studies: When BIL 150 and BIL 160 are added to the course sequence for engineering science, basic premedical requirements are satisfied. Additional specific courses, such as genetics or biochemistry, may be required for admission to certain medical schools. For optimum timing and course selection students who combine premedical studies and engineering science should consult the faculty advisor for engineering science and the Coordinator, Committee on Premedical Studies.

Because of the nature of the curriculum and its goals, the student must maintain a B average. The degree of Bachelor of Science Engineering Science is awarded upon successful completion of the program.

The required curriculum for the degree of Bachelor of Science in Engineering Science (General Concentration) is shown below as is a typical premed curriculum. A Professional Chemistry Concentration in the Engineering Science Program is available (the Professional Chemistry Program, approved by the American Chemical Society, is also available in the College of Arts and Sciences).

Mission Statement

The mission of the Engineering Science program is to provide excellent undergraduate and graduate education in engineering that will prepare graduates to meet Societies changing needs and aspirations.

Educational Objectives

The objectives of the Engineering Science program are to educate engineers who:

- have a sound background in the fundamentals of engineering science grounded in mathematics, physics and chemistry
- have abilities and knowledge expected by graduate programs
- are prepared to enter graduate programs with a strong background in pure science

Degree Programs in Engineering Science

- B.S. in Engineering Science (p. 675)

B.S. in Engineering Science

Curriculum Requirements

Code	Title	Credit Hours
Engineering Courses		

CAE 210	Mechanics of Solids I	3
ECE 201	Electrical Circuit Theory	3
ECE 204	Electrical Circuits Laboratory	1
ECE 305	Electronics I	3
IEN 311	Applied Probability and Statistics	3
MAE 111	Introduction to Engineering I	3
MAE 112	Introduction to Engineering II	2
MAE 202	Dynamics	3
MAE 207	Mechanics of Solids II	3
MAE 241	Measurements Laboratory	3
MAE 301	Engineering Materials Science	3
MAE 302	Mechanical Behavior of Materials	3
MAE 303	Thermodynamics I	3
MAE 309	Fluid Mechanics	3
MAE 412	System Dynamics	3
Applied Elective		3
Technical Elective		3
Math and Science Courses		
MTH 151	Calculus I for Engineers	5
MTH 162	Calculus II	4
MTH 210	Introduction to Linear Algebra	3
MTH 310	Multivariable Calculus	3
MTH 311	Introduction to Ordinary Differential Equations	3
CHM 111	Principles of Chemistry I	3
CHM 112	Principles of Chemistry II	3
CHM 113	Chemistry Laboratory I	1
CHM 114	Chemistry Laboratory II	1
CHM 201	Organic Chemistry I (Lecture)	3
CHM 205	Organic Chemistry Laboratory I	1
CHM 360	Physical Chemistry I (Lecture)	3
PHY 205	University Physics I	3
PHY 206	University Physics II	3
PHY 207	University Physics III	3
PHY 208	University Physics II Lab	1
PHY 209	University Physics III Lab	1
PHY 350	Intermediate Electricity and Magnetism	3
PHY 351	Intermediate Electricity and Magnetism II	3
or CHM 202	Organic Chemistry II (Lecture)	
PHY 360	Introduction to Modern Physics	3
Additional Requirements		
ENG 105	English Composition I	3
ENG 107	English Composition II: Science and Technology	3
Arts and Humanities Cognate		9
People and Society Cognate		9
Total Credit Hours		125

Suggested Plan of Study

Course	Title	Credit Hours
Freshman Year		
Fall		
MAE 111	Introduction to Engineering I	3
ENG 105	English Composition I	3

MTH 151	Calculus I for Engineers	5
PHY 205	University Physics I	3
	Credit Hours	14
Spring		
MAE 112	Introduction to Engineering II	2
CAE 210	Mechanics of Solids I	3
ENG 107	English Composition II: Science and Technology	3
MTH 162	Calculus II	4
PHY 206	University Physics II	3
PHY 208	University Physics II Lab	1
	Credit Hours	16
Sophomore Year		
Fall		
MAE 207	Mechanics of Solids II	3
CHM 111	Principles of Chemistry I	3
CHM 113	Chemistry Laboratory I	1
MTH 210	Introduction to Linear Algebra	3
PHY 207	University Physics III	3
PHY 209	University Physics III Lab	1
HA Cognate (HA Elective) ¹		3
	Credit Hours	17
Spring		
MAE 202	Dynamics	3
ECE 201	Electrical Circuit Theory	3
CHM 112	Principles of Chemistry II	3
CHM 114	Chemistry Laboratory II	1
MTH 310	Multivariable Calculus	3
PS Cognate (PS Elective) ¹		3
	Credit Hours	16
Junior Year		
Fall		
IEN 311	Applied Probability and Statistics	3
MAE 303	Thermodynamics I	3
MTH 311	Introduction to Ordinary Differential Equations	3
PHY 350	Intermediate Electricity and Magnetism	3
HA Cognate (HA Elective) ¹		3
	Credit Hours	15
Spring		
MAE 241	Measurements Laboratory	3
ECE 204	Electrical Circuits Laboratory	1
MAE 309	Fluid Mechanics	3
CHM 201	Organic Chemistry I (Lecture)	3
MAE 301	Engineering Materials Science	3
PS Cognate (PS Elective) ¹		3
	Credit Hours	16
Senior Year		
Fall		
MAE 302	Mechanical Behavior of Materials	3
MAE 412	System Dynamics	3
CHM 360	Physical Chemistry I (Lecture)	3
PHY 360	Introduction to Modern Physics	3

PS Cognate (Adv. PS Elective) ¹		3
	Credit Hours	15
Spring		
PHY 351 or CHM 202	Intermediate Electricity and Magnetism II or Organic Chemistry II (Lecture)	3
ECE 305	Electronics I	3
CHM 205	Organic Chemistry Laboratory I	1
Applied Elective ²		3
Technical Elective ³		3
HA Cognate (Adv. HA Elective) ¹		3
	Credit Hours	16
	Total Credit Hours	125

¹ You must complete a minimum of 1 PS cognate and 1 HA cognate to be selected from the list of available cognates. Each cognate should be a minimum of three courses (9 credit hours).

² Applied electives are advanced courses selected in coordination with the Faculty Advisor and require his/her approval.

³ Technical Electives are advanced courses in mathematics, science or engineering, approved by the Faculty Advisor, as appropriate for individual objectives.

Industrial Engineering

<http://www.ie.miami.edu>

Dept. Code: IEN

Mission Statement

The Department of Industrial Engineering's mission is to provide contemporary and relevant industrial and systems engineering education and research; impart knowledge and skills necessary to design and to improve a variety of manufacturing and service processes; promote life-long learning; and contribute to emerging societal needs.

Overview

Industrial Engineering combines science and technical knowledge with human sciences to design, plan, and analyze systems that involve people, materials, money, energy, equipment, and other resources. Industrial engineers work with personnel in research and development, accounting, engineers in other disciplines, maintenance, human resources, and production to increase organizational productivity, improve quality, reduce health care costs, conserve energy, develop public transportation systems, and improve industrial safety conditions. Industrial engineering distinguishes itself from other engineering professions because it has applications in manufacturing, service, commercial, and governmental activities. It is the major branch of engineering concerned not only with technology, but with people, making industrial engineers a prime source of management talent.

Through consultation with his/her academic advisor, a student is assisted in choosing electives which will prepare him/her for a degree of specialization compatible with his/her future goals. The available concentrations are Engineering Management and Manufacturing. Specific courses required in each concentration are described in Degree Programs Section.

The Department of Industrial Engineering offers graduate programs leading to the:

- Master of Science in Industrial Engineering
- Master of Science in Environmental Health and Safety
- MSIE/MBA Weekend Executive Program (in conjunction with the School of Business)
- Master of Science in Management of Technology (in conjunction with the School of Business)

The Department also offers:

- a Ph.D. program in Ergonomics and Human Factors
- a Ph.D. in Industrial Engineering.

For further information, see the Bulletin of the Graduate School (p. 1121).

Bachelor of Science in Industrial Engineering

Industrial Engineering Program Educational Objectives

The major goal of the Industrial Engineering program at the University of Miami is to prepare graduates to contribute to the economy by virtue of employment in a variety of industries: manufacturing (heavy and light, traditional and high technology) and service (health care, retail, transportation, logistics, government, consulting, banking, and insurance). In striving to achieve this goal, the objective of the faculty is to provide all graduates with the mathematical, scientific, and design tools required to formulate problems accurately, generate alternative solutions, evaluate those alternatives, and present the best solutions to clients or decision makers in a fashion that facilitates decision-making processes. In addition, superior students are prepared for graduate studies and research. Within the first several years following graduation from the Industrial Engineering program, graduates are expected to be:

1. Working as professionals by adding value in any one of the following sectors:
 - Service
 - Government
 - Consulting
 - Retail
 - Manufacturing
2. Pursuing or holding a graduate degree and/or developing professionally through continuing education, licensure, certification and seminars in a new area or their chosen areas of expertise.

The curriculum includes required courses in mathematics and the physical sciences that ensure a firm scientific background while advanced departmental courses provide specialization. Required courses in the people and society - humanities and arts give students the social, ethical and ecological awareness needed in their profession. The courses are designed with the prerequisite structure in mind so that students have to draw from previously acquired knowledge to successfully complete upper level course requirements.

The engineering design experience is interwoven in the curriculum throughout the students' four years of study.

- Starting with IEN 111 **Introduction to Engineering I** and IEN 112 **Introduction to Engineering II**, an introduction to Engineering graphics, Auto CAD, MATLAB, C++, advanced Excel and Access are given.
- The students then move on to take IEN 201 **Methods Analysis and Work Measurement** where they perform work measurement projects in industry, write reports, and make oral presentations to management. In the Spring of their Junior year, the students take IEN 363 **Project Management for Engineers** and they are exposed to techniques and tools in project management such as use of network flow and MS Project.
- Students take IEN 361 **Industrial Cost Analysis** and IEN 380 **Engineering Economy** where they become aware of the impact of productivity on the economic and social well-being of industry and countries. The students are also introduced to basic models of decision making such as the formulation and evaluation of an economic strategy.
- IEN 406 **Computer-Aided Manufacturing** introduces the students to product design in manufacturing and modern concepts of CAD/CAM/ Automation.
- IEN 441 **Deterministic Models in Operations Research** focuses on the formulation of linear programming problems and solutions by the simplex method. Related topics include sensitivity analysis, duality theory and network programming. Engineering applications are emphasized.
- IEN 442 **Stochastic Models in Operations Research** focuses on basic concepts and techniques of random processes that are used to develop models for a variety of engineering and managerial problems. Topics include the Poisson Process, Markov chains, renewal theory, queuing models, and reliability.
- IEN 465 **Production and Inventory Control** provides a thorough treatment of modern production and inventory management policies, and their ramifications on supply chain management.
- Theory and applications of decision support systems in industrial engineering are covered in IEN 524 **Decision Support Systems in IE**. The topics include the study of model-based data-based, knowledge-based, and communication-based decision support systems.
- In IEN 557 **Ergonomics and Human Factors Engineering** both laboratory projects and real-world projects are designed, discussed, and conducted.
- Industry based projects are embedded into several other courses such as IEN 512 **Statistical Quality Control and Quality Management**, IEN 547 **Computer Simulation Systems**, and IEN 568 **Materials Handling and Facilities Planning**.
- IEN 494 **Senior Project** is a capstone project course where the students pool all of their knowledge and previous design experience into one major project integrating all components of the curriculum together. These projects are usually industry-based. Students prepare written and oral presentations. These presentations are made before top management or engineers of the organization where the projects were conducted in the presence of the faculty representatives from the department.

Real world projects are an integral part of most junior and senior level courses. In these courses, communication is emphasized through requirements for oral presentation and written technical reports. This experience provides the graduates with valuable industrial experience and communications skills while studying at the University of Miami.

The teaching laboratories meet current program needs and are constantly being improved. Equipment and experiments are geared to provide instruction in the areas of production system design, work methods and measurement, human factors engineering, manufacturing processes, computer applications in industrial engineering and operations research.

Advanced Writing and Communication Skills: Industrial Engineering students satisfy the University's Advanced Writing and Communication Skills requirement by completing a set of classroom courses, laboratory courses and design courses where they learn effective oral, graphical and technical writing skills. Industrial Engineering students acquire Advanced Writing and Communication skills in the following core courses:

- IEN 111 Introduction to Engineering I
- IEN 201 Methods Analysis and Work Measurement
- IEN 351 Industrial Safety Engineering
- IEN 363 Project Management for Engineers
- IEN 380 Engineering Economy
- IEN 494 Senior Project
- IEN 512 Statistical Quality Control and Quality Management
- IEN 547 Computer Simulation Systems
- IEN 557 Ergonomics and Human Factors Engineering
- IEN 568 Materials Handling and Facilities Planning

Industrial Engineering Concentrations

- Engineering Management Concentration
- Manufacturing Engineering Concentration
- Pre-Medical Concentration

Five-Year Bachelor of Science in Industrial Engineering and Master of Science in Industrial Engineering (Five-Year BSIE/MSIE Program)

This program is specifically designed for those students who want to pursue their graduate study as soon as they complete their undergraduate study in Industrial Engineering. The special conditions for this Five-Year BSIE/MSIE Program are as follows:

1. The student must declare his/her intent to participate before the end of the Junior year by submitting an official application to the department graduate committee for admission into the MSIE portion of the program. Exceptions to this rule must be approved by the department faculty.
2. A student wishing to withdraw from the Five-Year Program without the MSIE degree must complete all the requirements for the BSIE program, including the IEN 494 Senior Project in order to get his/her BSIE degree.
3. To qualify for the MSIE degree, the student must meet all the pertinent Graduate School requirements, including an acceptable score on the GRE (Graduate Record Examination) and a minimum of 3.0 GPA.
4. The student is awarded both the BSIE and MSIE degrees at the end of the fifth year when all undergraduate and graduate requirements are satisfied.

Majors in Industrial Engineering

- B.S.I.E. in Industrial Engineering (p. 680)
- Industrial Engineering - Engineering Management Concentration (p. 683)
- Industrial Engineering - Manufacturing Concentration (p. 685)
- Industrial Engineering - Pre-Med Concentration (p. 687)

Dual B.S./M.S. Degrees in Industrial Engineering

- B.S./M.S. in Industrial Engineering - Five Year Dual Degree (p. 689)
- Industrial Engineering - (p. 692)Engineering Management Concentration - Five Year Program (p. 692)

Minor in Industrial Engineering

- Industrial Engineering (p. 695)

B.S. in Industrial Engineering

Curriculum Requirements

Code	Title	Credit Hours
Core Requirement Courses		
IEN 111	Introduction to Engineering I	3
IEN 112	Introduction to Engineering II	2
IEN 201	Methods Analysis and Work Measurement	3
IEN 312	Applied Statistical Methods	3
IEN 351	Industrial Safety Engineering	3
IEN 361	Industrial Cost Analysis	3
IEN 363	Project Management for Engineers	3
IEN 380	Engineering Economy	3
IEN 406	Computer-Aided Manufacturing	3
IEN 441	Deterministic Models in Operations Research	3
IEN 442	Stochastic Models in Operations Research	3
IEN 465	Production and Inventory Control	3
IEN 494	Senior Project	3
IEN 512	Statistical Quality Control and Quality Management	3
IEN 524	Decision Support Systems in Industrial Engineering	3
IEN 547	Computer Simulation Systems	3
IEN 557	Ergonomics and Human Factors Engineering	3
IEN 568	Materials Handling and Facilities Planning	3
IEN Elective Courses		
Select 9 credit hours of IEN Electives		9
Engineering and Technical Elective Courses		
Additional Engineering Credit Hours		3
Additional Technical Elective Credit Hours		3
Other Courses		
Total Math & Basic Sciences Credit Hours		33
Total General Education Credit Hours		24
Other Credit Hours		3
Total Credit Hours		128

Plan of Study

Course	Title	Credit Hours
Freshman Year		
Fall		
IEN 111	Introduction to Engineering I	3
ENG 105	English Composition I	3
MTH 151	Calculus I for Engineers	5
PHY 205	University Physics I	3
Credit Hours		14
Spring		
IEN 112	Introduction to Engineering II	2
ENG 107	English Composition II: Science and Technology	3
MTH 162	Calculus II	4
ECO 211 or 212	Principles of Microeconomics or Principles of Macroeconomics	3
PHY 206	University Physics II	3
PHY 208	University Physics II Lab	1
Credit Hours		16

Sophomore Year		
Fall		
HA Cognate (HA Elective) ¹		3
IEN 201	Methods Analysis and Work Measurement	3
MTH 210	Introduction to Linear Algebra	3
PHY 207	University Physics III	3
PHY 209	University Physics III Lab	1
PS Cognate (PS Elective) ¹		3
	Credit Hours	16
Spring		
HA Cognate (HA Elective) ¹		3
CAE 210, ECE 205, or MAE 303	Mechanics of Solids I or Principles of Electrical Engineering-I or Thermodynamics I	3
CHM 151	Chemistry for Engineers	3
CHM 153	Chemistry Laboratory for Engineers	1
MTH 311	Introduction to Ordinary Differential Equations	3
PS Cognate (PS Elective) ¹		3
	Credit Hours	16
Junior Year		
Fall		
HA Cognate (Advanced HA Elective) ¹		3
IEN 310	Introduction to Engineering Probability	3
IEN 351	Industrial Safety Engineering	3
IEN 380	Engineering Economy	3
IEN 441	Deterministic Models in Operations Research	3
PS Cognate (Advanced PS Elective) ¹		3
	Credit Hours	18
Spring		
IEN 312	Applied Statistical Methods	3
IEN 361	Industrial Cost Analysis	3
IEN 363	Project Management for Engineers	3
IEN 406	Computer-Aided Manufacturing	3
IEN 442	Stochastic Models in Operations Research	3
Technical Elective ²		3
	Credit Hours	18
Senior Year		
Fall		
IEN 465	Production and Inventory Control	3
IEN 512	Statistical Quality Control and Quality Management	3
IEN 547	Computer Simulation Systems	3
IEN 557	Ergonomics and Human Factors Engineering	3
IEN Elective ³		3
	Credit Hours	15
Spring		
IEN 494	Senior Project	3
IEN 524	Decision Support Systems in Industrial Engineering	3
IEN 568	Materials Handling and Facilities Planning	3
IEN Elective ³		3

IEN Elective ³	3
Credit Hours	15
Total Credit Hours	128

¹ To be selected from lists of approved People and Society (PS)/Humanities and Arts (HA) (or applicable cognates). Students take a minimum of 3 courses (9 credit hours) in HA cognate and 3 courses in PS Cognate (9 credit hours).

² The Technical Elective is selected from courses at the 300 level or above, offered by one of the following departments: MTH, BTE (except BTE 417), BME (except BME 320), CAE, ECO, EEN, IEN, MEN, ACC, FIN, MGT (Except MGT 303), MAS, MKT.

³ IEN Electives are selected from courses at the 300 level or above, offered by the Department of Industrial Engineering.

Industrial Engineering - Engineering Management Concentration

Curriculum Requirements

Code	Title	Credit Hours
Core Requirement Courses		
IEN 111	Introduction to Engineering I	3
IEN 112	Introduction to Engineering II	2
IEN 201	Methods Analysis and Work Measurement	3
IEN 312	Applied Statistical Methods	3
IEN 351	Industrial Safety Engineering	3
IEN 361	Industrial Cost Analysis	3
IEN 363	Project Management for Engineers	3
IEN 380	Engineering Economy	3
IEN 406	Computer-Aided Manufacturing	3
IEN 441	Deterministic Models in Operations Research	3
IEN 442	Stochastic Models in Operations Research	3
IEN 465	Production and Inventory Control	3
IEN 494	Senior Project	3
IEN 512	Statistical Quality Control and Quality Management	3
IEN 524	Decision Support Systems in Industrial Engineering	3
IEN 547	Computer Simulation Systems	3
IEN 557	Ergonomics and Human Factors Engineering	3
IEN 568	Materials Handling and Facilities Planning	3
Other IEN Courses		
IEN 570	Engineering Management	3
IEN 571	Engineering Entrepreneurship	3
IEN 572	Management of Technological Innovation	3
Other Courses		
Additional Engineering Credit Hours		3
Total Math & Basic Sciences Credit Hours		33
Total General Education Credit Hours		24
Other Credit Hours		6
Total Credit Hours		128

Plan of Study

Course	Title	Credit Hours
Freshman Year		
Fall		
IEN 111	Introduction to Engineering I	3
ENG 105	English Composition I	3
MTH 151	Calculus I for Engineers	5

PHY 205	University Physics I	3
	Credit Hours	14
Spring		
IEN 112	Introduction to Engineering II	2
ENG 107	English Composition II: Science and Technology	3
MTH 162	Calculus II	4
ECO 211 or 212	Principles of Microeconomics or Principles of Macroeconomics	3
PHY 206	University Physics II	3
PHY 208	University Physics II Lab	1
	Credit Hours	16
Sophomore Year		
Fall		
BSL 212 or BUS 202	Introduction to Business Law or Introduction to the Legal Environment of Business	3
HA Cognate (HA Elective) ¹		3
IEN 201	Methods Analysis and Work Measurement	3
MTH 210	Introduction to Linear Algebra	3
PHY 207	University Physics III	3
PHY 209	University Physics III Lab	1
	Credit Hours	16
Spring		
HA Cognate (HA Elective) ¹		3
CHM 151	Chemistry for Engineers	3
CHM 153	Chemistry Laboratory for Engineers	1
CAE 210, ECE 205, or MAE 303	Mechanics of Solids I or Principles of Electrical Engineering-I or Thermodynamics I	3
PS Cognate (PS Elective) ¹		3
MTH 311	Introduction to Ordinary Differential Equations	3
	Credit Hours	16
Junior Year		
Fall		
HA Cognate (Advanced HA Elective) ¹		3
IEN 310	Introduction to Engineering Probability	3
IEN 351	Industrial Safety Engineering	3
IEN 380	Engineering Economy	3
IEN 441	Deterministic Models in Operations Research	3
PS Cognate (PS Elective) ¹		3
	Credit Hours	18
Spring		
PS Cognate (Advanced PS Elective) ¹		3
IEN 312	Applied Statistical Methods	3
IEN 361	Industrial Cost Analysis	3
IEN 363	Project Management for Engineers	3
IEN 406	Computer-Aided Manufacturing	3
IEN 442	Stochastic Models in Operations Research	3
	Credit Hours	18
Senior Year		
Fall		
IEN 465	Production and Inventory Control	3
IEN 512	Statistical Quality Control and Quality Management	3
IEN 547	Computer Simulation Systems	3

IEN 557	Ergonomics and Human Factors Engineering	3
IEN 571	Engineering Entrepreneurship	3
	Credit Hours	15
Spring		
IEN 494	Senior Project	3
IEN 524	Decision Support Systems in Industrial Engineering	3
IEN 568	Materials Handling and Facilities Planning	3
IEN 570	Engineering Management	3
IEN 572	Management of Technological Innovation	3
	Credit Hours	15
	Total Credit Hours	128

¹ To be selected from lists of approved People and Society (PS)/Humanities and Arts (HA) (or applicable cognates). Students take a minimum of 3 courses (9 credit hours) in HA cognate and 3 courses in PS Cognate (9 credit hours).

Industrial Engineering - Manufacturing Concentration

Curriculum Requirements

Code	Title	Credit Hours
Core Requirement Courses		
IEN 111	Introduction to Engineering I	3
IEN 112	Introduction to Engineering II	2
IEN 201	Methods Analysis and Work Measurement	3
IEN 312	Applied Statistical Methods	3
IEN 351	Industrial Safety Engineering	3
IEN 361	Industrial Cost Analysis	3
IEN 363	Project Management for Engineers	3
IEN 380	Engineering Economy	3
IEN 406	Computer-Aided Manufacturing	3
IEN 441	Deterministic Models in Operations Research	3
IEN 442	Stochastic Models in Operations Research	3
IEN 465	Production and Inventory Control	3
IEN 494	Senior Project	3
IEN 512	Statistical Quality Control and Quality Management	3
IEN 524	Decision Support Systems in Industrial Engineering	3
IEN 547	Computer Simulation Systems	3
IEN 557	Ergonomics and Human Factors Engineering	3
IEN 568	Materials Handling and Facilities Planning	3
Other IEN Courses		
IEN 407	Product Design for Manufacturing	3
IEN 505	Robotics	3
IEN 507	Design of Manufacturing Systems	3
IEN 509	Automated Assembly	3
Other Courses		
Additional Engineering Credit Hours		3
Total Math & Basic Sciences Credit Hours		33
Total General Education Credit Hours		24
Other Credit Hours		3
Total Credit Hours		128

Plan of Study

Course	Title	Credit Hours
Freshman Year		
Fall		
IEN 111	Introduction to Engineering I	3
ENG 105	English Composition I	3
MTH 151	Calculus I for Engineers	5
PHY 205	University Physics I	3
	Credit Hours	14
Spring		
IEN 112	Introduction to Engineering II	2
ENG 107	English Composition II: Science and Technology	3
MTH 162	Calculus II	4
ECO 211 or 212	Principles of Microeconomics or Principles of Macroeconomics	3
PHY 206	University Physics II	3
PHY 208	University Physics II Lab	1
	Credit Hours	16
Sophomore Year		
Fall		
HA Cognate (HA Elective) ¹		3
IEN 201	Methods Analysis and Work Measurement	3
MTH 210	Introduction to Linear Algebra	3
PHY 207	University Physics III	3
PHY 209	University Physics III Lab	1
PS Cognate (PS Elective) ¹		3
	Credit Hours	16
Spring		
HA Cognate (HA Elective) ¹		3
CAE 210, ECE 205, or MAE 303	Mechanics of Solids I or Principles of Electrical Engineering-I or Thermodynamics I	3
CHM 151	Chemistry for Engineers	3
CHM 153	Chemistry Laboratory for Engineers	1
PS Cognate (PS Elective) ¹		3
MTH 311	Introduction to Ordinary Differential Equations	3
	Credit Hours	16
Junior Year		
Fall		
HA Cognate (Advanced HA Elective) ¹		3
IEN 310	Introduction to Engineering Probability	3
IEN 351	Industrial Safety Engineering	3
IEN 380	Engineering Economy	3
IEN 441	Deterministic Models in Operations Research	3
PS Cognate (Advanced PS Elective) ¹		3
	Credit Hours	18
Spring		
IEN 312	Applied Statistical Methods	3
IEN 361	Industrial Cost Analysis	3
IEN 363	Project Management for Engineers	3
IEN 406	Computer-Aided Manufacturing	3
IEN 407	Product Design for Manufacturing	3

IEN 442	Stochastic Models in Operations Research	3
	Credit Hours	18
Senior Year		
Fall		
IEN 465	Production and Inventory Control	3
IEN 505	Robotics	3
IEN 512	Statistical Quality Control and Quality Management	3
IEN 547	Computer Simulation Systems	3
IEN 557	Ergonomics and Human Factors Engineering	3
	Credit Hours	15
Spring		
IEN 494	Senior Project	3
IEN 507	Design of Manufacturing Systems	3
IEN 509	Automated Assembly	3
IEN 524	Decision Support Systems in Industrial Engineering	3
IEN 568	Materials Handling and Facilities Planning	3
	Credit Hours	15
	Total Credit Hours	128

¹ To be selected from lists of approved People and Society (PS)/Humanities and Arts (HA) (or applicable cognates). Students take a minimum of 3 courses (9 credit hours) in HA cognate and 3 courses in PS Cognate (9 credit hours).

Industrial Engineering - Pre-Med Concentration

Curriculum Requirements

Code	Title	Credit Hours
Core Requirement Courses		
IEN 111	Introduction to Engineering I	3
IEN 112	Introduction to Engineering II	2
IEN 201	Methods Analysis and Work Measurement	3
IEN 312	Applied Statistical Methods	3
IEN 351	Industrial Safety Engineering	3
IEN 361	Industrial Cost Analysis	3
IEN 363	Project Management for Engineers	3
IEN 380	Engineering Economy	3
IEN 406	Computer-Aided Manufacturing	3
IEN 441	Deterministic Models in Operations Research	3
IEN 442	Stochastic Models in Operations Research	3
IEN 465	Production and Inventory Control	3
IEN 494	Senior Project	3
IEN 512	Statistical Quality Control and Quality Management	3
IEN 524	Decision Support Systems in Industrial Engineering	3
IEN 547	Computer Simulation Systems	3
IEN 557	Ergonomics and Human Factors Engineering	3
IEN 568	Materials Handling and Facilities Planning	3
Other Courses		
	Total Math & Basic Sciences Credit Hours	58
	Total General Education Credit Hours	24
	Other Credit Hours	3
	Total Credit Hours	138

Plan of Study

Course	Title	Credit Hours
Freshman Year		
Fall		
IEN 111	Introduction to Engineering I	3
ENG 105	English Composition I	3
MTH 151	Calculus I for Engineers	5
PHY 205	University Physics I	3
ECO 211 or 212	Principles of Microeconomics or Principles of Macroeconomics	3
Credit Hours		17
Spring		
IEN 112	Introduction to Engineering II	2
ENG 107	English Composition II: Science and Technology	3
MTH 162	Calculus II	4
CHM 111	Principles of Chemistry I	3
CHM 113	Chemistry Laboratory I	1
PHY 206	University Physics II	3
PHY 208	University Physics II Lab	1
Credit Hours		17
Sophomore Year		
Fall		
BIL 150	General Biology	4
BIL 151	General Biology Laboratory	1
CHM 112	Principles of Chemistry II	3
CHM 114	Chemistry Laboratory II	1
IEN 201	Methods Analysis and Work Measurement	3
MTH 210	Introduction to Linear Algebra	3
PHY 207	University Physics III	3
Credit Hours		18
Spring		
BIL 160	Evolution and Biodiversity	4
BIL 161	Evolution and Biodiversity Laboratory	1
HA Cognate (HA Elective) ¹		3
HA Cognate (HA Elective) ¹		3
MTH 311	Introduction to Ordinary Differential Equations	3
PHY 209	University Physics III Lab	1
PS Cognate (PS Elective) ¹		3
Credit Hours		18
Junior Year		
Fall		
CHM 201	Organic Chemistry I (Lecture)	3
CHM 205	Organic Chemistry Laboratory I	1
IEN 310	Introduction to Engineering Probability	3
IEN 351	Industrial Safety Engineering	3
IEN 380	Engineering Economy	3
IEN 441	Deterministic Models in Operations Research	3
Credit Hours		16
Spring		
Advanced Bioscience Elective ²		3
Advanced Bioscience Elective ²		3
Technical or Science Lab Elective ³		1

IEN 312	Applied Statistical Methods	3
IEN 361	Industrial Cost Analysis	3
IEN 363	Project Management for Engineers	3
IEN 442	Stochastic Models in Operations Research	3
	Credit Hours	19
Senior Year		
Fall		
IEN 465	Production and Inventory Control	3
IEN 512	Statistical Quality Control and Quality Management	3
IEN 547	Computer Simulation Systems	3
IEN 557	Ergonomics and Human Factors Engineering	3
HA Cognate (Advanced HA Elective) ¹		3
PS Cognate (PS Elective) ¹		3
	Credit Hours	18
Spring		
IEN 406	Computer-Aided Manufacturing	3
IEN 494	Senior Project	3
IEN 524	Decision Support Systems in Industrial Engineering	3
IEN 568	Materials Handling and Facilities Planning	3
PS Cognate (Advanced PS Elective) ¹		3
	Credit Hours	15
	Total Credit Hours	138

¹ To be selected from lists of approved People and Society (PS)/Humanities and Arts (HA) (or applicable cognates). Students take a minimum of 3 courses (9 credit hours) in HA cognate and 3 courses in PS Cognate (9 credit hours).

² Advanced Bioscience Elective is to be chosen from BIL 250, BIL 255, BIL 268, MIC 301, CHM 202, or BMB 402. **Students should verify admission requirements of their medical school of interest to verify Adv. Bioscience requirements, e.g. organic chemistry II, biochemistry, or both.**

³ Technical or Science Elective Lab is selected from a science lab complementing the Adv Bioscience Elective (e.g., CHM or BIL lab).

B.S./M.S.- Industrial Engineering

Curriculum Requirements

Code	Title	Credit Hours
Engineering Courses		
IEN 111	Introduction to Engineering I	3
IEN 112	Introduction to Engineering II	2
IEN 201	Methods Analysis and Work Measurement	3
IEN 310	Introduction to Engineering Probability	3
IEN 312	Applied Statistical Methods	3
IEN 351	Industrial Safety Engineering	3
IEN 361	Industrial Cost Analysis	3
IEN 363	Project Management for Engineers	3
IEN 380	Engineering Economy	3
IEN 406	Computer-Aided Manufacturing	3
IEN 441	Deterministic Models in Operations Research	3
IEN 442	Stochastic Models in Operations Research	3
IEN 465	Production and Inventory Control	3
IEN 512	Statistical Quality Control and Quality Management	3
IEN 524	Decision Support Systems in Industrial Engineering	3
IEN 547	Computer Simulation Systems	3
IEN 557	Ergonomics and Human Factors Engineering	3
IEN 568	Materials Handling and Facilities Planning	3

IEN 694	Master's Capstone Design Project	3.00
IEN 712	Design of Experiments	3
IEN 742	Linear Programming and Extensions	3
IEN 757	Ergonomics and Occupational Biomechanics	3
IEN 764	Supply Chain Management	3
IEN 765	Advanced Production Systems	3
Choose one of the following:		3
CAE 210	Mechanics of Solids I	
ECE 205	Principles of Electrical Engineering-I	
MAE 303	Thermodynamics I	
IEN Electives		21
Technical Elective		3
Math and Science Courses		
MTH 151	Calculus I for Engineers	5
MTH 162	Calculus II	4
MTH 210	Introduction to Linear Algebra	3
MTH 311	Introduction to Ordinary Differential Equations	3
CHM 151	Chemistry for Engineers	3
CHM 153	Chemistry Laboratory for Engineers	1
PHY 205	University Physics I	3
PHY 206	University Physics II	3
PHY 207	University Physics III	3
PHY 208	University Physics II Lab	1
PHY 209	University Physics III Lab	1
Additional Requirements		
ECO 211 or ECO 212	Principles of Microeconomics Principles of Macroeconomics	3
ENG 105	English Composition I	3
ENG 107	English Composition II: Science and Technology	3
Arts and Humanities Cognate		9
People and Society Cognate		9
Total Credit Hours		155

Plan of Study

Course	Title	Credit Hours
Freshman Year		
Fall		
IEN 111	Introduction to Engineering I	3
ENG 105	English Composition I	3
MTH 151	Calculus I for Engineers	5
PHY 205	University Physics I	3
	Credit Hours	14
Spring		
IEN 112	Introduction to Engineering II	2
ENG 107	English Composition II: Science and Technology	3
MTH 162	Calculus II	4
ECO 211 or 212	Principles of Microeconomics or Principles of Macroeconomics	3
PHY 206	University Physics II	3
PHY 208	University Physics II Lab	1
	Credit Hours	16

Sophomore Year		
Fall		
HA Cognate (HA Elective) ¹		3
IEN 201	Methods Analysis and Work Measurement	3
MTH 210	Introduction to Linear Algebra	3
PHY 207	University Physics III	3
PHY 209	University Physics III Lab	1
PS Cognate (PS Elective) ¹		3
	Credit Hours	16
Spring		
HA Cognate (HA Elective) ¹		3
CAE 210, ECE 205, or MAE 303	Mechanics of Solids I or Principles of Electrical Engineering-I or Thermodynamics I	3
CHM 151	Chemistry for Engineers	3
CHM 153	Chemistry Laboratory for Engineers	1
PS Cognate (PS Elective) ¹		3
MTH 311	Introduction to Ordinary Differential Equations	3
	Credit Hours	16
Junior Year		
Fall		
HA Cognate (Advanced HA Elective) ¹		3
IEN 310	Introduction to Engineering Probability	3
IEN 351	Industrial Safety Engineering	3
IEN 380	Engineering Economy	3
IEN 441	Deterministic Models in Operations Research	3
PS Cognate (Advanced PS Elective) ¹		3
	Credit Hours	18
Spring		
IEN 312	Applied Statistical Methods	3
IEN 361	Industrial Cost Analysis	3
IEN 363	Project Management for Engineers	3
IEN 406	Computer-Aided Manufacturing	3
IEN 442	Stochastic Models in Operations Research	3
Technical Elective ²		3
	Credit Hours	18
Senior Year		
Fall		
IEN 465	Production and Inventory Control	3
IEN 512	Statistical Quality Control and Quality Management	3
IEN 547	Computer Simulation Systems	3
IEN 557	Ergonomics and Human Factors Engineering	3
IEN Elective ³		3
IEN Elective ⁴		3
	Credit Hours	18
Spring		
IEN 524	Decision Support Systems in Industrial Engineering	3
IEN 568	Materials Handling and Facilities Planning	3
IEN Elective ³		3
IEN Elective ³		3
IEN Elective ⁴		3

IEN Elective ⁴		3
	Credit Hours	18
Fifth Year		
Fall		
IEN 694	Master's Capstone Design Project	3.00
IEN 712	Design of Experiments	3
IEN 742	Linear Programming and Extensions	3
IEN Elective ⁴		3
	Credit Hours	12
Spring		
IEN 757	Ergonomics and Occupational Biomechanics	3
IEN 764	Supply Chain Management	3
IEN 765	Advanced Production Systems	3
	Credit Hours	9
	Total Credit Hours	155

¹ To be selected from lists of approved People and Society (PS)/Humanities and Arts (HA) (or applicable cognates). Students take a minimum of 3 courses (9 credit hours) in HA cognate and 3 courses in PS Cognate (9 credit hours).

² The Technical Elective is selected from courses at the 300 level or above, offered by one of the following departments: MTH, BME (except BME 320), CAE, ECO, EEN, IEN, MEN, ACC, FIN, MGT(Except MGT 303), MAS, MKT.

³ IEN Electives are selected from courses at the 300 level or above, offered by the Department of Industrial Engineering.

⁴ IEN Electives are selected from courses at the 600 or 700 level, offered by the Department of Industrial Engineering.

Industrial Engineering - Engineering Management Concentration - Five Year Program

Curriculum Requirements

Code	Title	Credit Hours
Engineering Courses		
IEN 111	Introduction to Engineering I	3
IEN 112	Introduction to Engineering II	2
IEN 201	Methods Analysis and Work Measurement	3
IEN 310	Introduction to Engineering Probability	3
IEN 312	Applied Statistical Methods	3
IEN 351	Industrial Safety Engineering	3
IEN 361	Industrial Cost Analysis	3
IEN 363	Project Management for Engineers	3
IEN 380	Engineering Economy	3
IEN 406	Computer-Aided Manufacturing	3
IEN 441	Deterministic Models in Operations Research	3
IEN 442	Stochastic Models in Operations Research	3
IEN 465	Production and Inventory Control	3
IEN 512	Statistical Quality Control and Quality Management	3
IEN 524	Decision Support Systems in Industrial Engineering	3
IEN 547	Computer Simulation Systems	3
IEN 557	Ergonomics and Human Factors Engineering	3
IEN 568	Materials Handling and Facilities Planning	3
IEN 570	Engineering Management	3
IEN 571	Engineering Entrepreneurship	3
IEN 572	Management of Technological Innovation	3
IEN 694	Master's Capstone Design Project	3.00
IEN 712	Design of Experiments	3

IEN 742	Linear Programming and Extensions	3
IEN 757	Ergonomics and Occupational Biomechanics	3
IEN 764	Supply Chain Management	3
IEN 765	Advanced Production Systems	3
IEN Electives		12
Choose one of the following:		3
CAE 210	Mechanics of Solids I	
ECE 205	Principles of Electrical Engineering-I	
MAE 303	Thermodynamics I	
Math and Science Courses		
MTH 151	Calculus I for Engineers	5
MTH 162	Calculus II	4
MTH 210	Introduction to Linear Algebra	3
MTH 311	Introduction to Ordinary Differential Equations	3
CHM 151	Chemistry for Engineers	3
CHM 153	Chemistry Laboratory for Engineers	1
PHY 205	University Physics I	3
PHY 206	University Physics II	3
PHY 207	University Physics III	3
PHY 208	University Physics II Lab	1
PHY 209	University Physics III Lab	1
Additional Requirements		
BSL 212	Introduction to Business Law	3
or BUS 202	Introduction to the Legal Environment of Business	
ECO 211	Principles of Microeconomics	3
or ECO 212	Principles of Macroeconomics	
ENG 105	English Composition I	3
ENG 107	English Composition II: Science and Technology	3
Arts and Humanities Cognate		9
People and Society Cognate		9
Total Credit Hours		155

Plan of Study

Course	Title	Credit Hours
Freshman Year		
Fall		
IEN 111	Introduction to Engineering I	3
ENG 105	English Composition I	3
MTH 151	Calculus I for Engineers	5
PHY 205	University Physics I	3
	Credit Hours	14
Spring		
IEN 112	Introduction to Engineering II	2
ENG 107	English Composition II: Science and Technology	3
MTH 162	Calculus II	4
ECO 211 or 212	Principles of Microeconomics or Principles of Macroeconomics	3
PHY 206	University Physics II	3
PHY 208	University Physics II Lab	1
	Credit Hours	16

Sophomore Year		
Fall		
BSL 212 or BUS 202	Introduction to Business Law or Introduction to the Legal Environment of Business	3
HA Cognate (HA Elective) ¹		3
IEN 201	Methods Analysis and Work Measurement	3
MTH 210	Introduction to Linear Algebra	3
PHY 207	University Physics III	3
PHY 209	University Physics III Lab	1
	Credit Hours	16
Spring		
HA Cognate (HA Elective) ¹		3
CAE 210, ECE 205, or MAE 303	Mechanics of Solids I or Principles of Electrical Engineering-I or Thermodynamics I	3
CHM 151	Chemistry for Engineers	3
CHM 153	Chemistry Laboratory for Engineers	1
MTH 311	Introduction to Ordinary Differential Equations	3
PS Cognate (PS Elective) ¹		3
	Credit Hours	16
Junior Year		
Fall		
HA Cognate (Advanced HA Elective) ¹		3
IEN 310	Introduction to Engineering Probability	3
IEN 351	Industrial Safety Engineering	3
IEN 380	Engineering Economy	3
IEN 441	Deterministic Models in Operations Research	3
PS Cognate (Advanced PS Elective) ¹		3
	Credit Hours	18
Spring		
IEN 312	Applied Statistical Methods	3
IEN 361	Industrial Cost Analysis	3
IEN 363	Project Management for Engineers	3
IEN 406	Computer-Aided Manufacturing	3
IEN 442	Stochastic Models in Operations Research	3
PS Cognate (Advanced PS Elective) ¹		3
	Credit Hours	18
Senior Year		
Fall		
IEN 465	Production and Inventory Control	3
IEN 512	Statistical Quality Control and Quality Management	3
IEN 547	Computer Simulation Systems	3
IEN 557	Ergonomics and Human Factors Engineering	3
IEN 571	Engineering Entrepreneurship	3
IEN Elective ²		3
	Credit Hours	18
Spring		
IEN 524	Decision Support Systems in Industrial Engineering	3
IEN 568	Materials Handling and Facilities Planning	3
IEN 570	Engineering Management	3
IEN 572	Management of Technological Innovation	3
IEN Elective ²		3

IEN Elective ²		3
	Credit Hours	18
Fifth Year		
Fall		
IEN 694	Master's Capstone Design Project	3.00
IEN 712	Design of Experiments	3
IEN 742	Linear Programming and Extensions	3
IEN Elective ²		3
	Credit Hours	12
Spring		
IEN 757	Ergonomics and Occupational Biomechanics	3
IEN 764	Supply Chain Management	3
IEN 765	Advanced Production Systems	3
	Credit Hours	9
	Total Credit Hours	155

¹ To be selected from lists of approved People and Society (PS)/Humanities and Arts (HA) or applicable cognates). Students take a minimum of 3 courses (9 credit hours) in HA cognate and 3 courses in PS Cognate (9 credit hours).

² IEN Electives are selected from courses at the 600- or 700-level, offered by the Department of Industrial Engineering.

Minor in Industrial Engineering

A student majoring in another discipline who chooses to take a minor in Industrial Engineering must complete 15 credit hours of coursework consisting of the courses listed below. A minimum of 12 credits must be taken at the University of Miami and IEN 201 must be taken at the University of Miami. In addition, you must achieve a minimum GPA of 2.5 for the courses in the minor.

Code	Title	Credit Hours
IEN 201	Methods Analysis and Work Measurement	3
IEN 310	Introduction to Engineering Probability	3
or IEN 311	Applied Probability and Statistics	
Select three from the following courses:		9
IEN 351	Industrial Safety Engineering	
IEN 361	Industrial Cost Analysis	
IEN 363	Project Management for Engineers	
IEN 380	Engineering Economy	
IEN 512	Statistical Quality Control and Quality Management	
IEN 557	Ergonomics and Human Factors Engineering	
IEN 570	Engineering Management	
IEN 572	Management of Technological Innovation	
Total Credit Hours		15

Substitutions may be accepted with the permission of the Department Chairman except for IEN 201.

Mechanical and Aerospace Engineering

<http://www.mae.miami.edu>

Dept. Code: MAE

Introduction

Engineering is the art of applying the knowledge of science for the benefit of humanity. Mechanical Engineering is the most broadly based area of engineering. It is concerned with the analysis, design, development and application of equipment for such diverse fields as energy conversion, transportation, production machinery, consumer goods, and environmental control. Today's advanced technology is largely a result of the skill of mechanical engineers who are heavily represented in most fields of modern industry.

Because of the varied careers and opportunities which are available to the Mechanical Engineering graduates, the curriculum emphasizes education in the fundamentals of the physical, mathematical, and engineering sciences, including materials science, solid mechanics, fluid mechanics and

thermodynamics. These basic subjects are followed by courses in their application to the design and analysis of engineering devices and systems. Computers are utilized for analysis and design throughout the curriculum.

Aerospace Engineering is concerned with the analysis, design and development of a wide variety of aircraft and space vehicles and systems. The undergraduate aerospace engineering program is designed to provide a broad based foundation in aeronautics and astronautics, including topics such as aerodynamics, propulsion, aerospace structures and materials, flight dynamics, control and performance.

In the junior and senior years, the student is assisted in choosing technical electives in preparation for a degree of professional specialization or for further study in engineering, law, business or medicine. With the aid of an advisor and the concurrence of the department chairman, the student may select courses compatible with a variety of career goals.

The department offers two undergraduate degrees:

- Bachelor of Science in Mechanical Engineering and
- Bachelor of Science in Aerospace Engineering.

Within the Bachelor of Science in Mechanical Engineering program, sequences of courses are available to provide advanced knowledge in such traditional areas as electromechanical design, heat transfer, solid mechanics, fluid mechanics, and materials science. There are concentrations in:

- Aerospace Engineering and
- Internal Combustion Engines.

Mission of Mechanical and Aerospace Engineering Department

The mission of the Department of Mechanical and Aerospace Engineering is to provide excellent undergraduate education in aerospace engineering and undergraduate and graduate education in mechanical engineering that will prepare graduates to meet Society's changing needs and aspirations.

Mission of the Mechanical Engineering Program

The mission of the Mechanical Engineering program is to provide excellent undergraduate education in Mechanical Engineering that will prepare graduates to meet society's changing needs and aspirations.

Mission of the Aerospace Engineering Program

The mission of the Aerospace Engineering program is to provide excellent undergraduate education in Aerospace Engineering that will prepare graduates to meet society's changing needs and aspirations.

Educational Objectives

The educational objectives of the undergraduate Aerospace Engineering (B.S.A.S.E.) Program are to prepare graduates, within the first four to six years after graduation, to be:

- working as a professional or as an entrepreneur in an area closely related to aerospace engineering, and/or
- exhibiting lifelong learning by pursuing or having completed a graduate or professional degree and/or demonstrated professional development.

The educational objectives of the undergraduate Mechanical Engineering (B.S.M.E.) Program are to prepare graduates, within the first four to six years after graduation, to be:

- working as a professional or as an entrepreneur in an area closely related to mechanical engineering, and/or
- exhibiting lifelong learning by pursuing or having completed a graduate or professional degree and/or demonstrated professional development.

Advanced Writing and Communication Skills

Mechanical & Aerospace Engineering students satisfy the University's Advanced Writing and Communication Skills requirement by completing a set of classroom courses, laboratory courses and design courses where they learn effective oral, graphical and technical writing skills. Mechanical & Aerospace Engineering students acquire Advanced Writing and Communication skills in the following core courses:

Code	Title	Credit Hours
MAE 111	Introduction to Engineering I	3
MAE 112	Introduction to Engineering II	2
MAE 241	Measurements Laboratory	3
MAE 351	Mechanics Laboratory	2
MAE 404	Experimental Engineering Laboratory	2
MAE 442	Capstone Design Project-I	1

or MAE 444	Capstone Aerospace Design Project-I	
MAE 443	Capstone Design Project-II	2
or MAE 445	Capstone Aerospace Design Project-II	

Graduate Studies

Graduate programs leading to the degrees of Master of Science and Doctor of Philosophy are offered by the Department with options in various engineering and interdisciplinary fields. Detailed information is available in the Bulletin of the Graduate School (p. 1127).

Majors in Mechanical and Aerospace Engineering

- B.S. in Mechanical Engineering (p. 699)
- Mechanical Engineering - Aerospace Engineering Concentration (p. 702)
- Mechanical Engineering - Internal Combustion Engines Concentration (p. 704)
- B.S. in Aerospace Engineering (p. 697)

Dual B.S./M.S. Degrees in Mechanical and Aerospace Engineering

- B.S. in Aerospace Engineering and B.S. in Mechanical Engineering Dual Degree (p. 710)
- B.S. and M.S. in Mechanical Engineering (p. 707)

Minor in Mechanical and Aerospace Engineering

- Mechanical Engineering (p. 713)

B.S. in Aerospace Engineering

<http://www.coe.miami.edu/dept-mac/>

Curriculum Requirements

Code	Title	Credit Hours
Engineering Courses		
CAE 210	Mechanics of Solids I	3
ECE 205	Principles of Electrical Engineering-I	3
IEN 311	Applied Probability and Statistics	3
MAE 111	Introduction to Engineering I	3
MAE 112	Introduction to Engineering II	2
MAE 202	Dynamics	3
MAE 207	Mechanics of Solids II	3
MAE 241	Measurements Laboratory	3
MAE 302	Mechanical Behavior of Materials	3
MAE 303	Thermodynamics I	3
MAE 309	Fluid Mechanics	3
MAE 310	Heat Transfer	3
MAE 341	Mechanical Design I	3
MAE 351	Mechanics Laboratory	2
MAE 371	Aerodynamics	3
MAE 404	Experimental Engineering Laboratory	2
MAE 415	Automatic Control	3
MAE 444	Capstone Aerospace Design Project-I	3
MAE 445	Capstone Aerospace Design Project-II	3
MAE 446	Aircraft Design	3
MAE 470	Introduction to Aerospace Structures	3
MAE 471	Flight Dynamics	3
MAE 472	Design of Aerospace Structures	3
MAE 570	Aero Propulsion	3
MAE Technical Elective		6

Math and Science Courses		
MTH 151	Calculus I for Engineers	5
MTH 162	Calculus II	4
MTH 211	Calculus III	3
MTH 311	Introduction to Ordinary Differential Equations	3
CHM 151	Chemistry for Engineers	3
CHM 153	Chemistry Laboratory for Engineers	1
PHY 205	University Physics I	3
PHY 206	University Physics II	3
PHY 207	University Physics III	3
PHY 208	University Physics II Lab	1
PHY 209	University Physics III Lab	1
Additional Requirements		
ENG 105	English Composition I	3
ENG 107	English Composition II: Science and Technology	3
Arts and Humanities Cognate		9
People and Society Cognate		9
Total Credit Hours		129

Plan of Study

Course	Title	Credit Hours
Freshman Year		
Fall		
MAE 111	Introduction to Engineering I	3
ENG 105	English Composition I	3
MTH 151	Calculus I for Engineers	5
PHY 205	University Physics I	3
Credit Hours		14
Spring		
MAE 112	Introduction to Engineering II	2
CAE 210	Mechanics of Solids I	3
ENG 107	English Composition II: Science and Technology	3
MTH 162	Calculus II	4
PHY 206	University Physics II	3
PHY 208	University Physics II Lab	1
Credit Hours		16
Sophomore Year		
Fall		
MAE 207	Mechanics of Solids II	3
IEN 311	Applied Probability and Statistics	3
MTH 211	Calculus III	3
PHY 207	University Physics III	3
PHY 209	University Physics III Lab	1
HA Cognate (HA Elective) ¹		3
Credit Hours		16
Spring		
MAE 202	Dynamics	3
MAE 241	Measurements Laboratory	3
CHM 151	Chemistry for Engineers	3
CHM 153	Chemistry Laboratory for Engineers	1
ECE 205	Principles of Electrical Engineering-I	3

PS Cognate (PS Elective) ¹		3
	Credit Hours	16
Junior Year		
Fall		
MAE 302	Mechanical Behavior of Materials	3
MAE 303	Thermodynamics I	3
MAE 309	Fluid Mechanics	3
MAE 341	Mechanical Design I	3
MTH 311	Introduction to Ordinary Differential Equations	3
HA Cognate (HA Elective) ¹		3
	Credit Hours	18
Spring		
MAE 310	Heat Transfer	3
MAE 351	Mechanics Laboratory	2
MAE 470	Introduction to Aerospace Structures	3
MAE 371	Aerodynamics	3
MAE Technical Elective ²		3
PS Cognate (PS Elective) ¹		3
	Credit Hours	17
Senior Year		
Fall		
MAE 570	Aero Propulsion	3
MAE 404	Experimental Engineering Laboratory	2
MAE 471	Flight Dynamics	3
MAE 472	Design of Aerospace Structures	3
MAE 444	Capstone Aerospace Design Project-I	3
MAE 446	Aircraft Design	3
	Credit Hours	17
Spring		
MAE 415	Automatic Control	3
MAE 445	Capstone Aerospace Design Project-II	3
MAE Technical Electives ²		3
HA Cognate (Adv. HA Elective) ¹		3
PS Cognate (Adv. PS Elective) ¹		3
	Credit Hours	15
	Total Credit Hours	129

¹ You must complete a minimum of 1 PS cognate and 1 HA cognate to be selected from the list of available cognates. Each cognate should be a minimum of three courses (9 credit hours).

² Technical Electives are advanced courses in mathematics, science or engineering, approved by the Faculty Advisor, as appropriate for individual objectives.

B.S. in Mechanical Engineering

<http://www.coe.miami.edu/dept-mac/>

Curriculum Requirements

Code	Title	Credit Hours
Engineering Courses		
CAE 210	Mechanics of Solids I	3
ECE 205	Principles of Electrical Engineering-I	3
IEN 311	Applied Probability and Statistics	3
MAE 111	Introduction to Engineering I	3

MAE 112	Introduction to Engineering II	2
MAE 202	Dynamics	3
MAE 207	Mechanics of Solids II	3
MAE 241	Measurements Laboratory	3
MAE 301	Engineering Materials Science	3
MAE 302	Mechanical Behavior of Materials	3
MAE 303	Thermodynamics I	3
MAE 309	Fluid Mechanics	3
MAE 310	Heat Transfer	3
MAE 341	Mechanical Design I	3
MAE 342	Mechanical Design II	3
MAE 351	Mechanics Laboratory	2
MAE 362	Computer Analysis of Mechanical and Aerospace Engineering Problems	3
MAE 404	Experimental Engineering Laboratory	2
MAE 412	System Dynamics	3
MAE 415	Automatic Control	3
MAE 440	Introduction to Capstone Design	3
MAE 441	Design of Fluid and Thermal Systems	3
MAE 442	Capstone Design Project-I	1
MAE 443	Capstone Design Project-II	2
MAE Technical Electives		6
Technical Elective		3
Math and Science Courses		
MTH 151	Calculus I for Engineers	5
MTH 162	Calculus II	4
MTH 211	Calculus III	3
MTH 311	Introduction to Ordinary Differential Equations	3
CHM 151	Chemistry for Engineers	3
CHM 153	Chemistry Laboratory for Engineers	1
PHY 205	University Physics I	3
PHY 206	University Physics II	3
PHY 207	University Physics III	3
PHY 208	University Physics II Lab	1
PHY 209	University Physics III Lab	1
Additional Requirements		
ENG 105	English Composition I	3
ENG 107	English Composition II: Science and Technology	3
Arts and Humanities Cognate		9
People and Society Cognate		9
Total Credit Hours		129

Plan of Study

Course	Title	Credit Hours
Freshman Year		
Fall		
MAE 111	Introduction to Engineering I	3
ENG 105	English Composition I	3
MTH 151	Calculus I for Engineers	5
PHY 205	University Physics I	3
	Credit Hours	14

Spring		
MAE 112	Introduction to Engineering II	2
CAE 210	Mechanics of Solids I	3
ENG 107	English Composition II: Science and Technology	3
MTH 162	Calculus II	4
PHY 206	University Physics II	3
PHY 208	University Physics II Lab	1
	Credit Hours	16
Sophomore Year		
Fall		
MAE 207	Mechanics of Solids II	3
IEN 311	Applied Probability and Statistics	3
MTH 211	Calculus III	3
PHY 207	University Physics III	3
PHY 209	University Physics III Lab	1
PS Cognate (PS Elective) ¹		3
	Credit Hours	16
Spring		
MAE 202	Dynamics	3
MAE 241	Measurements Laboratory	3
ECE 205	Principles of Electrical Engineering-I	3
CHM 151	Chemistry for Engineers	3
CHM 153	Chemistry Laboratory for Engineers	1
HA Cognate (HA Elective) ¹		3
	Credit Hours	16
Junior Year		
Fall		
MAE 302	Mechanical Behavior of Materials	3
MAE 303	Thermodynamics I	3
MAE 309	Fluid Mechanics	3
MAE 341	Mechanical Design I	3
MTH 311	Introduction to Ordinary Differential Equations	3
PS Cognate (PS Elective) ¹		3
	Credit Hours	18
Spring		
MAE 301	Engineering Materials Science	3
MAE 310	Heat Transfer	3
MAE 342	Mechanical Design II	3
MAE 351	Mechanics Laboratory	2.00
MAE 362	Computer Analysis of Mechanical and Aerospace Engineering Problems	3
MAE 440	Introduction to Capstone Design	3
	Credit Hours	17
Senior Year		
Fall		
MAE 404	Experimental Engineering Laboratory	2.00
MAE 412	System Dynamics	3
MAE 441	Design of Fluid and Thermal Systems	3
MAE 442	Capstone Design Project-I	1
Technical Elective ²		3
PS Cognate ¹		3
HA Cognate ¹		3
	Credit Hours	18

Spring		
MAE 443	Capstone Design Project-II	2
MAE 415	Automatic Control	3
MAE Technical Elective ²		6
HA Cognate (Adv. HA Elective) ¹		3
	Credit Hours	14
	Total Credit Hours	129

¹ You must complete a minimum of 1 PS cognate and 1 HA cognate to be selected from the list of available cognates. Each cognate should be a minimum of 3 courses (9 credits).

² Technical electives are advanced courses in mathematics, science or engineering, approved by the Faculty Advisor, as appropriate for individual objectives.

Mechanical Engineering - Aerospace Engineering Concentration

<http://www.coe.miami.edu/dept-mac/>

The mission of the aerospace engineer is to design and manufacture payload carrying vehicles to travel distances at the lowest cost in the shortest period of time. The training of the aerospace engineer is by demand multidisciplinary and by spirit pioneering. It includes aerodynamics, propulsion, advanced materials, structures, controls, robotics, electronics and computer usage.

An option has been developed to allow students at the University of Miami to have a concentration of courses in Aerospace Engineering. This concentration in aerospace is built on the existing accredited degree program in Mechanical Engineering.

Curriculum Requirements

Code	Title	Credit Hours
Engineering Courses		
CAE 210	Mechanics of Solids I	3
ECE 205	Principles of Electrical Engineering-I	3
IEN 311	Applied Probability and Statistics	3
MAE 111	Introduction to Engineering I	3
MAE 112	Introduction to Engineering II	2
MAE 202	Dynamics	3
MAE 207	Mechanics of Solids II	3
MAE 241	Measurements Laboratory	3
MAE 301	Engineering Materials Science	3
MAE 302	Mechanical Behavior of Materials	3
MAE 303	Thermodynamics I	3
MAE 309	Fluid Mechanics	3
MAE 310	Heat Transfer	3
MAE 341	Mechanical Design I	3
MAE 351	Mechanics Laboratory	2
MAE 371	Aerodynamics	3
MAE 404	Experimental Engineering Laboratory	2
MAE 415	Automatic Control	3
MAE 440	Introduction to Capstone Design	3
MAE 444	Capstone Aerospace Design Project-I	1
MAE 445	Capstone Aerospace Design Project-II	2
MAE 446	Aircraft Design	3
MAE 470	Introduction to Aerospace Structures	3
MAE 471	Flight Dynamics	3
MAE 472	Design of Aerospace Structures	3
MAE 570	Aero Propulsion	3
MAE Technical Elective		6

Math and Science Courses		
MTH 151	Calculus I for Engineers	5
MTH 162	Calculus II	4
MTH 211	Calculus III	3
MTH 311	Introduction to Ordinary Differential Equations	3
CHM 151	Chemistry for Engineers	3
CHM 153	Chemistry Laboratory for Engineers	1
PHY 205	University Physics I	3
PHY 206	University Physics II	3
PHY 207	University Physics III	3
PHY 208	University Physics II Lab	1
PHY 209	University Physics III Lab	1
Additional Requirements		
ENG 105	English Composition I	3
ENG 107	English Composition II: Science and Technology	3
Arts and Humanities Cognate		9
People and Society Cognate		9
Total Credit Hours		132

Plan of Study

Course	Title	Credit Hours
Freshman Year		
Fall		
MAE 111	Introduction to Engineering I	3
ENG 105	English Composition I	3
MTH 151	Calculus I for Engineers	5
PHY 205	University Physics I	3
Credit Hours		14
Spring		
MAE 112	Introduction to Engineering II	2
CAE 210	Mechanics of Solids I	3
ENG 107	English Composition II: Science and Technology	3
MTH 162	Calculus II	4
PHY 206	University Physics II	3
PHY 208	University Physics II Lab	1
Credit Hours		16
Sophomore Year		
Fall		
MAE 207	Mechanics of Solids II	3
IEN 311	Applied Probability and Statistics	3
MTH 211	Calculus III	3
PHY 207	University Physics III	3
PHY 209	University Physics III Lab	1
PS Cognate (PS Elective) ¹		3
Credit Hours		16
Spring		
MAE 202	Dynamics	3
MAE 241	Measurements Laboratory	3
CHM 151	Chemistry for Engineers	3
CHM 153	Chemistry Laboratory for Engineers	1
ECE 205	Principles of Electrical Engineering-I	3

HA Cognate (HA Elective) ¹		3
	Credit Hours	16
Junior Year		
Fall		
MAE 301	Engineering Materials Science	3
MAE 302	Mechanical Behavior of Materials	3
MAE 303	Thermodynamics I	3
MAE 309	Fluid Mechanics	3
MAE 341	Mechanical Design I	3
MTH 311	Introduction to Ordinary Differential Equations	3
	Credit Hours	18
Spring		
MAE 310	Heat Transfer	3
MAE 342	Mechanical Design II	3
MAE 351	Mechanics Laboratory	2
MAE 371	Aerodynamics	3
MAE 362	Computer Analysis of Mechanical and Aerospace Engineering Problems	3
MAE 440	Introduction to Capstone Design	3
	Credit Hours	17
Senior Year		
Fall		
MAE 404	Experimental Engineering Laboratory	2
MAE 412	System Dynamics	3
MAE 441	Design of Fluid and Thermal Systems	3
MAE 471	Flight Dynamics	3
MAE 570	Aero Propulsion	3
PS Cognate (PS Elective) ¹		3
MAE 442	Capstone Design Project-I	1
	Credit Hours	18
Spring		
MAE 443	Capstone Design Project-II	2
MAE 415	Automatic Control	3
MAE 470	Introduction to Aerospace Structures	3
HA Cognate (HA Elective) ¹		3
PS Cognate (Adv. PS- Elective) ¹		3
HA Cognate (Adv. HA Elective) ¹		3
	Credit Hours	17
	Total Credit Hours	132

¹ You must complete a minimum of 1 PS cognate and 1 HA cognate to be selected from the list of available cognates. Each cognate should be a minimum of three courses (9 credit hours).

Mechanical Engineering - Internal Combustion Engines Concentration

<http://www.coe.miami.edu/dept-mac/>

This program is designed to acquaint the mechanical engineering student with the fundamental science and engineering underlying the design of both conventional and high performance internal combustion engines and the fundamentals of emission formation in combustion systems, automobile mechanisms and structures including vibrations and noise. Included are studies of conventional fuels and synthetic fuels of the future such as hydrogen and methanol.

Curriculum Requirements

Code	Title	Credit Hours
Engineering Courses		

CAE 210	Mechanics of Solids I	3
ECE 205	Principles of Electrical Engineering-I	3
IEN 311	Applied Probability and Statistics	3
MAE 111	Introduction to Engineering I	3
MAE 112	Introduction to Engineering II	2
MAE 202	Dynamics	3
MAE 207	Mechanics of Solids II	3
MAE 241	Measurements Laboratory	3
MAE 301	Engineering Materials Science	3
MAE 302	Mechanical Behavior of Materials	3
MAE 303	Thermodynamics I	3
MAE 309	Fluid Mechanics	3
MAE 310	Heat Transfer	3
MAE 341	Mechanical Design I	3
MAE 342	Mechanical Design II	3
MAE 351	Mechanics Laboratory	2
MAE 362	Computer Analysis of Mechanical and Aerospace Engineering Problems	3
MAE 404	Experimental Engineering Laboratory	2
MAE 412	System Dynamics	3
MAE 415	Automatic Control	3
MAE 440	Introduction to Capstone Design	3
MAE 441	Design of Fluid and Thermal Systems	3
MAE 442	Capstone Design Project-I	1
MAE 443	Capstone Design Project-II	2
MAE 503	Internal Combustion Engines	3
MAE 514	Advanced Internal Combustion Engines Experimental Studies	3
MAE 521	Exhaust Emission Control	3
Math and Science Courses		
MTH 151	Calculus I for Engineers	5
MTH 162	Calculus II	4
MTH 211	Calculus III	3
MTH 311	Introduction to Ordinary Differential Equations	3
CHM 151	Chemistry for Engineers	3
CHM 153	Chemistry Laboratory for Engineers	1
PHY 205	University Physics I	3
PHY 206	University Physics II	3
PHY 207	University Physics III	3
PHY 208	University Physics II Lab	1
PHY 209	University Physics III Lab	1
Additional Requirements		
ENG 105	English Composition I	3
ENG 107	English Composition II: Science and Technology	3
Arts and Humanities Cognate		9
People and Society Cognate		9
Total Credit Hours		129

Technical Electives

Code	Title	Credit Hours
MAE 503	Internal Combustion Engines	3
MAE 514	Advanced Internal Combustion Engines Experimental Studies	3

MAE 521	Exhaust Emission Control	3
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Plan of Study

Course	Title	Credit Hours
Freshman Year		
Fall		
MAE 111	Introduction to Engineering I	3
ENG 105	English Composition I	3
MTH 151	Calculus I for Engineers	5
PHY 205	University Physics I	3
	Credit Hours	14
Spring		
MAE 112	Introduction to Engineering II	2
CAE 210	Mechanics of Solids I	3
ENG 107	English Composition II: Science and Technology	3
MTH 162	Calculus II	4
PHY 206	University Physics II	3
PHY 208	University Physics II Lab	1
	Credit Hours	16
Sophomore Year		
Fall		
MAE 207	Mechanics of Solids II	3
IEN 311	Applied Probability and Statistics	3
MTH 211	Calculus III	3
PHY 207	University Physics III	3
PHY 209	University Physics III Lab	1
HA Cognate (HA Elective) ¹		3
	Credit Hours	16
Spring		
MAE 202	Dynamics	3
MAE 241	Measurements Laboratory	3
CHM 151	Chemistry for Engineers	3
CHM 153	Chemistry Laboratory for Engineers	1
ECE 205	Principles of Electrical Engineering-I	3
PS Cognate (PS Elective) ¹		3
	Credit Hours	16
Junior Year		
Fall		
MAE 301	Engineering Materials Science	3
MAE 302	Mechanical Behavior of Materials	3
MAE 303	Thermodynamics I	3
MAE 309	Fluid Mechanics	3
MAE 341	Mechanical Design I	3
MTH 311	Introduction to Ordinary Differential Equations	3
	Credit Hours	18
Spring		
MAE 310	Heat Transfer	3
MAE 342	Mechanical Design II	3
MAE 351	Mechanics Laboratory	2
MAE 362	Computer Analysis of Mechanical and Aerospace Engineering Problems	3
MAE 440	Introduction to Capstone Design	3

MAE 503	Internal Combustion Engines	3
	Credit Hours	17
Senior Year		
Fall		
MAE 404	Experimental Engineering Laboratory	2
MAE 412	System Dynamics	3
MAE 441	Design of Fluid and Thermal Systems	3
MAE 442	Capstone Design Project-I	1
MAE 514	Advanced Internal Combustion Engines Experimental Studies	3
HA Cognate (HA Elective) ¹		3
PS Cognate (PS Elective) ¹		3
	Credit Hours	18
Spring		
MAE 415	Automatic Control	3
MAE 443	Capstone Design Project-II	2
MAE 521	Exhaust Emission Control	3
HA Cognate (Adv. HA Elective) ¹		3
PS Cognate (Adv. PS Elective) ¹		3
	Credit Hours	14
	Total Credit Hours	129

¹ You must complete a minimum of 1 PS cognate and 1 HA cognate to be selected from the list of available cognates. Each cognate should be a minimum of three courses (9 credit hours).

² Technical Electives are advanced courses in mathematics, science or engineering, approved by the Faculty Advisor, as appropriate for individual objectives.

B.S./M.S.- Mechanical Engineering

The five-year BS/MS program leads to both the B.S. degree and the M.S. degree in Mechanical Engineering in five years. The program is intended for exceptional students who are admitted to the graduate program in their junior year. Students applying for this program must have a grade point average of at least 3.0 and must attain a score of 300 or more on the Graduate Record Examination (taken before the fifth year).

Curriculum Requirements

Code	Title	Credit Hours
Engineering Courses		
CAE 210	Mechanics of Solids I	3
ECE 205	Principles of Electrical Engineering-I	3
IEN 311	Applied Probability and Statistics	3
MAE 111	Introduction to Engineering I	3
MAE 112	Introduction to Engineering II	2
MAE 202	Dynamics	3
MAE 207	Mechanics of Solids II	3
MAE 241	Measurements Laboratory	3
MAE 301	Engineering Materials Science	3
MAE 302	Mechanical Behavior of Materials	3
MAE 303	Thermodynamics I	3
MAE 309	Fluid Mechanics	3
MAE 310	Heat Transfer	3
MAE 341	Mechanical Design I	3
MAE 342	Mechanical Design II	3
MAE 351	Mechanics Laboratory	2
MAE 362	Computer Analysis of Mechanical and Aerospace Engineering Problems	3
MAE 404	Experimental Engineering Laboratory	2

MAE 412	System Dynamics	3
MAE 415	Automatic Control	3
MAE 441	Design of Fluid and Thermal Systems	3
MAE 601	Methods of Engineering Analysis	3
MAE 752	Master's Capstone Project	4
Technical Electives		3
MAE Technical Elective		3
Graduate Level Courses		24
Math and Science Courses		
MTH 151	Calculus I for Engineers	5
MTH 162	Calculus II	4
MTH 211	Calculus III	3
MTH 311	Introduction to Ordinary Differential Equations	3
CHM 151	Chemistry for Engineers	3
CHM 153	Chemistry Laboratory for Engineers	1
PHY 205	University Physics I	3
PHY 206	University Physics II	3
PHY 207	University Physics III	3
PHY 208	University Physics II Lab	1
PHY 209	University Physics III Lab	1
Additional Requirements		
ENG 105	English Composition I	3
ENG 107	English Composition II: Science and Technology	3
Arts and Humanities Cognate		9
People and Society Cognate		9
Total Credit Hours		151

Plan of Study

Course	Title	Credit Hours
Freshman Year		
Fall		
MAE 111	Introduction to Engineering I	3
ENG 105	English Composition I	3
MTH 151	Calculus I for Engineers	5
PHY 205	University Physics I	3
	Credit Hours	14
Spring		
MAE 112	Introduction to Engineering II	2
CAE 210	Mechanics of Solids I	3
ENG 107	English Composition II: Science and Technology	3
MTH 162	Calculus II	4
PHY 206	University Physics II	3
PHY 208	University Physics II Lab	1
	Credit Hours	16
Sophomore Year		
Fall		
MAE 207	Mechanics of Solids II	3
IEN 311	Applied Probability and Statistics	3
MTH 211	Calculus III	3
PHY 207	University Physics III	3
PHY 209	University Physics III Lab	1

PS Cognate (PS Elective) ¹		3
	Credit Hours	16
Spring		
MAE 202	Dynamics	3
MAE 241	Measurements Laboratory	3
CHM 151	Chemistry for Engineers	3
CHM 153	Chemistry Laboratory for Engineers	1
ECE 205	Principles of Electrical Engineering-I	3
HA Cognate (HA Elective) ¹		3
	Credit Hours	16
Junior Year		
Fall		
MAE 302	Mechanical Behavior of Materials	3
MAE 303	Thermodynamics I	3
MAE 309	Fluid Mechanics	3
MAE 341	Mechanical Design I	3
MTH 311	Introduction to Ordinary Differential Equations	3
	Credit Hours	15
Spring		
MAE 301	Engineering Materials Science	3
MAE 310	Heat Transfer	3
MAE 342	Mechanical Design II	3
MAE 351	Mechanics Laboratory	2
MAE 362	Computer Analysis of Mechanical and Aerospace Engineering Problems	3
MAE Technical Elective ²		3
	Credit Hours	17
Senior Year		
Fall		
MAE 404	Experimental Engineering Laboratory	2
MAE 412	System Dynamics	3
MAE 441	Design of Fluid and Thermal Systems	3
Technical Elective ²		3
PS Cognate (PS Elective) ¹		3
Graduate Level Course ³		3
	Credit Hours	17
Spring		
MAE 415	Automatic Control	3
HA Cognate (HA Elective) ¹		3
PS Cognate (Adv. PS Elective) ¹		3
HA Cognate (Adv. HA Elective) ¹		3
Graduate Level Course ³		3
	Credit Hours	15
Fifth Year (Graduate)		
Fall		
MAE 601	Methods of Engineering Analysis	3
Graduate Level Course ³		3
Graduate Level Course ³		3
Graduate Level Course ³		3
	Credit Hours	12
Spring		
MAE 752	Master's Capstone Project	4
Graduate Level Course ³		3

Graduate Level Course ³	3
Graduate Level Course ³	3
Credit Hours	13
Total Credit Hours	151

- 1 You must complete a minimum of 1 PS cognate and 1 HA cognate to be selected from the list of available cognates. Each cognate should be a minimum of three courses (9 credit hours).
- 2 Technical Electives are advanced courses in mathematics, science or engineering, approved by the Faculty Advisor, as appropriate for individual objectives.
- 3 **At least two must be at 700 Level** courses in mathematics, science or engineering, approved by the Faculty Advisor, as appropriate for individual objectives.

B.S. in Aerospace Engineering and B.S. in Mechanical Engineering Dual Degree

<http://www.coe.miami.edu/dept-mac/>

<http://www.coe.miami.edu/dept-mac/>

Curriculum Requirements

Code	Title	Credit Hours
Engineering Courses		
CAE 210	Mechanics of Solids I	3
ECE 205	Principles of Electrical Engineering-I	3
IEN 311	Applied Probability and Statistics	3
MAE 111	Introduction to Engineering I	3
MAE 112	Introduction to Engineering II	2
MAE 202	Dynamics	3
MAE 207	Mechanics of Solids II	3
MAE 241	Measurements Laboratory	3
MAE 301	Engineering Materials Science	3
MAE 302	Mechanical Behavior of Materials	3
MAE 303	Thermodynamics I	3
MAE 309	Fluid Mechanics	3
MAE 310	Heat Transfer	3
MAE 341	Mechanical Design I	3
MAE 342	Mechanical Design II	3
MAE 351	Mechanics Laboratory	2.00
MAE 362	Computer Analysis of Mechanical and Aerospace Engineering Problems	3
MAE 371	Aerodynamics	3
MAE 404	Experimental Engineering Laboratory	2.00
MAE 412	System Dynamics	3
MAE 415	Automatic Control	3
MAE 441	Design of Fluid and Thermal Systems	3
MAE 444	Capstone Aerospace Design Project-I	3
MAE 445	Capstone Aerospace Design Project-II	3
MAE 446	Aircraft Design	3
MAE 470	Introduction to Aerospace Structures	3
MAE 471	Flight Dynamics	3
MAE 472	Design of Aerospace Structures	3
MAE 570	Aero Propulsion	3
MAE Technical Elective		9
Technical Elective		3

Math and Science Courses		
MTH 151	Calculus I for Engineers	5
MTH 162	Calculus II	4
MTH 211	Calculus III	3
MTH 311	Introduction to Ordinary Differential Equations	3
CHM 151	Chemistry for Engineers	3
CHM 153	Chemistry Laboratory for Engineers	1
PHY 205	University Physics I	3
PHY 206	University Physics II	3
PHY 207	University Physics III	3
PHY 208	University Physics II Lab	1
PHY 209	University Physics III Lab	1
Additional Requirements		
ENG 105	English Composition I	3
ENG 107	English Composition II: Science and Technology	3
Arts and Humanities Cognate		9
People and Society Cognate		9
Total Credit Hours		150

Plan of Study

Course	Title	Credit Hours
Freshman Year		
Fall		
MAE 111	Introduction to Engineering I	3
ENG 105	English Composition I	3
MTH 151	Calculus I for Engineers	5
PHY 205	University Physics I	3
Credit Hours		14
Spring		
MAE 112	Introduction to Engineering II	2
CAE 210	Mechanics of Solids I	3
ENG 107	English Composition II: Science and Technology	3
MTH 162	Calculus II	4
PHY 206	University Physics II	3
PHY 208	University Physics II Lab	1
Credit Hours		16
Sophomore Year		
Fall		
MAE 207	Mechanics of Solids II	3
IEN 311	Applied Probability and Statistics	3
MTH 211	Calculus III	3
PHY 207	University Physics III	3
PHY 209	University Physics III Lab	1
PS Cognate (PS Elective) ¹		3
Credit Hours		16
Spring		
MAE 202	Dynamics	3
MAE 241	Measurements Laboratory	3
CHM 151	Chemistry for Engineers	3
CHM 153	Chemistry Laboratory for Engineers	1
ECE 205	Principles of Electrical Engineering-I	3

HA Cognate (HA Elective) ¹		3
	Credit Hours	16
Junior Year		
Fall		
MAE 302	Mechanical Behavior of Materials	3
MAE 303	Thermodynamics I	3
MAE 309	Fluid Mechanics	3
MAE 341	Mechanical Design I	3
MTH 311	Introduction to Ordinary Differential Equations	3
PS Cognate (HA Elective) ¹		3
	Credit Hours	18
Spring		
MAE 310	Heat Transfer	3
MAE 301	Engineering Materials Science	3
MAE 470	Introduction to Aerospace Structures	3
MAE 371	Aerodynamics	3
MAE 362	Computer Analysis of Mechanical and Aerospace Engineering Problems	3
MAE 351	Mechanics Laboratory	2
	Credit Hours	17
Senior Year		
Fall		
MAE 570	Aero Propulsion	3
MAE 404	Experimental Engineering Laboratory	2
MAE 471	Flight Dynamics	3
MAE 472	Design of Aerospace Structures	3
MAE 444	Capstone Aerospace Design Project-I	3
MAE 446	Aircraft Design	3
	Credit Hours	17
Spring		
MAE 415	Automatic Control	3
MAE 445	Capstone Aerospace Design Project-II	3
MAE Technical Elective ²		3
MAE 342	Mechanical Design II	3
MAE Technical Elective ²		3
HA Cognate (HA Elective) ¹		3
	Credit Hours	18
Fifth Year		
Fall		
MAE 441	Design of Fluid and Thermal Systems	3
MAE 412	System Dynamics	3
MAE Technical Elective ²		3
Technical Elective ²		3
PS Cognate (Adv. PS Elective) ¹		3
HA Cognate (Adv. HA Elective) ¹		3
	Credit Hours	18
	Total Credit Hours	150

¹ You must complete a minimum of 1 PS cognate and 1 HA cognate to be selected from the list of available cognates. Each cognate should be a minimum of three courses (9 credit hours).

² Technical Electives are advanced courses in mathematics, science or engineering, approved by the Faculty Advisor, as appropriate for individual objectives.

Minor in Mechanical Engineering

Code	Title	Credit Hours
Core Courses		
CAE 210	Mechanics of Solids I	3
MAE 111	Introduction to Engineering I	3
Elective Courses		
Select 9 credit hours from one of the following areas of specialization:		9
Energy Engineering:		
MAE 303	Thermodynamics I	
MAE 420	Applied Thermodynamics	
MAE 503	Internal Combustion Engines	
MAE 506	Nuclear Engineering	
MAE 510	Fundamentals of Solar Energy Utilization	
Environmental Engineering:		
MAE 303	Thermodynamics I	
MAE 309	Fluid Mechanics	
MAE 408	Heating, Ventilating, and Air Conditioning	
MAE 510	Fundamentals of Solar Energy Utilization	
MAE 521	Exhaust Emission Control	
Materials Engineering:		
MAE 207	Mechanics of Solids II	
MAE 301	Engineering Materials Science	
MAE 302	Mechanical Behavior of Materials	
MAE 507	Advanced Mechanics of Solids	
Thermal Engineering:		
MAE 303	Thermodynamics I	
MAE 310	Heat Transfer	
MAE 408	Heating, Ventilating, and Air Conditioning	
MAE 420	Applied Thermodynamics	
MAE 441	Design of Fluid and Thermal Systems	
MAE 503	Internal Combustion Engines	
MAE 508	Intermediate Heat Transfer	
MAE 510	Fundamentals of Solar Energy Utilization	
Total Credit Hours		15

* At least 9 credit hours of Mechanical Engineering courses must be taken at the University of Miami; subject to approval of an academic advisor.

** A minimum 2.0 grade point average in all MAE courses taken is required.

Marine and Atmospheric Science

<http://www.rsmas.miami.edu/academics/undergraduate>

Introduction

The Rosenstiel School of Marine and Atmospheric Science was established in 1943 as the Marine Laboratory of the University of Miami. It has grown from its modest beginnings in a boathouse to be one of the nation's leading institutions for oceanographic and atmospheric research and education.

Originally a tropical marine biological facility, the Marine Laboratory initiated a program of studies leading to the Master of Science degree in 1949. In 1953, laboratory and classroom buildings were constructed on the School's present campus on Virginia Key, and in the late fifties, the Marine Laboratory expanded its staff and developed its oceanographic capabilities in response to the increased interest in scientific research in the United States. It became the Institute of Marine Science in 1961. Ocean-going research vessels were acquired, and additional buildings were constructed to accommodate new wide-ranging projects. In 1969, the Institute, now a School, was named for Dorothy H. and Lewis Rosenstiel in recognition of a major contribution, made through the Rosenstiel Foundation, to encourage progress in the marine and atmospheric sciences at the University of Miami. In 1977, the Rosenstiel School and College of Arts and Sciences joined together to establish an undergraduate Marine and Atmospheric Science program based on the Coral Gables campus. The degree granting authority for this program was formally transferred to the Rosenstiel School in 2008.

Today the Rosenstiel School has a faculty of over 80 who conduct sponsored research while offering studies leading to the Bachelor of Science, Bachelor of Arts, Master of Arts, Master of Science, Master of Professional Science and Doctor of Philosophy degrees.

Government agencies and private organizations support basic and applied research at the Rosenstiel School. Graduate and undergraduate students are an integral part of the research effort, and research programs, many multidisciplinary in nature, provide the environment within which professors and students interact.

The Rosenstiel School has modern laboratory facilities and a state-of-the-art catamaran, named the F. G. WALTON SMITH, in honor of the founder of the Rosenstiel School.

Mission

The Rosenstiel School strives to be in the forefront of basic and applied research as it applies to the ocean, atmosphere, and global environment, with particular emphasis on subjects of societal significance. Our goal is to provide excellence in graduate and undergraduate education and research training and to be a strong force towards improved environmental understanding and management.

Academic Policies

Admission

Applications for incoming freshmen are processed and reviewed by the Office of Admission. Enrollment in the RSMAS Undergraduate Program is selective and highly competitive. Admission decisions are based on the secondary school record, SAT/ACT score, counselor's evaluation and the applicant's essay.

Student Responsibilities

Students of the Rosenstiel School are responsible for planning their own programs and for meeting degree requirements. It is the student's responsibility to understand and fully comply with all the provisions set forth in this Bulletin and written changes to their program of study.

Academic Progress

The Rosenstiel School will review each student's record at the end of each semester. All students in the RSMAS Undergraduate Program must maintain a cumulative grade point average of 2.5 or better in order to remain in the program. Only those courses passed with a grade of C- or better may be applied to the major or minor.

Honors

Geological Sciences

Honors may be earned by students who have an overall 3.5 GPA, completed research beginning prior to their senior year resulting in a written Honor's Thesis, and completed an oral defense approved by the student's thesis advisor.

Marine Biology

Honors may be earned by students who have an overall 3.5 GPA, successfully completed 6 credit hours of independent research (411/412) **OR** 3 credit hours of independent research (411/412) plus the complete Saltwater Semester sequence, a senior thesis, and presented a poster or oral presentation of the research at a public forum such as the RSMAS Undergraduate Research Forum.

Marine Science, Marine Affairs, Meteorology, and Oceanography

Honors may be earned by students who have an overall 3.5 GPA, successfully completed 4 credit hours of independent research (411/412), a senior thesis, and presented a poster or oral presentation of the research at a public forum such as the RSMAS Undergraduate Research Forum.

Degree Programs

The Rosenstiel School of Marine and Atmospheric Science offers degree programs at both the undergraduate and graduate levels for students interested in marine science and/or atmospheric science as a career.

Undergraduate Degree Programs

The Rosenstiel School of Marine and Atmospheric Science offers both Bachelor of Science /Bachelor of Science in Marine and Atmospheric Science and Bachelor of Arts/ Bachelor of Arts in Marine Affairs undergraduate degree options. Bachelor of Science options include Marine Science, Oceanography, Marine Biology, Geology, and Meteorology. Bachelor of Arts options include Marine Affairs and Geology.

The Bachelor of Science degree programs are meant for students planning to continue with graduate and professional studies or for those who will pursue a technical career in government, research, or private industry. The Bachelor of Arts degree programs are designed for students planning either non-technical careers with government agencies or private industries or graduate studies in such areas as business, law, economics, political science, education, or communication.

In cooperation with the graduate program, courses of study culminating in a Master of Science or Master of Professional Science are also available.

Graduate Degree Programs

Graduate courses in the marine and atmospheric sciences are offered through the Graduate School and the Rosenstiel School of Marine and Atmospheric Science and are listed under the Rosenstiel School graduate program entries in the Bulletin.

Courses at the 500-level may be taken for undergraduate credit with junior standing and departmental consent. These courses are listed in the course section of the undergraduate bulletin.

Requirements for Graduation

In addition to satisfying the course requirements for the different undergraduate majors, students are expected to satisfy the School's General Education Requirements. General Education Requirements stress breadth of knowledge and the cultivation of intellectual abilities essential for the acquisition of knowledge. Courses taken for the major, the minor, and the writing requirement may also be used to satisfy the General Education Requirements

Areas of Proficiency

A) English Composition

Students must complete ENG 105 and either ENG 106 or ENG 107, or their approved equivalents, typically in the first year of residence. Students with an appropriate score on the Advanced Placement [AP] language or literature examinations, or with an appropriate score on the International Baccalaureate [IB] higher level English examination, may earn 6 credits in English 105 and English 106. Those with an appropriate score on the SAT/ V or ACT/E exams may be exempted from English 105.

B) Communication across the Curriculum

Students in the Rosenstiel School will, as part of their major curriculum, take courses designed to provide students with the skills required for effective communication, both written and oral, within the discipline.

C) Mathematics

Bachelor of Arts:

Code	Title	Credit Hours
Select one of the following:		3-4
MTH 108	Precalculus Mathematics II	
MTH 113	Finite Mathematics	
MTH 130	Introductory Calculus	
MTH 140	Calculus Concepts with Foundations A	
MTH 141	Calculus Concepts with Foundations B	
MTH 161	Calculus I	
MTH 171	Calculus I	
Select an approved course in statistics or computer science of the following or an approved alternative: ¹		3-4
MSC 204	Environmental Statistics	
IEN 311	Applied Probability and Statistics	

MTH 224	Introduction to Probability and Statistics
CSC 120	Computer Programming I

¹ For specific Statistics and Computer Science requirements review each major.

Bachelor of Science:

Code	Title	Credit Hours
Complete two semesters of Calculus: ¹		8
MTH 161 or MTH 171	Calculus I	
MTH 162 or MTH 172	Calculus II	
Select an approved course in statistics or computer science of the following or an approved alternative: ²		3-4
MSC 204	Environmental Statistics	
IEN 311	Applied Probability and Statistics	
MTH 224	Introduction to Probability and Statistics	
CSC 120	Computer Programming I	

¹ Students must earn a letter grade of C- or higher in Calculus I for Marine Science majors excluding RSMI, RSMP, and RSMX+MATH which require a letter grade of C- or higher in Calculus I and II. Meteorology majors must earn a letter grade of C- or higher in both Calculus I and Calculus II.

² For specific Statistics and Computer Science requirements review each major.

Areas of Knowledge

As described under the section General Education Requirements under *General University Information*, students must complete one cognate in each of three the Areas of Knowledge:

1. Arts and Humanities,
2. People and Society (Social Sciences) and
3. Science, Technology, Engineering and Mathematics (STEM).

All undergraduate students in the Rosenstiel School will fulfill their STEM cognate requirement through their major requirements. Students in Marine Affairs will fulfill their People and Society cognate requirement through their minor. Students in Marine Science may elect to fulfill the People and Society cognate requirement with a Marine Policy cognate. Students in Meteorology may elect to fulfill the People and Society cognate requirement with a Broadcast Meteorology cognate. Cognates integrating Study Abroad courses are also available. See program advisors for details.

Minors Offered by Marine and Atmospheric Science

- Climate Science and Policy (p. 725)
- Marine Policy (p. 738)
- Marine Science (p. 768)
- Meteorology (p. 726)

Foote Fellows are exempt from cognate requirements. Foote Fellows with (ACT English score greater than or equal to 32) Or (SAT Evidence-Based Reading and Writing score greater than or equal to 700) Or (SAT Critical Reading score greater than or equal to 700) are exempt from the English composition requirement. All Foote Fellows must complete math requirements as specified by their program. Exempt courses must be replaced by courses at the 200-level or higher.

Honors Program in Marine Geology (HPMG)

The Honors Program in Marine Geology (HPMG) allows exceptional students to pursue an accelerated program in the undergraduate Geological Sciences and graduate Marine Geology and Geophysics programs. The degree consists of an undergraduate Bachelor of Sciences degree in Geological Sciences combined with a graduate Master of Science degree from the Division of Marine Geology and Geophysics at the University of Miami Rosenstiel School of Marine and Atmospheric Science. Applicants must be high school seniors in the top 10% of their class and must have a minimum SAT I score of 1360 or (ACT 31). In addition to the regular Application for Admission to the University, the applicant must complete a separate application form for the Honors Program in Marine Geology. The HPMG application form and supporting materials must be submitted no later than November 1st of the applicant's senior year. A review of completed applications will begin by the end of November.

For further information and application forms please visit this website (<http://www.miami.edu/dualdegree>).

Atmospheric Science - Meteorology

Dept. Code: ATM

Meteorology

Meteorology is the study of the atmosphere, including climate and climate variability, weather forecasting, cloud and precipitation physics, tropical dynamics, severe weather and hurricanes. Atmospheric scientists use computer models and sophisticated observing systems to describe and understand the atmosphere. The curriculum emphasizes math and physics basics, providing a strong foundation for an intensive study of meteorology. The curriculum, conforming to the recommendations of the American Meteorological Society, prepares students for graduate school and for jobs in industry and government.

The Rosenstiel School offers a Bachelor of Science in Marine and Atmospheric Science with a major in Meteorology. The major includes a minor in Mathematics with an adequate MTH GPA.

Although Meteorology is a single major program, students often combine Meteorology with a second major in such diverse fields as Mathematics, Marine Science, or Broadcast Journalism. Interested students should read the information below and contact the Rosenstiel Undergraduate office (Ungar 210A or 305-284-2180) for details.

Double Major Options

Mathematics

The double major in Meteorology and Mathematics is intended for students who anticipate graduate study in Atmospheric Science and require a strong background in Mathematics. Interested students may find more information on the B.S.M.A.S. in Meteorology and Mathematics here (p. 720).

Marine Science

The double major in Meteorology and Marine Science is intended for those students who wish to have a truly interdisciplinary career in atmospheric and marine science. Interested students may find more information on the B.S.M.A.S. in Meteorology and Marine Science here (p. 759).

Broadcast Journalism

The double major in Meteorology and Broadcast Journalism is designed for Meteorology majors interested in Broadcast Meteorology. Students interested in adding Broadcast Journalism as a second major should review the School of Communication (p. 520) page for additional requirements.

Majors in Atmospheric Science - Meteorology

- B.S.M.A.S. in Meteorology (p. 722)
- B.S.M.A.S. (p. 722) Double Major in Meteorology and Mathematics (p. 720)
- B.S.M.A.S. (p. 722) Double Major in Meteorology and Marine Science (p. 717)

Minors Offered by Marine and Atmospheric Science

- Climate Science and Policy (p. 725)
- Marine Policy (p. 738)
- Marine Science (p. 768)
- Meteorology (p. 726)

B.S.M.A.S. in Meteorology and Marine Science

Code	Title	Credit Hours
Atmospheric Science		
ATM 103	Survey of Modern Meteorology	3
ATM 243	Weather Forecasting	3
ATM 303	Meteorological Instrumentation and Observation	3
ATM 305	Atmospheric Thermodynamics	3
ATM 307	Introduction to the Physics of Climate	3
ATM 405	Atmospheric Dynamics I	3
ATM 406	Atmospheric Dynamics II	3
ATM 407	Weather Analysis	4
ATM 409	Cloud Physics, Radiation, and Remote Sensing	3
Marine Science		

MSC 111	Introduction to Marine Science	3
MSC 112	Introduction to Marine Science Lab	1
MSC 215	Chemical Oceanography	3
MSC 230	Introduction to Marine Biology	3
MSC 301	Introduction to Physical Oceanography	3
MSC 302	Introduction to Physical Oceanography Lab	1
MSC 216	Chemical Oceanography Laboratory	1
or MSC 232	Introduction to Marine Biology Laboratory	
Select 9 credit hours of approved electives in Marine Science ¹		9
Other Required Courses		
Select one of the following:		5
BIL 150 & BIL 151	General Biology and General Biology Laboratory	
BIL 160 & BIL 161	Evolution and Biodiversity and Evolution and Biodiversity Laboratory	
CHM 111	Principles of Chemistry I ²	3
CHM 112	Principles of Chemistry II	3
CHM 113	Chemistry Laboratory I	1
CHM 114	Chemistry Laboratory II	1
CSC 120	Computer Programming I	4
ENG 105	English Composition I	3
ENG 107	English Composition II: Science and Technology	3
or ENG 106	English Composition II	
Select one of the following:		3-5
GSC 110 & GSC 114	The Earth System and Earth Processes Lab	
GSC 111	Earth System History	
MSC 424	Origin and Geology of the Galapagos Islands.	
MSC 204	Environmental Statistics	3
or MTH 224	Introduction to Probability and Statistics	
MTH 161	Calculus I ³	4
or MTH 171	Calculus I	
MTH 162	Calculus II ³	4
or MTH 172	Calculus II	
MTH 210	Introduction to Linear Algebra	3
MTH 310	Multivariable Calculus	3
or MTH 211	Calculus III	
MTH 311	Introduction to Ordinary Differential Equations	3
PHY 201	University Physics I for the Sciences	4
PHY 202	University Physics II for the Sciences	4
PHY 106	College Physics Laboratory I	1
PHY 108	College Physics Laboratory II	1
Arts and Humanities Cognate Courses		9
People and Society Cognate Courses		9
Total Credit Hours		126-128

¹ At least 6 of which must be at the 300-level or higher. MSC 204 does not satisfy the MSC elective requirement but does satisfy the Statistics requirement.

² Principles of Chemistry I must be passed with a grade of "C-" or higher.

³ Calculus I and II must be passed with a grade of "C-" or higher.

Suggested Plan of Study

Freshman Year		Credit Hours
Fall		
ATM 103	Survey of Modern Meteorology	3
MSC 111	Introduction to Marine Science	3
MSC 112	Introduction to Marine Science Lab	1
ENG 105	English Composition I	3
MTH 161	Calculus I	4
		Credit Hours
		14
Spring		
ATM 243	Weather Forecasting	3
CHM 111	Principles of Chemistry I	3
CHM 113	Chemistry Laboratory I	1
ENG 107	English Composition II: Science and Technology	3
MTH 162	Calculus II	4
Elective #1		3
		Credit Hours
		17
Sophomore Year		
Fall		
CHM 112	Principles of Chemistry II	3
CHM 114	Chemistry Laboratory II	1
MTH 210	Introduction to Linear Algebra	3
PHY 201	University Physics I for the Sciences	4
PHY 106	College Physics Laboratory I	1
Elective #2		3
		Credit Hours
		15
Spring		
ATM 303	Meteorological Instrumentation and Observation	3
MSC 301	Introduction to Physical Oceanography	3
MSC 302	Introduction to Physical Oceanography Lab	1
PHY 202	University Physics II for the Sciences	4
PHY 108	College Physics Laboratory II	1
MSC 204	Environmental Statistics	3
		Credit Hours
		15
Junior Year		
Fall		
ATM 305	Atmospheric Thermodynamics	3
MSC 215	Chemical Oceanography	3
MTH 310	Multivariable Calculus	3
MSC Course		3
Elective #3		3
		Credit Hours
		15
Spring		
ATM 307	Introduction to the Physics of Climate	3
ATM 405	Atmospheric Dynamics I	3
BIL 160	Evolution and Biodiversity	4
BIL 161	Evolution and Biodiversity Laboratory	1
CSC 120	Computer Programming I	4
MTH 311	Introduction to Ordinary Differential Equations	3
		Credit Hours
		18

Senior Year		
Fall		
ATM 406	Atmospheric Dynamics II	3
ATM 407	Weather Analysis	4
MSC 230	Introduction to Marine Biology	3
MSC 232	Introduction to Marine Biology Laboratory	1
MSC Course		3
Elective #4		3
	Credit Hours	17
Spring		
ATM 409	Cloud Physics, Radiation, and Remote Sensing	3
GSC 111	Earth System History	4
MSC Course		3
Elective #5		3
Elective #6		3
	Credit Hours	16
	Total Credit Hours	127

- * 6 elective courses must include:
- 3 Arts and Humanities Cognate courses
 - 3 People and Society Cognate courses

B.S.M.A.S. in Meteorology and Mathematics

Curriculum Requirements (Applied Analysis)

Code	Title	Credit Hours
Atmospheric Science		
ATM 103	Survey of Modern Meteorology	3
ATM 243	Weather Forecasting	3
ATM 265	Atmospheric Chemistry	3
ATM 303	Meteorological Instrumentation and Observation	3
ATM 305	Atmospheric Thermodynamics	3
ATM 307	Introduction to the Physics of Climate	3
ATM 405	Atmospheric Dynamics I	3
ATM 406	Atmospheric Dynamics II	3
ATM 407	Weather Analysis	4
ATM 409	Cloud Physics, Radiation, and Remote Sensing	3
Mathematics Core		
MTH 161 or MTH 171	Calculus I ¹ Calculus I	4
MTH 162 or MTH 172	Calculus II ¹ Calculus II	4
MTH 210	Introduction to Linear Algebra	3
MTH 224 or MSC 204	Introduction to Probability and Statistics Environmental Statistics	3
MTH 230	Introduction to Abstract Mathematics	3
MTH 310	Multivariable Calculus	3
MTH 311	Introduction to Ordinary Differential Equations	3
MTH 433 or MTH 533	Advanced Calculus Introduction to Real Analysis I	3
MTH 461 or MTH 561	Survey of Modern Algebra Abstract Algebra I	3

Applied Analysis Courses		
MTH 512	Elementary Complex Analysis	3
Select one of the following Sequences:		6
MTH 513 & MTH 514	Partial Differential Equations I and Partial Differential Equations II	
MTH 515 & MTH 516	Ordinary Differential Equations and Dynamics and Bifurcations	
Additional Required Courses		
MSC 111	Introduction to Marine Science	3
MSC 112	Introduction to Marine Science Lab	1
CSC 120	Computer Programming I	4
ENG 105	English Composition I	3
ENG 107 or ENG 106	English Composition II: Science and Technology English Composition II	3
PHY 201	University Physics I for the Sciences	4
PHY 106	College Physics Laboratory I	1
PHY 202	University Physics II for the Sciences	4
PHY 108	College Physics Laboratory II	1
Electives		
Arts and Humanities Cognate Courses		9
People and Society Cognate Courses		9
300+ Level Elective		3
Additional Electives (ATM 244 recommended)		6
Total Credit Hours		120

¹ Calculus I and II must be passed with a grade of "C-" or higher.

* A track in Probability and Statistics is also available.

Suggested Plan of Study with Applied Analysis Track

Course	Title	Credit Hours
Freshman Year		
Fall		
ATM 103	Survey of Modern Meteorology	3
MSC 111	Introduction to Marine Science	3
MSC 112	Introduction to Marine Science Lab	1
MTH 161	Calculus I	4
ENG 105	English Composition I	3
Credit Hours		14
Spring		
ATM 243	Weather Forecasting	3
ATM 265	Atmospheric Chemistry	3
MSC 204	Environmental Statistics	3
MTH 162	Calculus II	4
ENG 107	English Composition II: Science and Technology	3
Credit Hours		16
Sophomore Year		
Fall		
MTH 210	Introduction to Linear Algebra	3
MTH 311	Introduction to Ordinary Differential Equations	3
PHY 201	University Physics I for the Sciences	4
PHY 106	College Physics Laboratory I	1

Elective #1 (ATM 244 recommended)		3
	Credit Hours	14
Spring		
ATM 303	Meteorological Instrumentation and Observation	3
MTH 230	Introduction to Abstract Mathematics	3
PHY 202	University Physics II for the Sciences	4
PHY 108	College Physics Laboratory II	1
Elective #2		3
	Credit Hours	14
Junior Year		
Fall		
ATM 305	Atmospheric Thermodynamics	3
MTH 310	Multivariable Calculus	3
CSC 120	Computer Programming I	4
Elective #3		3
Elective #4		3
	Credit Hours	16
Spring		
ATM 307	Introduction to the Physics of Climate	3
ATM 405	Atmospheric Dynamics I	3
MTH 433	Advanced Calculus	3
MTH 461	Survey of Modern Algebra	3
Elective #5		3
	Credit Hours	15
Senior Year		
Fall		
ATM 406	Atmospheric Dynamics II	3
ATM 407	Weather Analysis	4
MTH 513 or 515	Partial Differential Equations I or Ordinary Differential Equations	3
Elective #6		3
Elective #7		3
	Credit Hours	16
Spring		
ATM 409	Cloud Physics, Radiation, and Remote Sensing	3
MTH 512	Elementary Complex Analysis	3
MTH 514 or 516	Partial Differential Equations II or Dynamics and Bifurcations	3
Elective #8		3
Elective #9		3
	Credit Hours	15
	Total Credit Hours	120

- * 9 elective courses must include:
- 3 Arts and Humanities Cognate courses
 - 3 People and Society Cognate courses
 - 1 Course (3 credits) at the 300+ level

B.S.M.A.S. in Meteorology

Curriculum Requirements

Code	Title	Credit Hours
Atmospheric Science		
ATM 103	Survey of Modern Meteorology	3
ATM 243	Weather Forecasting	3
ATM 265	Atmospheric Chemistry	3
ATM 303	Meteorological Instrumentation and Observation	3
ATM 305	Atmospheric Thermodynamics	3
ATM 307	Introduction to the Physics of Climate	3
ATM 405	Atmospheric Dynamics I	3
ATM 406	Atmospheric Dynamics II	3
ATM 407	Weather Analysis	4
ATM 409	Cloud Physics, Radiation, and Remote Sensing	3
Other Required Courses		
CSC 120	Computer Programming I	4
ENG 105	English Composition I	3
ENG 107 or ENG 106	English Composition II: Science and Technology English Composition II	3
MSC 111	Introduction to Marine Science	3
MSC 112	Introduction to Marine Science Lab	1
MTH 161 or MTH 171	Calculus I ¹ Calculus I	4
MTH 162 or MTH 172	Calculus II ¹ Calculus II	4
MTH 210	Introduction to Linear Algebra	3
MTH 224 or MSC 204	Introduction to Probability and Statistics Environmental Statistics	3
MTH 311	Introduction to Ordinary Differential Equations	3
MTH 310 or MTH 211	Multivariable Calculus Calculus III	3
PHY 201	University Physics I for the Sciences	4
PHY 106	College Physics Laboratory I	1
PHY 202	University Physics II for the Sciences	4
PHY 108	College Physics Laboratory II	1
Electives		
Atmospheric Science, Mathematics, or Science Course		3
Arts and Humanities Cognate Courses		9
People and Society Cognate Courses		9
300+ Level Elective		3
Additional Electives		21
Recommended courses include:		
ATM 244	Tropical Weather and Forecasting	
ATM 306	Advanced Principles in Broadcasting Meteorology	
ATM 321	Scientific Programming in the Atmospheric Sciences	
MSC 301	Introduction to Physical Oceanography	
Total Credit Hours		120

¹ Calculus I and II must be passed with a grade of "C-" or higher.

* 500-level courses are open to undergraduates but typically offered on the RSMAS campus. For Broadcast Meteorology double-majors and minors, the electives may be taken from the School of Communications.

Suggested Plan of Study with Math Minor

Course	Title	Credit Hours
Freshman Year		
Fall		
ATM 103	Survey of Modern Meteorology	3
MSC 111	Introduction to Marine Science	3
MSC 112	Introduction to Marine Science Lab	1
ENG 105	English Composition I	3
MTH 161	Calculus I	4
Elective #1		3
	Credit Hours	17
Spring		
ATM 243	Weather Forecasting	3
ATM 265	Atmospheric Chemistry	3
ENG 107	English Composition II: Science and Technology	3
MTH 162	Calculus II	4
Elective #2		3
	Credit Hours	16
Sophomore Year		
Fall		
MTH 210	Introduction to Linear Algebra	3
PHY 201	University Physics I for the Sciences	4
PHY 106	College Physics Laboratory I	1
ATM/MTH/Science Course (ATM 244 is recommended)		3
Elective #3		3
	Credit Hours	14
Spring		
ATM 303	Meteorological Instrumentation and Observation	3
CSC 120	Computer Programming I	4
PHY 202	University Physics II for the Sciences	4
PHY 108	College Physics Laboratory II	1
MSC 204 or MTH 224	Environmental Statistics or Introduction to Probability and Statistics	3
Elective #4		3
	Credit Hours	18
Junior Year		
Fall		
ATM 305	Atmospheric Thermodynamics	3
MTH 310	Multivariable Calculus	3
Elective #5		3
Elective #6		3
Elective #7		3
	Credit Hours	15
Spring		
ATM 307	Introduction to the Physics of Climate	3
ATM 405	Atmospheric Dynamics I	3
MTH 311	Introduction to Ordinary Differential Equations	3
Elective #8		3
Elective #9		3
	Credit Hours	15

Senior Year		
Fall		
ATM 406	Atmospheric Dynamics II	3
ATM 407	Weather Analysis	4
Elective #10		3
Elective #11		3
	Credit Hours	13
Spring		
ATM 409	Cloud Physics, Radiation, and Remote Sensing	3
Elective #12		3
Elective #13		3
Elective #14		3
	Credit Hours	12
	Total Credit Hours	120

- * 14 elective courses include:
- 3 Arts and Humanities Cognate courses
 - 3 People and Society Cognate courses
 - 1 Course (3 credits) at the 300+ level

Minor in Climate Science and Policy

Code	Title	Credit Hours
Required Courses		
MSC 346	Climate Science and Policy	3
Select two or three of the following (List A):		9
ATM 102 or ATM 103	Introduction to Weather and Climate * Survey of Modern Meteorology	
ATM 220 or MSC 220	Climate and Global Change Climate and Global Change	
MSC 222	The Earth's Climate: Past and Future	
ATM 307	Introduction to the Physics of Climate	
MSC 347	Polar Science and Policy	
GSC 462	Earth's Ancient Atmospheres, Climates, and Sea Levels	
Select one or two of the following (List B):		3
MSC 313	Coastal Law	
MSC 314	Ocean Law	
MSC 340	Ocean Policy	
MSC 342	Decision Making and the Environment	
MSC 418	Climate Law	
Approved Statistics Course **		0-3
Total Credit Hours		15-18

- * Students with a Meteorology major should replace ATM 102/ATM 103 from List A with an additional course from list B and cannot use ATM 307 towards the minor.
- ** Students from a program without a statistics requirement must also take an approved course in statistics increasing this to an 18 credit hour minor.
- *** The minor satisfies either the STEM Area of Knowledge cognate requirement, or the People and Society Area of Knowledge cognate requirement.
- **** Only those courses passed with a grade of "C-" or higher may be applied to the minor. Courses used towards a minor must be above and beyond those used for the major.

Approved Statistics Courses

Code	Title	Credit Hours
MTH 224	Introduction to Probability and Statistics	3
MSC 204	Environmental Statistics	3
ECS 204	Environmental Statistics	3
EPS 351	Introduction to Statistics and Research Design	3
GSC 204	Environmental Statistics	3
IEN 311	Applied Probability and Statistics	3
MAS 201	Introduction to Business Statistics	3
MAS 311	Applied Probability and Statistics	3
NUR 202	Introductory Statistics in Health Care	3
PSY 291	Introduction to Biobehavioral Statistics	3
PSY 292	Introduction to Biobehavioral Statistics for Non-Majors	3

Minor in Meteorology

Code	Title	Credit Hours
Required Courses		
ATM 103	Survey of Modern Meteorology	3
Select 12 credit hours of the following:		12
ATM 220	Climate and Global Change	
ATM 243	Weather Forecasting	
ATM 244	Tropical Weather and Forecasting	
ATM 265	Atmospheric Chemistry	
ATM 303	Meteorological Instrumentation and Observation	
ATM 305	Atmospheric Thermodynamics	
ATM 306	Advanced Principles in Broadcasting Meteorology	
ATM 307	Introduction to the Physics of Climate	
ATM 321	Scientific Programming in the Atmospheric Sciences	
ATM 405	Atmospheric Dynamics I	
ATM 406	Atmospheric Dynamics II	
ATM 407	Weather Analysis	
ATM 409	Cloud Physics, Radiation, and Remote Sensing	
Approved 500-level classes offered by the Rosenstiel School		
Total Credit Hours		15

* The Meteorology minor fulfills the requirements of a STEM cognate. Only those courses passed with a grade of "C-" or higher may be applied to the minor.

Marine Affairs

Dept. Code: MSC

Marine Affairs

The ocean is acquiring an ever-increasing significance as an avenue of worldwide commerce and communication and as a source of food, energy, minerals and fuels. As nations and private concerns become more involved in the ocean, the need increases for qualified professionals to deal with the social, cultural, economic, and legal complexities of marine affairs. In order to meet this need, the Rosenstiel School offers a Bachelor of Arts degree with a major in Marine Affairs combined with a required minor or additional major in Anthropology, Economics, Ecosystem Science and Policy, Geography, International Studies, Latin American Studies, Political Science, or an approved field within the Miami Business School. Students in the School of Communication may include Marine Affairs as a second major. This program is designed for students who wish to prepare themselves for graduate studies and careers in ocean related areas of business, policy, management, law, and communication.

5 Year BA/MPS Program in Marine Ecosystems and Society

The Rosenstiel School offers a 5 year BA/Master of Professional Science (MPS) Program in Marine Ecosystems and Society. This program enables qualified Marine Affairs students to earn a Bachelor of Arts in Marine Affairs in four years with the opportunity to earn a Master of Professional Science in Marine Ecosystems and Society in one additional year. Conditional acceptance to the graduate Marine Ecosystems and Society program is based on the student's GPA at the end of the sophomore year. Students must then apply for acceptance to the graduate program at the Rosenstiel School during their junior year.

Majors in Marine Affairs

- B.A. in Marine Affairs (p. 735)

Minors Offered by Marine and Atmospheric Science

- Climate Science and Policy (p. 725)
- Marine Policy (p. 738)
- Marine Science (p. 768)
- Meteorology (p. 726)

Geological Sciences

Dept. Code: GSC

Geological Sciences

Geological Sciences is concerned with Planet Earth, its origin, evolution, structure, internal and surface processes, mineral resources, environmental preservation, global dynamics, paleoclimate reconstruction, and life history. Geologists use their knowledge of chemistry, biology, physics and mathematics to solve Earth problems.

Geological Sciences undergraduates are prepared for careers in industry as well as graduate study in geosciences, the environmental sciences, and marine sciences. Career paths include research and teaching, as well as employment in the petroleum and mineral industries and in industries and government organizations concerned with energy resources, geodynamics, the marine environment, conservation, and climate change.

Major Options

The Department of Geological Sciences offers three undergraduate degree options. Although a single major program, students often combine Geological Sciences with a second major in such diverse fields as, Marine Science, Mathematics, or Ecosystem Science and Policy. Interested students should read the information below and contact the Rosenstiel Undergraduate office (Ungar 210A or 305-284-2180) for details.

- Bachelor of Science (B.S.) in Geological Science
- Bachelor of Science (B.S.) Marine Science/Geological Sciences
- Bachelor of Arts (B.A.) in Geological Sciences
- Five-year Master of Science Program (M.S.)

5 Year B.S./M.S. Program in Geological Sciences and Marine Geosciences

A 5-year B.S. /M.S. in Geological Sciences and Marine Geosciences allows qualified students to complete a master's degree in one year of study beyond the B.S.

Both the B.S. degree in Geological Sciences and M.S. degree in Marine Geosciences are offered through the Department of Marine Geosciences in the Rosenstiel School

By the beginning of their junior year students should have obtained a graduate faculty advisor, selected an approved topic for research, and begun work on their senior thesis as preparation for the M.S. In the senior year, students will increase their focus on graduate courses and work closely with their graduate faculty advisor. Contact the Geological Sciences chair at the departmental office (305-284-4253) for more information.

- B.A. in Geological Sciences (p. 727)
- B.S. in Geological Sciences (p. 729)
- B.S. in Marine Science / Geological Sciences (p. 732)
- Geological Sciences (p. 735)

B.A. in Geological Sciences

Curriculum Requirements

Code	Title	Credit Hours
Geological Sciences		
GSC 110 or GSC 103	The Earth System ¹ Evolution of the Modern Earth's Environment	3
GSC 111 or GSC 102	Earth System History ¹ Evolution of the Biosphere	3-4
GSC 114	Earth Processes Lab	2
GSC 260	Earth Materials	4
GSC 360	Depositional and Diagenetic Systems	4
GSC 482	Field Methods	2
Select 9 credit hours of approved electives in Geological Sciences ²		9
Other Required Courses		
ENG 105	English Composition I	3
ENG 107 or ENG 106	English Composition II: Science and Technology English Composition II	3
Select one of the following:		3-4
MTH 108	Precalculus Mathematics II	
MTH 113	Finite Mathematics	
MTH 130	Introductory Calculus	
MTH 140	Calculus Concepts with Foundations A	
MTH 161 or MTH 171	Calculus I Calculus I	
Courses in approved minor		15
Electives		
Electives		51
Arts and Humanities Cognate Courses		9
People and Society Cognate Courses		9
Total Credit Hours		120-122

¹ GSC 111 and GSC 110 are recommended.

² Which must be at the 300-level or higher. Students are encouraged to take GSC 231 and GSC 580.

Suggested Plan of Study

Course	Title	Credit Hours
Freshman Year		
Fall		
GSC 110	The Earth System	3
GSC 114	Earth Processes Lab	2
ENG 105	English Composition I	3
MTH 108	Precalculus Mathematics II	3
HUM Course #1		3
		Credit Hours
		14
Spring		
GSC 111	Earth System History	4
ENG 107	English Composition II: Science and Technology	3
HUM Course #2		3
Minor Course #1		3
		Credit Hours
		13
Sophomore Year		
Fall		
GSC 260	Earth Materials	4

GSC 360	Depositional and Diagenetic Systems	4
Minor Course #2		3
Elective #1		3
	Credit Hours	14
Spring		
GSC 482	Field Methods	2
PS Course #1		3
Elective #2		3
Elective #3		3
Elective #4		3
	Credit Hours	14
Summer		
GSC 580	Summer Field Geology	4
	Credit Hours	4
Junior Year		
Fall		
HUM Course #3		3
Minor Course #4		3
Elective #5		3
Elective #6		3
Elective #7		3
	Credit Hours	15
Spring		
PS Course #2		3
Minor Course #4		3
Elective #8		3
Elective #9		3
Elective #10		3
	Credit Hours	15
Senior Year		
Fall		
GSC Course		5
PS Course #2		3
Minor Course #5		3
Elective #11		3
Elective #12		3
	Credit Hours	17
Spring		
Elective #13		3
Elective #14		3
Elective #15		3
Elective #16		3
Elective #17		3
	Credit Hours	15
	Total Credit Hours	121

B.S. in Geological Sciences

Curriculum Requirements

Code	Title	Credit Hours
Geological Sciences		
GSC 110	The Earth System	3

GSC 111	Earth System History	4
GSC 114	Earth Processes Lab	2
GSC 260	Earth Materials	4
GSC 360	Depositional and Diagenetic Systems	4
GSC 380	Paleontology and Stratigraphy	4
GSC 410 or GSC 420	Environmental Geochemistry Geophysics	3
GSC 440	Igneous and Metamorphic Petrology	4
GSC 480	Structural Geology	4
GSC 482	Field Methods	2
GSC 561	Colloquium - Current Topics in the Geosciences	1
GSC 580	Summer Field Geology	4
Other Required Courses		
CHM 111	Principles of Chemistry I ¹	3
ENG 105	English Composition I	3
ENG 107 or ENG 106	English Composition II: Science and Technology English Composition II	3
MTH 161 or MTH 171	Calculus I Calculus I	4
MTH 162 or MTH 172	Calculus II Calculus II	4
Select one of the following:		3-4
GSC 204	Environmental Statistics	
CSC 120	Computer Programming I	
CSC 220	Computer Programming II	
MSC 204	Environmental Statistics	
MTH 224	Introduction to Probability and Statistics	
Select one of the following options:		6-8
Options 1:		
PHY 101	College Physics I	
PHY 102	College Physics II	
Option 2:		
PHY 201	University Physics I for the Sciences	
PHY 202	University Physics II for the Sciences	
Option 3:		
PHY 205	University Physics I	
PHY 206	University Physics II	
Courses in approved minor ²		9-19
Electives		
Arts and Humanities Cognate Courses		9
People and Society Cognate Courses		9
Electives		28
Total Credit Hours		120-133

¹ Recommend students to complete Principles of Chemistry I and II (CHM 111, CHM 113, CHM 112, and CHM 114).

² Approved minors are Anthropology (p. 130), Biology (p. 154), Chemistry (p. 166), Climate Science and Policy, (p. 725) Computer Science (p. 186), Ecosystem Science and Policy (p. 207), Mathematics (p. 251), Marine Policy (p. 738), Marine Science (p. 768), Meteorology (p. 726), and Physics (p. 313).

Suggested Plan of Study

Course	Title	Credit Hours
Freshman Year		
Fall		
GSC 110	The Earth System	3
GSC 114	Earth Processes Lab	2
ENG 105	English Composition I	3
MTH 161	Calculus I	4
HUM Course #1		3
	Credit Hours	15
Spring		
GSC 111	Earth System History	4
ENG 107	English Composition II: Science and Technology	3
MTH 162	Calculus II	4
Minor Course #1		3
	Credit Hours	14
Sophomore Year		
Fall		
GSC 260	Earth Materials	4
CHM 111	Principles of Chemistry I	3
CHM 113	Chemistry Laboratory I *	1
Minor Course #2		3
PS Course #1		3
	Credit Hours	14
Spring		
GSC 204	Environmental Statistics	3
GSC 440	Igneous and Metamorphic Petrology	4
CHM 112	Principles of Chemistry II *	3
CHM 114	Chemistry Laboratory II *	1
HUM Course #2		3
	Credit Hours	14
Junior Year		
Fall		
GSC 360	Depositional and Diagenetic Systems	4
PHY 201	University Physics I for the Sciences	4
Minor Course #3		3
HUM Course #3		3
	Credit Hours	14
Spring		
GSC 231	Field Study of Reef Systems Through Time	2
GSC 380	Paleontology and Stratigraphy	4
GSC 482	Field Methods	2
PHY 202	University Physics II for the Sciences	4
PS Course #2		3
	Credit Hours	15
Summer		
GSC 580	Summer Field Geology	4
	Credit Hours	4
Senior Year		
Fall		
GSC 410	Environmental Geochemistry	3

GSC 561	Colloquium - Current Topics in the Geosciences	1
Minor Course #4		3
PS Course #3		3
Elective #1		3
Elective #2		3
	Credit Hours	16
Spring		
GSC 480	Structural Geology	4
GSC 574	Special Studies *	1-4
Minor #5		3
Elective #3		3
Elective #4		3
	Credit Hours	14-17
	Total Credit Hours	120-123

* Recommended electives to take for the B.S. in Geological Sciences.

B.S.M.A.S. in Marine Science / Geological Sciences

Curriculum Requirements

Code	Title	Credit Hours
Marine Science		
MSC 111	Introduction to Marine Science	3
MSC 112	Introduction to Marine Science Lab	1
MSC 215	Chemical Oceanography	3
MSC 230	Introduction to Marine Biology	3
MSC 301	Introduction to Physical Oceanography	3
Select two of the following:		2
MSC 216	Chemical Oceanography Laboratory	
MSC 232	Introduction to Marine Biology Laboratory	
MSC 302	Introduction to Physical Oceanography Lab	
Select 12 credit hours of approved electives in Marine Science ^{1,2}		12
Additional Required Courses		
Select one of the following:		5
BIL 150 & BIL 151	General Biology and General Biology Laboratory	
BIL 160 & BIL 161	Evolution and Biodiversity and Evolution and Biodiversity Laboratory	
CHM 111	Principles of Chemistry I ³	3
CHM 112	Principles of Chemistry II	3
CHM 113	Chemistry Laboratory I	1
CHM 114	Chemistry Laboratory II	1
ENG 105	English Composition I	3
ENG 107 or ENG 106	English Composition II: Science and Technology English Composition II	3
GSC 110	The Earth System	3
GSC 111	Earth System History	4
GSC 114	Earth Processes Lab	2
GSC 260	Earth Materials	4
GSC 360	Depositional and Diagenetic Systems	4
GSC 380	Paleontology and Stratigraphy	4
GSC 410 or GSC 420	Environmental Geochemistry Geophysics	3

GSC 440	Igneous and Metamorphic Petrology	4
GSC 480	Structural Geology	4
GSC 482	Field Methods	2
GSC 561	Colloquium - Current Topics in the Geosciences	1
GSC 580	Summer Field Geology	4
MTH 161 or MTH 171	Calculus I ⁴ Calculus I	4
MTH 162 or MTH 172	Calculus II Calculus II	4
Choose one of the following:		3-4
GSC 204	Environmental Statistics	
MSC 204	Environmental Statistics	
MTH 224	Introduction to Probability and Statistics	
CSC 120	Computer Programming I	
Select one of the following options: ⁵		10
Option 1:		
PHY 201	University Physics I for the Sciences	
PHY 106	College Physics Laboratory I	
PHY 202	University Physics II for the Sciences	
PHY 108	College Physics Laboratory II	
Option 2:		
PHY 205	University Physics I	
PHY 206	University Physics II	
PHY 207	University Physics III	
PHY 208 or PHY 209	University Physics II Lab University Physics III Lab	
Option 3:		
PHY 101	College Physics I	
PHY 102	College Physics II	
PHY 106	College Physics Laboratory I	
PHY 108	College Physics Laboratory II	
Electives		
Arts and Humanities Cognate Courses		9
People and Society Cognate Courses		9
300+ Level Elective		3
Additional Elective		3
Total Credit Hours		130-131

¹ At least 6 of which must be at the 300-level or higher. MSC 204 does not satisfy the MSC elective requirement but does satisfy the Statistics requirement.

² One course in Geological Sciences may fulfill requirements in both Marine Science and Geology.

³ Principles of Chemistry I must be passed with a grade of "C-" or higher.

⁴ Calculus I must be passed with a grade of "C-" or higher.

⁵ Option 1 is recommended for Physics.

Suggested Plan of Study

Freshman Year		Credit Hours
Fall		
MSC 111	Introduction to Marine Science	3
MSC 112	Introduction to Marine Science Lab	1
GSC 110	The Earth System	3
GSC 114	Earth Processes Lab	2

CHM 111	Principles of Chemistry I	3
CHM 113	Chemistry Laboratory I	1
ENG 105	English Composition I	3
	Credit Hours	16
Spring		
GSC 111	Earth System History	4
CHM 112	Principles of Chemistry II	3
CHM 114	Chemistry Laboratory II	1
ENG 107	English Composition II: Science and Technology	3
MTH 161	Calculus I	4
	Credit Hours	15
Sophomore Year		
Fall		
GSC 260	Earth Materials	4
BIL 150	General Biology	4
BIL 151	General Biology Laboratory	1
MTH 162	Calculus II	4
Elective #1		3
	Credit Hours	16
Spring		
MSC 215	Chemical Oceanography	3
MSC 216	Chemical Oceanography Laboratory ¹	1
GSC 380	Paleontology and Stratigraphy	4
MSC 204	Environmental Statistics	3
Elective #2		3
	Credit Hours	14
Junior Year		
Fall		
GSC 360	Depositional and Diagenetic Systems	4
MSC 230	Introduction to Marine Biology	3
MSC 232	Introduction to Marine Biology Laboratory ¹	1
PHY 201	University Physics I for the Sciences	4
PHY 106	College Physics Laboratory I	1
Elective #3		3
	Credit Hours	16
Spring		
GSC 480	Structural Geology	4
GSC 482	Field Methods	2
PHY 202	University Physics II for the Sciences	4
PHY 108	College Physics Laboratory II	1
MSC Course		3
Elective #4		3
	Credit Hours	17
Summer		
GSC 580	Summer Field Geology	4
	Credit Hours	4
Senior Year		
Fall		
GSC 410	Environmental Geochemistry	3
GSC 561	Colloquium - Current Topics in the Geosciences	1
MSC Course		3
MSC Course		3

Elective #5		3
Elective #6		3
	Credit Hours	16
Spring		
MSC 301	Introduction to Physical Oceanography	3
GSC 440	Igneous and Metamorphic Petrology	4
MSC Course		3
Elective #7		3
Elective #8		3
	Credit Hours	16
	Total Credit Hours	130

- * 8 elective courses must include:
- 3 Arts and Humanities Cognate courses
 - 3 People and Society Cognate courses
 - 1 Course (3 credits) at the 300+ level

¹ Students must take two laboratories from MSC 216, MSC 232, MSC 302.

Minor in Geological Sciences

Code	Title	Credit Hours
Required Courses		
GSC 110	The Earth System	3
GSC 111	Earth System History	4
GSC 260	Earth Materials	4
Electives		
GSC Courses 110 or higher		5
Total Credit Hours		16

* The minor in Geological Sciences consists of 16 credit hours in courses numbered 110 or higher.

** A minimum grade of "C-" must be earned in each course with an overall GPA of 2.0.

B.A. in Marine Affairs

Curriculum Requirements

Code	Title	Credit Hours
Marine Affairs		
MSC 111	Introduction to Marine Science	3
MSC 112	Introduction to Marine Science Lab	1
MSC 217	Physical and Chemical Processes in Coastal Ecosystems	3
MSC 230	Introduction to Marine Biology	3
MSC 313	Coastal Law	3
or MSC 314	Ocean Law	
MSC 310	Living Resources of the Ocean	3
or MSC 340	Ocean Policy	
MSC 345	Economics of Natural Resources and the Environment	3
MSC 460	Spatial Applications in Marine Science	3
Select 9 credit hours of approved electives in Marine Affairs	¹	9
Other Required Courses		
BIL 150	General Biology ²	4
BIL 160	Evolution and Biodiversity ²	4
CHM 111	Principles of Chemistry I ³	3
CHM 112	Principles of Chemistry II	3

ENG 105	English Composition I	3
ENG 107 or ENG 106	English Composition II: Science and Technology English Composition II	3
ECO 211	Principles of Microeconomics	3
Select one of the following:		3-4
GSC 110	The Earth System	
GSC 111	Earth System History	
MSC 424	Origin and Geology of the Galapagos Islands.	
Select one of the following:		3-4
MTH 108	Precalculus Mathematics II	
MTH 113	Finite Mathematics	
MTH 130	Introductory Calculus	
MTH 140	Calculus Concepts with Foundations A	
MTH 161 or MTH 171	Calculus I Calculus I	
Select one of the following:		3-4
MSC 204	Environmental Statistics	
CSC 120	Computer Programming I	
MTH 224	Introduction to Probability and Statistics	
Courses in approved minor		15
Electives		
Arts and Humanities Cognate Courses		9
300+ Level Elective		3
Additional Electives		30
Total Credit Hours		120-123

- ¹ At least 6 of which must be at the 300-level or higher. MSC 204 does not satisfy the MSC elective requirement but does satisfy the Statistics requirement.
- ² General Biology (BIL 150) and Evolution and Biodiversity (BIL 160) must be passed with a grade of "C-" or higher.
- ³ Principles of Chemistry I (CHM 111) must be passed with a grade of "C-" or higher.
- * 500-level courses offered through the graduate Marine Ecosystems and Society programs at the Rosenstiel School may be taken by Junior or Senior students with permission.

Suggested Plan of Study

Course	Title	Credit Hours
Freshman Year		
Fall		
MSC 111	Introduction to Marine Science	3
MSC 112	Introduction to Marine Science Lab	1
CHM 111	Principles of Chemistry I	3
MTH 113	Finite Mathematics	3
ENG 105	English Composition I	3
Minor Course #1		3
		Credit Hours
		16
Spring		
BIL 150	General Biology	4
CHM 112	Principles of Chemistry II	3
GSC 110	The Earth System	3
ENG 107	English Composition II: Science and Technology	3
ECO 211	Principles of Microeconomics	3
		Credit Hours
		16

Sophomore Year		
Fall		
BIL 160	Evolution and Biodiversity	4
MSC 230	Introduction to Marine Biology	3
MSC 204	Environmental Statistics	3
Minor Course #2		3
HUM Course #1		3
	Credit Hours	16
Spring		
MSC 217	Physical and Chemical Processes in Coastal Ecosystems	3
MSC Course		3
Minor Course #3		3
HUM Course #2		3
Elective #1		3
	Credit Hours	15
Junior Year		
Fall		
MSC 313	Coastal Law	3
MSC Course		3
Elective #2		3
Elective #3		3
HUM Course #3		3
	Credit Hours	15
Spring		
MSC 345	Economics of Natural Resources and the Environment	3
Minor Course #4		3
Elective #4		3
Elective #5		3
Elective #6		3
	Credit Hours	15
Senior Year		
Fall		
MSC 340	Ocean Policy	3
MSC Course		3
Minor Course #5		3
Elective #7		3
Elective #8		3
	Credit Hours	15
Spring		
MSC 460	Spatial Applications in Marine Science	3
Elective #9		3
Elective #10		3
Elective #11		3
	Credit Hours	12
	Total Credit Hours	120

- * 11 elective courses must include:
• 1 Course (3 credits) at the 300+ level

Minor in Marine Policy

Code	Title	Credit Hours
Required Courses		
MSC 111	Introduction to Marine Science	3
MSC 112	Introduction to Marine Science Lab	1
Electives		
Select 12 credit hours of the following:		12
MSC 310	Living Resources of the Ocean	
MSC 313	Coastal Law	
MSC 314	Ocean Law	
MSC 328	Introduction to Aquaculture	
MSC 340	Ocean Policy	
MSC 341	Sunken Ships and Submerged Sites: An Introduction to Underwater Archaeology	
MSC 342	Decision Making and the Environment	
MSC 345	Economics of Natural Resources and the Environment	
MSC 346	Climate Science and Policy	
MSC 347	Polar Science and Policy	
MSC 410	Marine Conservation Science	
MSC 415	Coral Reef Science and Management	
MSC 418	Climate Law	
MSC 420	Political Ecology of the Galapagos	
MSC 460	Spatial Applications in Marine Science	
MES 501	Political Ecology of Marine Management	
MES 504	Fieldwork in Coastal Management: Tourism, Conservation, and Development	
MES 510	Environmental Planning and the Environmental Impact Statement	
MES 512	Aquaculture I	
MES 518	Coastal Zone Management	
MES 530	Port Operations and Policy	
Total Credit Hours		16

* Students majoring in the School of Marine and Atmospheric Science should replace MSC 111 and MSC 112 with one additional elective, and all electives must be above and beyond those used for the major. The Marine Policy minor fulfills the requirements of a People and Society cognate. Only those courses passed with a grade of "C-" or higher may be applied to the minor.

Marine Biology and Ecology

Dept. Code: MBE

Marine Biology and Ecology

The Bachelor of Science in Marine Biology and Ecology teaches fundamental concepts and precepts in ecology, physiology and organismal-environmental interactions. The educational goals are to understand the range of significant biological concepts from the molecular biology of DNA to how species interactions are affected by environmental change. These educational goals are enhanced by active research experiences that catalyze a student's understanding of the scientific process. This program is designed for students with a strong interest in academic research, graduate school, and professional careers that require critical thinking skills. For these high performing students, this program will develop competencies with which to successfully advance their careers.

While it is not required, there is enough flexibility in the Bachelor of Science in Marine Biology and Ecology program to allow students to do a minor or even a second major in the College of Arts and Sciences or other Schools. Students wishing to do a second major should review these disciplines for additional requirements.

Majors in Marine Biology

B.S.M.A.S. in Marine Biology and Ecology (p. 739)

B.S.M.A.S. in Marine Biology and Ecology

Curriculum Requirements

Code	Title	Credit Hours
Marine Science		
MSC 111	Introduction to Marine Science	3
MSC 112	Introduction to Marine Science Lab	1
MSC 230	Introduction to Marine Biology	3
MSC 232	Introduction to Marine Biology Laboratory	1
Marine Biology		
Select one of the following:		3
BIL 330	Ecology	
MSC 366	Tropical Coastal Ecosystems	
MSC 422	Marine Ecology of the Galapagos	
Select one of the following:		3
BIL 250	Genetics	
MSC 318	Ecological Genetics	
Select one of the following:		3-4
MSC 323	Invertebrate Zoology	
MSC 329	Marine Vertebrate Zoology	
Approved Upper-level animal diversity course		
Select one of the following:		3-4
GSC 111	Earth System History	
MSC 215 & MSC 216	Chemical Oceanography and Chemical Oceanography Laboratory	
MSC 301 & MSC 302	Introduction to Physical Oceanography and Introduction to Physical Oceanography Lab	
MSC 424	Origin and Geology of the Galapagos Islands.	
Select 12 credit hours of approved electives in Marine Science ^{1,2}		12
Other Required Courses		
BIL 150	General Biology	4
BIL 151	General Biology Laboratory	1
BIL 160	Evolution and Biodiversity	4
BIL 161	Evolution and Biodiversity Laboratory	1
BIL 255	Cellular and Molecular Biology	3
BIL 360	Comparative Physiology	3
Select 9 credit hours of approved electives in Biological Sciences ³		9
Select one of the following options:		12-15
Option #1:		
CHM 111	Principles of Chemistry I	
CHM 112	Principles of Chemistry II	
CHM 113	Chemistry Laboratory I	
CHM 114	Chemistry Laboratory II	
CHM 201	Organic Chemistry I (Lecture)	
CHM 205	Organic Chemistry Laboratory I	
Option #2:		
CHM 121	Chemistry for the Biosciences I	
CHM 113	Chemistry Laboratory I	
CHM 221	CHM211 Chemistry for the Biosciences II	
CHM 114	Chemistry Laboratory II	
CHM 222	CHM212 Chemistry for the Biosciences III	
CHM 205	Organic Chemistry Laboratory I	

ENG 105	English Composition I	3
ENG 107 or ENG 106	English Composition II: Science and Technology English Composition II	3
Select one of the following options:		8-12
Option #1		
MTH 161 or MTH 171	Calculus I Calculus I	
MTH 162 or MTH 172	Calculus II Calculus II	
Option #2		
MTH 140	Calculus Concepts with Foundations A	
MTH 141	Calculus Concepts with Foundations B	
MTH 162	Calculus II	
Select one of the following:		3
MSC 204	Environmental Statistics	
MTH 224	Introduction to Probability and Statistics	
Select one of the following options: ⁴		10
Option 1:		
PHY 201	University Physics I for the Sciences	
PHY 106	College Physics Laboratory I	
PHY 202	University Physics II for the Sciences	
PHY 108	College Physics Laboratory II	
Option 2:		
PHY 205	University Physics I	
PHY 206	University Physics II	
PHY 207	University Physics III	
PHY 208 or PHY 209	University Physics II Lab University Physics III Lab	
Option 3:		
PHY 101	College Physics I	
PHY 106	College Physics Laboratory I	
PHY 102	College Physics II	
PHY 108	College Physics Laboratory II	
Electives		
Arts and Humanities Cognate Courses		9
People and Society Cognate Courses		9
300+ Level Elective		3
Additional Elective		3
Total Credit Hours		120-129

¹ Must be at the 300-level or higher. MSC 204 does not satisfy the MSC elective requirement but does satisfy the Statistics requirement.

² Students are encouraged to take Research Fundamentals (MSC 319) in their Sophomore year.

³ Biological Science electives include but are not limited to BIL, BMB, MBE, MIC, MSC, and NEU. For the Biology dual major, at least one BIL elective must be a CAPSTONE course.

⁴ Option 1 is recommended for Physics.

Suggested Plan of Study

Course	Title	Credit Hours
Freshman Year		
Fall		
MSC 111	Introduction to Marine Science	3
MSC 112	Introduction to Marine Science Lab	1

BIL 150	General Biology	4
BIL 151	General Biology Laboratory	1
ENG 105	English Composition I	3
MTH 161	Calculus I	4
	Credit Hours	16
Spring		
BIL 160	Evolution and Biodiversity	4
BIL 161	Evolution and Biodiversity Laboratory	1
CHM 111	Principles of Chemistry I	3
CHM 113	Chemistry Laboratory I	1
ENG 107	English Composition II: Science and Technology	3
MTH 162	Calculus II	4
	Credit Hours	16
Sophomore Year		
Fall		
MSC 230	Introduction to Marine Biology	3
MSC 232	Introduction to Marine Biology Laboratory	1
BIL 255	Cellular and Molecular Biology	3
CHM 112	Principles of Chemistry II	3
CHM 114	Chemistry Laboratory II	1
Elective #1		3
	Credit Hours	14
Spring		
MSC 204	Environmental Statistics	3
CHM 201	Organic Chemistry I (Lecture)	3
CHM 205	Organic Chemistry Laboratory I	1
GSC 111	Earth System History	4
MSC 319	Research Fundamentals ¹	1
Elective #2		3
	Credit Hours	15
Junior Year		
Fall		
MSC 366 or BIL 330	Tropical Coastal Ecosystems or Ecology	3
BIL 360	Comparative Physiology	3
PHY 201	University Physics I for the Sciences	4
PHY 106	College Physics Laboratory I	1
Elective #3		3
Elective #4		3
	Credit Hours	17
Spring		
MSC 318 or BIL 250	Ecological Genetics or Genetics	3
MSC 329 or 323	Marine Vertebrate Zoology or Invertebrate Zoology	3
PHY 202	University Physics II for the Sciences	4
PHY 108	College Physics Laboratory II	1
Elective #5		3
Elective #6		3
	Credit Hours	17

Senior Year		
Fall		
MSC Course		3
MSC Course		3
Biological Science Elective		3
Biological Science Elective		3
Elective #7		3
	Credit Hours	15
Spring		
MSC 411 & MSC 412	Projects in Marine Science and Undergraduate Thesis in Marine Science ¹	3
MSC Course		3
Biological Science Elective		3
Elective #8		3
	Credit Hours	12
	Total Credit Hours	122

- * 8 elective courses must include:
- 3 Arts and Humanities Cognate courses
 - 3 People and Society Cognate courses
 - 1 Course (3 credits) at the 300+ level

¹ Recommended electives to take for the Marine Biology and Ecology major.

Marine Science

Dept. Code: MSC

Marine Science

Marine Science is an interdisciplinary program dealing with the study of the world's oceans, their physical and biological constituents, the influence of oceanic resources on human society, and the conservation and future development of these resources.

The Bachelor of Science double major in Marine Science prepares students for admission to graduate programs and for careers in teaching and research as well as for technical careers in government and private industries concerned with the oceans. The Bachelor of Science in Marine Science is a full double major program that requires a major in Marine Science through the Rosenstiel School and a second major in one of the sciences through the College of Arts and Sciences, RSMAS, or the College of Engineering. Common second majors are Biology, Chemistry, Geological Sciences, Physics, Computer Science, Meteorology and Microbiology & Immunology. Required courses for these combinations are listed within the major tab.

Second majors in Applied Physics, Biochemistry, Engineering (all disciplines), and Mathematics may be taken. Students interested in adding a second major in one of these disciplines should review the Applied Physics (p. 296), Biochemistry (p. 141), Engineering (all disciplines) (p. 592), or Mathematics (p. 247) pages for additional requirements. Each of the areas of concentration constitutes a rigorous program requiring 120-130 credit hours for graduation.

Majors in Marine Science

- B.S. in Marine Science / Biology (p. 747)
- B.S. in Marine Science / Chemistry (p. 750)
- B.S. in Marine Science / Computer Science (p. 753)
- B.S. in Marine Science / Geological Sciences (p. 756)
- B.S. in Marine Science / Meteorology (p. 759)
- B.S. in Marine Science / Microbiology and Immunology (p. 762)
- B.S. in Marine Science / Physics (p. 765)
- B.S. in Marine Science with a Second Major in One of: Applied Physics, Biochemistry, Engineering (All Disciplines), and Mathematics (p. 743)

Minors Offered by Marine and Atmospheric Science

- Climate Science and Policy (p. 725)
- Marine Policy (p. 738)
- Marine Science (p. 768)

• Meteorology (p. 726)

B.S.M.A.S. in Marine Science with a Second Major Curriculum Requirements

Code	Title	Credit Hours
Marine Science		
MSC 111	Introduction to Marine Science	3
MSC 112	Introduction to Marine Science Lab	1
MSC 215	Chemical Oceanography	3
MSC 230	Introduction to Marine Biology	3
MSC 301	Introduction to Physical Oceanography	3
Select two of the following:		2
MSC 216	Chemical Oceanography Laboratory ¹	
MSC 232	Introduction to Marine Biology Laboratory ¹	
MSC 302	Introduction to Physical Oceanography Lab ²	
Select 12 credit hours of approved electives in Marine Science ³		12
Other Required Courses		
Select one of the following:		5
BIL 150 & BIL 151	General Biology and General Biology Laboratory	
BIL 160 & BIL 161	Evolution and Biodiversity and Evolution and Biodiversity Laboratory	
CHM 111	Principles of Chemistry I ⁴	3
CHM 112	Principles of Chemistry II	3
CHM 113	Chemistry Laboratory I	1
CHM 114	Chemistry Laboratory II	1
ENG 105	English Composition I	3
ENG 107 or ENG 106	English Composition II: Science and Technology English Composition II	3
Select one of the following:		3-5
GSC 110 & GSC 114	The Earth System and Earth Processes Lab	
GSC 111	Earth System History	
MSC 424	Origin and Geology of the Galapagos Islands.	
MTH 161 or MTH 171	Calculus I ⁵ Calculus I	4
MTH 162 or MTH 172	Calculus II Calculus II	4
CSC/STATS Course		3-4
Select one of the following options: ⁶		10
Option 1:		
PHY 201	University Physics I for the Sciences	
PHY 106	College Physics Laboratory I	
PHY 202	University Physics II for the Sciences	
PHY 108	College Physics Laboratory II	
Option 2:		
PHY 205	University Physics I	
PHY 206	University Physics II	
PHY 207	University Physics III	
PHY 208 or PHY 209	University Physics II Lab University Physics III Lab	
Option 3:		

PHY 101	College Physics I	
PHY 102	College Physics II	
PHY 106	College Physics Laboratory I	
PHY 108	College Physics Laboratory II	
Electives		
Arts and Humanities Cognate Courses		9
People and Society Cognate Courses		9
Requirements for Second Major ⁷		32
Total Credit Hours		120-123

- ¹ Required for Biochemistry double majors.
- ² Required for Engineering, Mathematics and Applied Physics double majors.
- ³ At least 6 of which must be at the 300-level or higher. MSC 204 does not satisfy the MSC elective requirement but does satisfy the Statistics requirement. Three credits may double count for both MSC and the second major if approved by advisor.
- ⁴ Principles of Chemistry I must be passed with a grade of "C-" or higher.
- ⁵ Calculus I must be passed with a grade of "C-" or higher.
- ⁶ Option 1 or 2 is recommended for Physics. Option 2 (University Physics) is required for Engineering and Applied Physics.
- ⁷ Students should review the Applied Physics (p. 296), Biochemistry (p. 141), Engineering (all disciplines) (p. 592), or Mathematics (p. 247) page for the second major requirements and credits needed.

Suggested Plan of Study - Marine Science/Biochemistry

Course	Title	Credit Hours
Freshman Year		
Fall		
MSC 111	Introduction to Marine Science	3
MSC 112	Introduction to Marine Science Lab	1
CHM 111	Principles of Chemistry I	3
CHM 113	Chemistry Laboratory I	1
ENG 105	English Composition I	3
MTH 161	Calculus I	4
	Credit Hours	15
Spring		
BIL 160	Evolution and Biodiversity	4
BIL 161	Evolution and Biodiversity Laboratory	1
CHM 112	Principles of Chemistry II	3
CHM 114	Chemistry Laboratory II	1
ENG 107	English Composition II: Science and Technology	3
MTH 162	Calculus II	4
	Credit Hours	16
Sophomore Year		
Fall		
MSC 230	Introduction to Marine Biology	3
MSC 232	Introduction to Marine Biology Laboratory	1
BIL 150	General Biology	4
BIL 151	General Biology Laboratory	1
CHM 201	Organic Chemistry I (Lecture)	3
CHM 205	Organic Chemistry Laboratory I	1
MSC 204	Environmental Statistics	3
	Credit Hours	16
Spring		
BMB 401	Biochemistry for the Biomedical Sciences	4
BMB 402	Principles of Experimental BMB ¹	2

BIL 255	Cellular and Molecular Biology	3
CHM 202	Organic Chemistry II (Lecture)	3
CHM 206	Organic Chemistry Laboratory II	1
Elective #1		3
	Credit Hours	16
Junior Year		
Fall		
MSC 215	Chemical Oceanography	3
MSC 216	Chemical Oceanography Laboratory	1
MSC Course		3
BMB 507	Protein Structure, Function and Biology	3
Elective #2		3
Elective #3		3
	Credit Hours	16
Spring		
MSC Course		3
BMB 506	Biomedical Case Studies	1
BMB 509	Molecular Biology of the Gene	3
BMB Course		2
GSC 111	Earth System History	4
Elective #4		3
	Credit Hours	16
Senior Year		
Fall		
BMB 514	Genetics and Genomics: Principles, Mechanisms, and Use	3
MSC Course		3
PHY 201	University Physics I for the Sciences	4
PHY 106	College Physics Laboratory I	1
Elective #5		3
Elective #6		3
	Credit Hours	17
Spring		
MSC 301	Introduction to Physical Oceanography	3
BMB Course		2
PHY 202	University Physics II for the Sciences	4
PHY 108	College Physics Laboratory II	1
Elective #7		3
Elective #8		3
	Credit Hours	16
	Total Credit Hours	128

- * 8 elective courses must include:
- 3 Arts and Humanities Cognate courses
 - 3 People and Society Cognate courses
 - 1 Course (3 credits) at the 300+ level

¹ A total of 6 elective credits in BMB, including at least 2 elective credits in a BMB lab course, must be taken per the Biochemistry Requirements. BMB 402 is a sample BMB lab course.

** Students interested in adding a second major in Biochemistry should review the Biochemistry (p. 141) page for the official requirements needed. This is a suggested plan of study only.

Suggested Plan of Study - Marine Science/Mathematics (Applied Analysis)

Course	Title	Credit Hours
Freshman Year		
Fall		
MSC 111	Introduction to Marine Science	3
MSC 112	Introduction to Marine Science Lab	1
CHM 111	Principles of Chemistry I	3
CHM 113	Chemistry Laboratory I	1
ENG 105	English Composition I	3
MTH 161	Calculus I	4
	Credit Hours	15
Spring		
BIL 160	Evolution and Biodiversity	4
BIL 161	Evolution and Biodiversity Laboratory	1
CHM 112	Principles of Chemistry II	3
CHM 114	Chemistry Laboratory II	1
ENG 107	English Composition II: Science and Technology	3
MTH 162	Calculus II	4
	Credit Hours	16
Sophomore Year		
Fall		
MSC 230	Introduction to Marine Biology	3
MSC 232	Introduction to Marine Biology Laboratory	1
MSC Course		3
MTH 210	Introduction to Linear Algebra	3
PHY 205	University Physics I	3
Elective #1		3
	Credit Hours	16
Spring		
MSC 301	Introduction to Physical Oceanography	3
MSC 302	Introduction to Physical Oceanography Lab	1
MTH 311	Introduction to Ordinary Differential Equations	3
PHY 206	University Physics II	3
PHY 208	University Physics II Lab	1
Elective #2		3
	Credit Hours	14
Junior Year		
Fall		
MTH 230	Introduction to Abstract Mathematics	3
MTH 310	Multivariable Calculus	3
PHY 207	University Physics III	3
MTH 224	Introduction to Probability and Statistics	3
Elective #3		3
	Credit Hours	15
Spring		
MSC Course		3
MTH 512	Elementary Complex Analysis	3
GSC 111	Earth System History	4
Elective #4		3
Elective #5		3
	Credit Hours	16

Senior Year		
Fall		
MSC 215	Chemical Oceanography	3
MTH 433	Advanced Calculus	3
MTH 513	Partial Differential Equations I	3
Elective #6		3
Elective #7		3
	Credit Hours	15
Spring		
MSC Course		3
MSC Course		3
MTH 461	Survey of Modern Algebra	3
MTH 514	Partial Differential Equations II	3
Elective #8		3
	Credit Hours	15
	Total Credit Hours	122

- * 8 elective courses must include:
- 3 Arts and Humanities Cognate courses
 - 3 People and Society Cognate courses
 - 1 Course (3 credits) at the 300+ level

** Students interested in adding a second major in Mathematics should review the Mathematics (<http://bulletin.miami.edu/undergraduate-academic-programs/arts-sciences/mathematics/mathematics-ba-bs>) page for the official requirements needed. This is a suggested plan of study only.

B.S.M.A.S in Marine Science / Biology

Curriculum Requirements

Code	Title	Credit Hours
Marine Science		
MSC 111	Introduction to Marine Science	3
MSC 112	Introduction to Marine Science Lab	1
MSC 215	Chemical Oceanography	3
MSC 230	Introduction to Marine Biology	3
MSC 232	Introduction to Marine Biology Laboratory	1
MSC 301	Introduction to Physical Oceanography	3
MSC 216	Chemical Oceanography Laboratory	1
or MSC 302	Introduction to Physical Oceanography Lab	
Select 12 credit hours of approved electives in Marine Science ¹		12
Other Required Courses		
BIL 150	General Biology	4
BIL 151	General Biology Laboratory	1
BIL 160	Evolution and Biodiversity	4
BIL 161	Evolution and Biodiversity Laboratory	1
BIL 250	Genetics	3
BIL 255	Cellular and Molecular Biology	3
BIL 330	Ecology	3
BIL 360	Comparative Physiology	3
Select 9 credit hours of electives as described for Biology majors ²		9
CHM 111	Principles of Chemistry I ³	3
CHM 112	Principles of Chemistry II ³	3
CHM 113	Chemistry Laboratory I	1
CHM 114	Chemistry Laboratory II	1

CHM 201	Organic Chemistry I (Lecture)	3
CHM 205	Organic Chemistry Laboratory I	1
ENG 105	English Composition I	3
ENG 107 or ENG 106	English Composition II: Science and Technology English Composition II	3
Select one of the following:		3-5
GSC 110 & GSC 114	The Earth System and Earth Processes Lab	
GSC 111	Earth System History	
MSC 424	Origin and Geology of the Galapagos Islands.	
MTH 161 or MTH 171	Calculus I ⁴ Calculus I	4
MTH 162 or MTH 172	Calculus II Calculus II	4
Select one of the following:		3-4
MSC 204	Environmental Statistics	
CSC 120	Computer Programming I	
MTH 224	Introduction to Probability and Statistics	
Select one of the following options: ⁵		10
Option 1:		
PHY 201	University Physics I for the Sciences	
PHY 106	College Physics Laboratory I	
PHY 202	University Physics II for the Sciences	
PHY 108	College Physics Laboratory II	
Option 2:		
PHY 205	University Physics I	
PHY 206	University Physics II	
PHY 207	University Physics III	
PHY 208 or PHY 209	University Physics II Lab University Physics III Lab	
Option 3:		
PHY 101	College Physics I	
PHY 102	College Physics II	
PHY 106	College Physics Laboratory I	
PHY 108	College Physics Laboratory II	
Electives		
Arts and Humanities Cognate Courses		9
People and Society Cognate Courses		9
300+ Level Approved Science or Mathematics Elective		3
300+ Level Elective		3
Additional Elective		3
Total Credit Hours		127-130

¹ At least 6 of which must be at the 300-level or higher. MSC 204 does not satisfy the MSC elective requirement but does satisfy the Statistics requirement.

² The electives must include at least one lab or field based course. One advanced biology course may fulfill requirements in both Biology and Marine Science.

³ Principles of Chemistry I and II must be passed with a grade of "C-" or higher.

⁴ Calculus I must be passed with a grade of "C-" or higher.

⁵ Option 1 is recommended for Physics.

Suggested Plan of Study

Course	Title	Credit Hours
Freshman Year		
Fall		
MSC 111	Introduction to Marine Science	3
MSC 112	Introduction to Marine Science Lab	1
BIL 150	General Biology	4
BIL 151	General Biology Laboratory	1
ENG 105	English Composition I	3
MTH 161	Calculus I	4
	Credit Hours	16
Spring		
BIL 160	Evolution and Biodiversity	4
BIL 161	Evolution and Biodiversity Laboratory	1
CHM 111	Principles of Chemistry I	3
CHM 113	Chemistry Laboratory I	1
ENG 107	English Composition II: Science and Technology	3
MTH 162	Calculus II	4
	Credit Hours	16
Sophomore Year		
Fall		
MSC 230	Introduction to Marine Biology	3
MSC 232	Introduction to Marine Biology Laboratory	1
CHM 112	Principles of Chemistry II	3
CHM 114	Chemistry Laboratory II	1
MSC 204	Environmental Statistics	3
Elective #1		3
	Credit Hours	14
Spring		
MSC 215	Chemical Oceanography	3
MSC 216	Chemical Oceanography Laboratory ¹	1
BIL 250	Genetics	3
GSC 111	Earth System History	4
Elective #2		3
Elective #3		3
	Credit Hours	17
Junior Year		
Fall		
BIL 255	Cellular and Molecular Biology	3
CHM 201	Organic Chemistry I (Lecture)	3
CHM 205	Organic Chemistry Laboratory I	1
MSC Course		3
BIL Course		3
Elective #4		3
	Credit Hours	16
Spring		
BIL 330	Ecology	3
CHM 202	Organic Chemistry II (Lecture) ²	3
CHM 206	Organic Chemistry Laboratory II ²	1
MSC Course		3
BIL Course		3

Elective #5		3
	Credit Hours	16
Senior Year		
Fall		
BIL 360	Comparative Physiology	3
PHY 201	University Physics I for the Sciences	4
PHY 106	College Physics Laboratory I	1
MSC Course		3
Elective #6		3
	Credit Hours	14
Spring		
MSC 301	Introduction to Physical Oceanography	3
PHY 202	University Physics II for the Sciences	4
PHY 108	College Physics Laboratory II	1
BIL/MSC Course		3
Elective #7		3
Elective #8		3
	Credit Hours	17
	Total Credit Hours	126

- * 8 elective courses must include:
- 3 Arts and Humanities Cognate courses
 - 3 People and Society Cognate courses
 - 1 Course (3 credits) at the 300+ level

¹ Students must take one laboratory from MSC 216, MSC 302.

² Organic Chemistry II with lab (CHM 202, CHM 206) is recommended but may be replaced with a minimum of 3 credits of 300+ level science or math course. A minor in Chemistry is earned with an adequate CHM GPA.

B.S.M.A.S. in Marine Science / Chemistry

Curriculum Requirements

Code	Title	Credit Hours
Marine Science		
MSC 111	Introduction to Marine Science	3
MSC 112	Introduction to Marine Science Lab	1
MSC 215	Chemical Oceanography	3
MSC 216	Chemical Oceanography Laboratory	1
MSC 230	Introduction to Marine Biology	3
MSC 301	Introduction to Physical Oceanography	3
MSC 232 or MSC 302	Introduction to Marine Biology Laboratory Introduction to Physical Oceanography Lab	1
Select 12 credit hours of approved electives in Marine Science ^{1,2}		12
Other Required Courses		
BMB 401	Biochemistry for the Biomedical Sciences ²	4
Select one of the following:		5
BIL 150 & BIL 151	General Biology and General Biology Laboratory	
BIL 160 & BIL 161	Evolution and Biodiversity and Evolution and Biodiversity Laboratory	
CHM 111	Principles of Chemistry I ²	3
CHM 112	Principles of Chemistry II	3
CHM 113	Chemistry Laboratory I	1
CHM 114	Chemistry Laboratory II	1

CHM 201	Organic Chemistry I (Lecture)	3
CHM 202	Organic Chemistry II (Lecture)	3
CHM 205	Organic Chemistry Laboratory I	1
CHM 206	Organic Chemistry Laboratory II	1
CHM 214	Quantitative Analytical Chemistry	3
CHM 316	Instrumental Analytical Chemistry	3
CHM 320	Instrumental Methods in Chemistry and Biochemistry	2
CHM 360	Physical Chemistry I (Lecture)	3
CHM 364	Physical Chemistry (Laboratory I)	1
CHM 365	Physical Chemistry II (Lecture)	3
CHM 441	Inorganic Chemistry (Lecture)	3
Select one of the following:		3
CHM 317	The Chemistry of Food and Taste.	
CHM 401	Environmental Chemistry ³	
Any 500-level Chemistry course as described for Chemistry BS majors		
ENG 105	English Composition I	3
ENG 107	English Composition II: Science and Technology	3
or ENG 106	English Composition II	
Select one of the following:		3-5
GSC 110 & GSC 114	The Earth System and Earth Processes Lab	
GSC 111	Earth System History	
MSC 424	Origin and Geology of the Galapagos Islands.	
MTH 161	Calculus I ³	4
or MTH 171	Calculus I	
MTH 162	Calculus II	4
or MTH 172	Calculus II	
Select one of the following:		
MSC 204	Environmental Statistics	
MTH 224	Introduction to Probability and Statistics	
CSC 120	Computer Programming I	
Select one of the following options: ⁴		10
Option 1:		
PHY 201	University Physics I for the Sciences	
PHY 106	College Physics Laboratory I	
PHY 202	University Physics II for the Sciences	
PHY 108	College Physics Laboratory II	
Option 2:		
PHY 205	University Physics I	
PHY 206	University Physics II	
PHY 207	University Physics III	
PHY 208	University Physics II Lab	
or PHY 209	University Physics III Lab	
Electives		
Arts and Humanities Cognate Courses		9
People and Society Cognate Courses		9
300+ Level Elective		3
Additional Elective		3
Total Credit Hours		124-126

¹ At least 6 of which must be at the 300-level or higher. MSC 204 does not satisfy the MSC elective requirement but does satisfy the Statistics requirement.

² CHM 401 also fulfills an MSC elective requirement.

³ Calculus I must be passed with a grade of "C-" or higher.

⁴ Option 1 is recommended for Physics.

Suggested Plan of Study

Course	Title	Credit Hours
Freshman Year		
Fall		
MSC 111	Introduction to Marine Science	3
MSC 112	Introduction to Marine Science Lab	1
CHM 111	Principles of Chemistry I	3
CHM 113	Chemistry Laboratory I	1
ENG 105	English Composition I	3
MTH 161	Calculus I	4
	Credit Hours	15
Spring		
CHM 112	Principles of Chemistry II	3
CHM 114	Chemistry Laboratory II	1
BIL 160	Evolution and Biodiversity	4
BIL 161	Evolution and Biodiversity Laboratory	1
ENG 107	English Composition II: Science and Technology	3
MTH 162	Calculus II	4
	Credit Hours	16
Sophomore Year		
Fall		
MSC 215	Chemical Oceanography	3
MSC 216	Chemical Oceanography Laboratory	1
CHM 201	Organic Chemistry I (Lecture)	3
CHM 205	Organic Chemistry Laboratory I	1
PHY 201	University Physics I for the Sciences	4
PHY 106	College Physics Laboratory I	1
MSC Course		3
	Credit Hours	16
Spring		
MSC 301	Introduction to Physical Oceanography	3
CHM 202	Organic Chemistry II (Lecture)	3
CHM 206	Organic Chemistry Laboratory II	1
PHY 202	University Physics II for the Sciences	4
PHY 108	College Physics Laboratory II	1
MSC 204	Environmental Statistics	3
	Credit Hours	15
Junior Year		
Fall		
CHM 214	Quantitative Analytical Chemistry	3
CHM 360	Physical Chemistry I (Lecture)	3
CHM 364	Physical Chemistry (Laboratory I)	1
MSC 230	Introduction to Marine Biology	3
MSC 232	Introduction to Marine Biology Laboratory ¹	1
Elective #1		3
Elective #2		3
	Credit Hours	17
Spring		
CHM 316	Instrumental Analytical Chemistry	3

CHM 320	Instrumental Methods in Chemistry and Biochemistry	2
CHM 365	Physical Chemistry II (Lecture)	3
MSC Course		3
Elective #3		3
Elective #4		3
	Credit Hours	17
Senior Year		
Fall		
CHM 401	Environmental Chemistry	3
BMB 401	Biochemistry for the Biomedical Sciences	4
GSC 111	Earth System History	4
Elective #5		3
	Credit Hours	14
Spring		
CHM 441	Inorganic Chemistry (Lecture)	3
MSC Course		3
Elective #6		3
Elective #7		3
Elective #8		3
	Credit Hours	15
	Total Credit Hours	125

- * 8 elective courses must include:
- 3 Arts and Humanities Cognate courses
 - 3 People and Society Cognate courses
 - 1 Course (3 credits) at the 300+ level

¹ Students must take one laboratory from MSC 232, MSC 302.

B.S.M.A.S in Marine Science / Computer Science Curriculum Requirements

Code	Title	Credit Hours
Marine Science		
MSC 111	Introduction to Marine Science	3
MSC 112	Introduction to Marine Science Lab	1
MSC 215	Chemical Oceanography	3
MSC 230	Introduction to Marine Biology	3
MSC 301	Introduction to Physical Oceanography	3
MSC 302	Introduction to Physical Oceanography Lab	1
MSC 321	Scientific Programming in the Atmospheric Sciences	3
MSC 216 or MSC 232	Chemical Oceanography Laboratory Introduction to Marine Biology Laboratory	1
Select 9 credit hours of approved electives in Marine Science ¹		9
Other Required Courses		
Select one of the following:		5
BIL 150 & BIL 151	General Biology and General Biology Laboratory	
BIL 160 & BIL 161	Evolution and Biodiversity and Evolution and Biodiversity Laboratory	
CHM 111	Principles of Chemistry I ²	3
CHM 112	Principles of Chemistry II	3
CHM 113	Chemistry Laboratory I	1
CHM 114	Chemistry Laboratory II	1

CSC 120	Computer Programming I	4
CSC 220	Computer Programming II	4
CSC 314	Computer Organization and Architecture	3
CSC 322	System Programming	3
CSC 431	Introduction to Software Engineering	3
Select 6 credit hours of approved electives, as described for Computer Science majors		6
ENG 105	English Composition I	3
ENG 107 or ENG 106	English Composition II: Science and Technology English Composition II	3
Select one of the following:		3-5
GSC 110 & GSC 114	The Earth System and Earth Processes Lab	
GSC 111	Earth System History	
MSC 424	Origin and Geology of the Galapagos Islands.	
MTH 161 or MTH 171	Calculus I ³ Calculus I	4
MTH 162 or MTH 172	Calculus II ³ Calculus II	4
MTH 210	Introduction to Linear Algebra	3
MTH 309	Discrete Mathematics I	3
MTH 311	Introduction to Ordinary Differential Equations	3
Select one of the following:		3
MSC 204	Environmental Statistics	
MTH 224	Introduction to Probability and Statistics	
Select one of the following options:		10
Option 1:		
PHY 201	University Physics I for the Sciences	
PHY 106	College Physics Laboratory I	
PHY 202	University Physics II for the Sciences	
PHY 108	College Physics Laboratory II	
Option 2:		
PHY 205	University Physics I	
PHY 206	University Physics II	
PHY 207	University Physics III	
PHY 208 or PHY 209	University Physics II Lab University Physics III Lab	
Electives		
Arts and Humanities Cognate Courses		9
People and Society Cognate Courses		9
300+ Level Elective		3
Additional Elective		3
Total Credit Hours		126-128

¹ At least 6 of which must be at the 300-level or higher. MSC204 does not satisfy the MSC elective requirement but does satisfy the Statistics requirement.

² Principles of Chemistry I must be passed with a grade of "C-" or higher.

³ Calculus I and II must be passed with a grade of "C-" or higher.

Suggested Plan of Study

Course	Title	Credit Hours
Freshman Year		
Fall		
MSC 111	Introduction to Marine Science	3

MSC 112	Introduction to Marine Science Lab	1
CSC 120	Computer Programming I	4
ENG 105	English Composition I	3
MTH 161	Calculus I	4
	Credit Hours	15
Spring		
CSC 220	Computer Programming II	4
CHM 111	Principles of Chemistry I	3
CHM 113	Chemistry Laboratory I	1
ENG 107	English Composition II: Science and Technology	3
MTH 162	Calculus II	4
	Credit Hours	15
Sophomore Year		
Fall		
CSC 314	Computer Organization and Architecture	3
CHM 112	Principles of Chemistry II	3
CHM 114	Chemistry Laboratory II	1
GSC 111	Earth System History	4
PHY 201	University Physics I for the Sciences	4
PHY 106	College Physics Laboratory I	1
	Credit Hours	16
Spring		
MSC 301	Introduction to Physical Oceanography	3
MSC 302	Introduction to Physical Oceanography Lab	1
BIL 160	Evolution and Biodiversity	4
BIL 161	Evolution and Biodiversity Laboratory	1
MTH 311	Introduction to Ordinary Differential Equations	3
PHY 202	University Physics II for the Sciences	4
PHY 108	College Physics Laboratory II	1
	Credit Hours	17
Junior Year		
Fall		
CSC Course		3
MTH 210	Introduction to Linear Algebra	3
MTH 309	Discrete Mathematics I	3
Elective #1		3
Elective #2		3
	Credit Hours	15
Spring		
MSC 215	Chemical Oceanography	3
MSC 216	Chemical Oceanography Laboratory ¹	1
MSC 321	Scientific Programming in the Atmospheric Sciences	3
CSC 322	System Programming	3
MSC 204	Environmental Statistics	3
Elective #3		3
	Credit Hours	16
Senior Year		
Fall		
MSC 230	Introduction to Marine Biology	3
CSC Course		3
MSC Course		3
Elective #4		3

Elective #5		3
Elective #6		3
	Credit Hours	18
Spring		
CSC 431	Introduction to Software Engineering	3
MSC Course		3
MSC Course		3
Elective #7		3
Elective #8		3
	Credit Hours	15
	Total Credit Hours	127

- * 8 elective courses must include:
- 3 Arts and Humanities Cognate courses
 - 3 People and Society Cognate courses
 - 1 Course (3 credits) at the 300+ level

¹ Students must take one laboratory from MSC 216, MSC 232.

B.S.M.A.S. in Marine Science / Geological Sciences

Curriculum Requirements

Code	Title	Credit Hours
Marine Science		
MSC 111	Introduction to Marine Science	3
MSC 112	Introduction to Marine Science Lab	1
MSC 215	Chemical Oceanography	3
MSC 230	Introduction to Marine Biology	3
MSC 301	Introduction to Physical Oceanography	3
Select two of the following:		2
MSC 216	Chemical Oceanography Laboratory	
MSC 232	Introduction to Marine Biology Laboratory	
MSC 302	Introduction to Physical Oceanography Lab	
Select 12 credit hours of approved electives in Marine Science ^{1,2}		12
Additional Required Courses		
Select one of the following:		5
BIL 150 & BIL 151	General Biology and General Biology Laboratory	
BIL 160 & BIL 161	Evolution and Biodiversity and Evolution and Biodiversity Laboratory	
CHM 111	Principles of Chemistry I ³	3
CHM 112	Principles of Chemistry II	3
CHM 113	Chemistry Laboratory I	1
CHM 114	Chemistry Laboratory II	1
ENG 105	English Composition I	3
ENG 107 or ENG 106	English Composition II: Science and Technology English Composition II	3
GSC 110	The Earth System	3
GSC 111	Earth System History	4
GSC 114	Earth Processes Lab	2
GSC 260	Earth Materials	4
GSC 360	Depositional and Diagenetic Systems	4
GSC 380	Paleontology and Stratigraphy	4
GSC 410	Environmental Geochemistry	3

or GSC 420	Geophysics	
GSC 440	Igneous and Metamorphic Petrology	4
GSC 480	Structural Geology	4
GSC 482	Field Methods	2
GSC 561	Colloquium - Current Topics in the Geosciences	1
GSC 580	Summer Field Geology	4
MTH 161	Calculus I ⁴	4
or MTH 171	Calculus I	
MTH 162	Calculus II	4
or MTH 172	Calculus II	
Choose one of the following:		3-4
GSC 204	Environmental Statistics	
MSC 204	Environmental Statistics	
MTH 224	Introduction to Probability and Statistics	
CSC 120	Computer Programming I	
Select one of the following options: ⁵		10
Option 1:		
PHY 201	University Physics I for the Sciences	
PHY 106	College Physics Laboratory I	
PHY 202	University Physics II for the Sciences	
PHY 108	College Physics Laboratory II	
Option 2:		
PHY 205	University Physics I	
PHY 206	University Physics II	
PHY 207	University Physics III	
PHY 208	University Physics II Lab	
or PHY 209	University Physics III Lab	
Option 3:		
PHY 101	College Physics I	
PHY 102	College Physics II	
PHY 106	College Physics Laboratory I	
PHY 108	College Physics Laboratory II	
Electives		
Arts and Humanities Cognate Courses		9
People and Society Cognate Courses		9
300+ Level Elective		3
Additional Elective		3
Total Credit Hours		130-131

¹ At least 6 of which must be at the 300-level or higher. MSC 204 does not satisfy the MSC elective requirement but does satisfy the Statistics requirement.

² One course in Geological Sciences may fulfill requirements in both Marine Science and Geology.

³ Principles of Chemistry I must be passed with a grade of "C-" or higher.

⁴ Calculus I must be passed with a grade of "C-" or higher.

⁵ Option 1 is recommended for Physics.

Suggested Plan of Study

Freshman Year		Credit Hours
Fall		
MSC 111	Introduction to Marine Science	3
MSC 112	Introduction to Marine Science Lab	1
GSC 110	The Earth System	3

GSC 114	Earth Processes Lab	2
CHM 111	Principles of Chemistry I	3
CHM 113	Chemistry Laboratory I	1
ENG 105	English Composition I	3
	Credit Hours	16
Spring		
GSC 111	Earth System History	4
CHM 112	Principles of Chemistry II	3
CHM 114	Chemistry Laboratory II	1
ENG 107	English Composition II: Science and Technology	3
MTH 161	Calculus I	4
	Credit Hours	15
Sophomore Year		
Fall		
GSC 260	Earth Materials	4
BIL 150	General Biology	4
BIL 151	General Biology Laboratory	1
MTH 162	Calculus II	4
Elective #1		3
	Credit Hours	16
Spring		
MSC 215	Chemical Oceanography	3
MSC 216	Chemical Oceanography Laboratory ¹	1
GSC 380	Paleontology and Stratigraphy	4
MSC 204	Environmental Statistics	3
Elective #2		3
	Credit Hours	14
Junior Year		
Fall		
GSC 360	Depositional and Diagenetic Systems	4
MSC 230	Introduction to Marine Biology	3
MSC 232	Introduction to Marine Biology Laboratory ¹	1
PHY 201	University Physics I for the Sciences	4
PHY 106	College Physics Laboratory I	1
Elective #3		3
	Credit Hours	16
Spring		
GSC 480	Structural Geology	4
GSC 482	Field Methods	2
PHY 202	University Physics II for the Sciences	4
PHY 108	College Physics Laboratory II	1
MSC Course		3
Elective #4		3
	Credit Hours	17
Summer		
GSC 580	Summer Field Geology	4
	Credit Hours	4
Senior Year		
Fall		
GSC 410	Environmental Geochemistry	3
GSC 561	Colloquium - Current Topics in the Geosciences	1
MSC Course		3

MSC Course		3
Elective #5		3
Elective #6		3
	Credit Hours	16
Spring		
MSC 301	Introduction to Physical Oceanography	3
GSC 440	Igneous and Metamorphic Petrology	4
MSC Course		3
Elective #7		3
Elective #8		3
	Credit Hours	16
	Total Credit Hours	130

- * 8 elective courses must include:
- 3 Arts and Humanities Cognate courses
 - 3 People and Society Cognate courses
 - 1 Course (3 credits) at the 300+ level

¹ Students must take two laboratories from MSC 216, MSC 232, MSC 302.

B.S.M.A.S. in Marine Science / Meteorology

Curriculum Requirements

Code	Title	Credit Hours
Atmospheric Science		
ATM 103	Survey of Modern Meteorology	3
ATM 243	Weather Forecasting	3
ATM 303	Meteorological Instrumentation and Observation	3
ATM 305	Atmospheric Thermodynamics	3
ATM 307	Introduction to the Physics of Climate	3
ATM 405	Atmospheric Dynamics I	3
ATM 406	Atmospheric Dynamics II	3
ATM 407	Weather Analysis	4
ATM 409	Cloud Physics, Radiation, and Remote Sensing	3
Marine Science		
MSC 111	Introduction to Marine Science	3
MSC 112	Introduction to Marine Science Lab	1
MSC 215	Chemical Oceanography	3
MSC 230	Introduction to Marine Biology	3
MSC 301	Introduction to Physical Oceanography	3
MSC 302	Introduction to Physical Oceanography Lab	1
MSC 216	Chemical Oceanography Laboratory	1
or MSC 232	Introduction to Marine Biology Laboratory	
Select 9 credit hours of approved electives in Marine Science ¹		9
Other Required Courses		
Select one of the following:		5
BIL 150 & BIL 151	General Biology and General Biology Laboratory	
BIL 160 & BIL 161	Evolution and Biodiversity and Evolution and Biodiversity Laboratory	
CHM 111	Principles of Chemistry I ²	3
CHM 112	Principles of Chemistry II	3
CHM 113	Chemistry Laboratory I	1
CHM 114	Chemistry Laboratory II	1

CSC 120	Computer Programming I	4
ENG 105	English Composition I	3
ENG 107 or ENG 106	English Composition II: Science and Technology English Composition II	3
Select one of the following:		3-5
GSC 110 & GSC 114	The Earth System and Earth Processes Lab	
GSC 111	Earth System History	
MSC 424	Origin and Geology of the Galapagos Islands.	
MSC 204 or MTH 224	Environmental Statistics Introduction to Probability and Statistics	3
MTH 161 or MTH 171	Calculus I ³ Calculus I	4
MTH 162 or MTH 172	Calculus II ³ Calculus II	4
MTH 210	Introduction to Linear Algebra	3
MTH 310 or MTH 211	Multivariable Calculus Calculus III	3
MTH 311	Introduction to Ordinary Differential Equations	3
PHY 201	University Physics I for the Sciences	4
PHY 202	University Physics II for the Sciences	4
PHY 106	College Physics Laboratory I	1
PHY 108	College Physics Laboratory II	1
Arts and Humanities Cognate Courses		9
People and Society Cognate Courses		9
Total Credit Hours		126-128

¹ At least 6 of which must be at the 300-level or higher. MSC 204 does not satisfy the MSC elective requirement but does satisfy the Statistics requirement.

² Principles of Chemistry I must be passed with a grade of "C-" or higher.

³ Calculus I and II must be passed with a grade of "C-" or higher.

Suggested Plan of Study

Freshman Year		Credit Hours
Fall		
ATM 103	Survey of Modern Meteorology	3
MSC 111	Introduction to Marine Science	3
MSC 112	Introduction to Marine Science Lab	1
ENG 105	English Composition I	3
MTH 161	Calculus I	4
Credit Hours		14
Spring		
ATM 243	Weather Forecasting	3
CHM 111	Principles of Chemistry I	3
CHM 113	Chemistry Laboratory I	1
ENG 107	English Composition II: Science and Technology	3
MTH 162	Calculus II	4
Elective #1		3
Credit Hours		17
Sophomore Year		
Fall		
CHM 112	Principles of Chemistry II	3

CHM 114	Chemistry Laboratory II	1
MTH 210	Introduction to Linear Algebra	3
PHY 201	University Physics I for the Sciences	4
PHY 106	College Physics Laboratory I	1
Elective #2		3
	Credit Hours	15
Spring		
ATM 303	Meteorological Instrumentation and Observation	3
MSC 301	Introduction to Physical Oceanography	3
MSC 302	Introduction to Physical Oceanography Lab	1
PHY 202	University Physics II for the Sciences	4
PHY 108	College Physics Laboratory II	1
MSC 204	Environmental Statistics	3
	Credit Hours	15
Junior Year		
Fall		
ATM 305	Atmospheric Thermodynamics	3
MSC 215	Chemical Oceanography	3
MTH 310	Multivariable Calculus	3
MSC Course		3
Elective #3		3
	Credit Hours	15
Spring		
ATM 307	Introduction to the Physics of Climate	3
ATM 405	Atmospheric Dynamics I	3
BIL 160	Evolution and Biodiversity	4
BIL 161	Evolution and Biodiversity Laboratory	1
CSC 120	Computer Programming I	4
MTH 311	Introduction to Ordinary Differential Equations	3
	Credit Hours	18
Senior Year		
Fall		
ATM 406	Atmospheric Dynamics II	3
ATM 407	Weather Analysis	4
MSC 230	Introduction to Marine Biology	3
MSC 232	Introduction to Marine Biology Laboratory	1
MSC Course		3
Elective #4		3
	Credit Hours	17
Spring		
ATM 409	Cloud Physics, Radiation, and Remote Sensing	3
GSC 111	Earth System History	4
MSC Course		3
Elective #5		3
Elective #6		3
	Credit Hours	16
	Total Credit Hours	127

- * 6 elective courses must include:
- 3 Arts and Humanities Cognate courses
 - 3 People and Society Cognate courses

B.S.M.A.S. in Marine Science / Microbiology and Immunology

Curriculum Requirements

Code	Title	Credit Hours
Marine Science		
MSC 111	Introduction to Marine Science	3
MSC 112	Introduction to Marine Science Lab	1
MSC 215	Chemical Oceanography	3
MSC 230	Introduction to Marine Biology	3
MSC 232	Introduction to Marine Biology Laboratory	1
MSC 301	Introduction to Physical Oceanography	3
MSC 216	Chemical Oceanography Laboratory	1
or MSC 302	Introduction to Physical Oceanography Lab	
Select 12 credit hours of approved electives in Marine Science ^{1,2}		12
Required Microbiology and Immunology Courses		
11		
MIC 301	Introduction to Microbes and the Immune System	
MIC 304	Introduction to Microbes and the Immune System (Lab)	
Select one of the following:		
MIC 319	Innate Immunity	
MIC 321	Immunobiology	
Select one of the following:		
MIC 201	Modern Plagues and Society	
MIC 323	Microbial Pathogenesis and Physiology	
Microbiology and Immunology Approved Electives		
13		
MIC 201	Modern Plagues and Society	
MIC 319	Innate Immunity	
MIC 321	Immunobiology	
MIC 322	Medical Parasitology	
MIC 323	Microbial Pathogenesis and Physiology	
MIC 436	Fundamental and Medical Virology	
MIC 441	Microbiology and Immunology Colloquium (can be taken twice to count toward the 13 MIC elective hours)	
MIC 460	Advanced Topics in Microbiology and Immunology	
Only 6 credit hours of Research in MIC may be applied toward the 13 MIC elective hours		
MIC 451	Special Projects in Immunobiology	
MIC 452	Special Projects in Parasitology	
MIC 453	Special Projects in Pathogenic Bacteriology	
MIC 454	Special Projects in Microbial Genetics	
MIC 455	Special Projects in Immunogenetics	
MIC 456	Special Projects in Virology	
Maximum of 3 courses from outside electives can count towards the 13 MIC elective hours		
BIL 255	Cellular and Molecular Biology	
BIL 352	Techniques in Scanning Electron Microscopy	
or BIL 554	Electron Microscopy	
GSC 309	Microbes and the Environment	
or MSC 465	Marine Comparative Immunology	
Additional Required Courses		
BIL 150	General Biology	4
BIL 151	General Biology Laboratory	1
BIL 160	Evolution and Biodiversity	4
BIL 161	Evolution and Biodiversity Laboratory	1
BMB 401	Biochemistry for the Biomedical Sciences	4

CHM 111	Principles of Chemistry I ³	3
CHM 113	Chemistry Laboratory I	1
CHM 112	Principles of Chemistry II ³	3
CHM 114	Chemistry Laboratory II	1
CHM 201	Organic Chemistry I (Lecture)	3
CHM 205	Organic Chemistry Laboratory I	1
CHM 202	Organic Chemistry II (Lecture)	3
CHM 206	Organic Chemistry Laboratory II	1
MTH 161 or MTH 171	Calculus I ⁴ Calculus I	4
MTH 162 or MTH 172	Calculus II Calculus II	4
ENG 105	English Composition I	3
ENG 107 or ENG 106	English Composition II: Science and Technology English Composition II	3
Select one of the following:		3-5
GSC 110 & GSC 114	The Earth System and Earth Processes Lab	
GSC 111	Earth System History	
MSC 424	Origin and Geology of the Galapagos Islands.	
Select one of the following:		3-4
MSC 204	Environmental Statistics	
MTH 224	Introduction to Probability and Statistics	
CSC 120	Computer Programming I	
Select one of the following options: ⁵		10
Option 1:		
PHY 201	University Physics I for the Sciences	
PHY 106	College Physics Laboratory I	
PHY 202	University Physics II for the Sciences	
PHY 108	College Physics Laboratory II	
Option 2:		
PHY 205	University Physics I	
PHY 206	University Physics II	
PHY 207 & PHY 209	University Physics III and University Physics III Lab	
Option 3:		
PHY 101 & PHY 106	College Physics I and College Physics Laboratory I	
PHY 102 & PHY 108	College Physics II and College Physics Laboratory II	
Electives		
Arts and Humanities Cognate Courses		9
People and Society Cognate Courses		9
300+ Level Elective		3
Total Credit Hours		132-135

¹ At least 6 of which must be at the 300-level or higher. MSC204 does not satisfy the MSC elective requirement but does satisfy the Statistics requirement.

² MSC 465 may double count as both MSC and MIC upper electives.

³ Principles of Chemistry I and II must be passed with a grade of "C-" or higher.

⁴ Calculus I must be passed with a grade of "C-" or higher.

⁵ Option 1 is recommended for Physics.

Suggested Plan of Study

Course	Title	Credit Hours
Freshman Year		
Fall		
MSC 111	Introduction to Marine Science	3
MSC 112	Introduction to Marine Science Lab	1
BIL 150	General Biology	4
BIL 151	General Biology Laboratory	1
ENG 105	English Composition I	3
MTH 161	Calculus I	4
	Credit Hours	16
Spring		
MIC 301	Introduction to Microbes and the Immune System	3
CHM 111	Principles of Chemistry I	3
CHM 113	Chemistry Laboratory I	1
ENG 107	English Composition II: Science and Technology	3
MTH 162	Calculus II	4
	Credit Hours	14
Sophomore Year		
Fall		
MIC 304	Introduction to Microbes and the Immune System (Lab)	2
MSC 230	Introduction to Marine Biology	3
MSC 232	Introduction to Marine Biology Laboratory	1
CHM 112	Principles of Chemistry II	3
CHM 114	Chemistry Laboratory II	1
MSC 204	Environmental Statistics	3
Elective #1		3
	Credit Hours	16
Spring		
MIC 321	Immunobiology	3
BIL 160	Evolution and Biodiversity	4
BIL 161	Evolution and Biodiversity Laboratory	1
CHM 201	Organic Chemistry I (Lecture)	3
CHM 205	Organic Chemistry Laboratory I	1
MIC 323	Microbial Pathogenesis and Physiology	3
Elective #2		3
	Credit Hours	18
Junior Year		
Fall		
MSC Course		3
MIC Approved Elective		3
CHM 202	Organic Chemistry II (Lecture)	3
CHM 206	Organic Chemistry Laboratory II	1
GSC 111	Earth System History	4
Elective #3		3
	Credit Hours	17
Spring		
MSC 215	Chemical Oceanography	3
MSC 216 or 302	Chemical Oceanography Laboratory or Introduction to Physical Oceanography Lab	1
MSC 301	Introduction to Physical Oceanography	3
MSC Course		3

MIC Approved Elective		3
Elective #4		3
	Credit Hours	16
Senior Year		
Fall		
MSC 465	Marine Comparative Immunology ¹	3
BMB 401	Biochemistry for the Biomedical Sciences	4
PHY 201	University Physics I for the Sciences	4
PHY 106	College Physics Laboratory I	1
Elective #5		3
Elective #6		3
	Credit Hours	18
Spring		
MSC Course		3
MIC Approved Elective		4
PHY 202	University Physics II for the Sciences	4
PHY 108	College Physics Laboratory II	1
Elective #7		3
	Credit Hours	15
	Total Credit Hours	130

¹ MSC 465 may double count as both MSC and MIC upper electives.

- * 7 elective courses must include:
- 3 Arts and Humanities Cognate courses
 - 3 People and Society Cognate Courses
 - 1 Course (3 credits) at the 300+ level

B.S.M.A.S. in Marine Science / Physics

Curriculum Requirements

Code	Title	Credit Hours
Marine Science		
MSC 111	Introduction to Marine Science	3
MSC 112	Introduction to Marine Science Lab	1
MSC 215	Chemical Oceanography	3
MSC 230	Introduction to Marine Biology	3
MSC 301	Introduction to Physical Oceanography	3
MSC 302	Introduction to Physical Oceanography Lab	1
MSC 216	Chemical Oceanography Laboratory	1
or MSC 232	Introduction to Marine Biology Laboratory	
Select 12 credit hours of approved electives in Marine Science ¹		12
Other Required Courses		
Select one of the following:		5
BIL 150 & BIL 151	General Biology and General Biology Laboratory	
BIL 160 & BIL 161	Evolution and Biodiversity and Evolution and Biodiversity Laboratory	
CHM 111	Principles of Chemistry I ²	3
CHM 112	Principles of Chemistry II	3
CHM 113	Chemistry Laboratory I	1
CHM 114	Chemistry Laboratory II	1
ENG 105	English Composition I	3
ENG 107	English Composition II: Science and Technology	3

or ENG 106	English Composition II	
Select one of the following:		3-5
GSC 110 & GSC 114	The Earth System and Earth Processes Lab	
GSC 111	Earth System History	
MSC 424	Origin and Geology of the Galapagos Islands.	
MTH 161 or MTH 171	Calculus I ³ Calculus I	4
MTH 162 or MTH 172	Calculus II ³ Calculus II	4
MTH 210	Introduction to Linear Algebra	3
MTH 211 or MTH 310	Calculus III Multivariable Calculus	3
MTH 311	Introduction to Ordinary Differential Equations	3
Select one of the following:		3-4
MSC 204	Environmental Statistics	
CSC 120	Computer Programming I	
MTH 224	Introduction to Probability and Statistics	
PHY 205	University Physics I	3
PHY 206	University Physics II	3
PHY 207	University Physics III	3
PHY 208	University Physics II Lab	1
PHY 209	University Physics III Lab	1
PHY 321	Thermodynamics and Kinetic Theory	3
PHY 340	Classical Mechanics I	3
PHY 350	Intermediate Electricity and Magnetism	3
PHY 351	Intermediate Electricity and Magnetism II	3
PHY 360	Introduction to Modern Physics	3
PHY 362	Modern Physics Honors Seminar	1
PHY 540	Classical Mechanics II	3
PHY 560	Quantum Mechanics and Modern Physics I	3
Electives		
Arts and Humanities Cognate Courses		9
People and Society Cognate Courses		9
300+ Level Elective		3
Additional Elective		3
Total Credit Hours		126-129

¹ At least 6 of which must be at the 300-level or higher. MSC 204 does not satisfy the MSC elective requirement but does satisfy the Statistics requirement.

² Principles of Chemistry I must be passed with a grade of "C-" or higher.

³ Calculus I and II must be passed with a grade of "C-" or higher.

Suggested Plan of Study

Freshman Year		Credit Hours
Fall		
MSC 111	Introduction to Marine Science	3
MSC 112	Introduction to Marine Science Lab	1
CHM 111	Principles of Chemistry I	3
CHM 113	Chemistry Laboratory I	1
ENG 105	English Composition I	3
MTH 161	Calculus I	4
Credit Hours		15

Spring		
PHY 205	University Physics I	3
CHM 112	Principles of Chemistry II	3
CHM 114	Chemistry Laboratory II	1
ENG 107	English Composition II: Science and Technology	3
MTH 162	Calculus II	4
Elective #1		3
	Credit Hours	17
Sophomore Year		
Fall		
MSC 301	Introduction to Physical Oceanography	3
PHY 206	University Physics II	3
PHY 208	University Physics II Lab	1
MTH 210	Introduction to Linear Algebra	3
MTH 211	Calculus III	3
Elective #2		3
	Credit Hours	16
Spring		
MSC 302	Introduction to Physical Oceanography Lab	1
PHY 207	University Physics III	3
PHY 209	University Physics III Lab	1
BIL 160	Evolution and Biodiversity	4
BIL 161	Evolution and Biodiversity Laboratory	1
MTH 311	Introduction to Ordinary Differential Equations	3
Elective #3		3
	Credit Hours	16
Junior Year		
Fall		
MSC 230	Introduction to Marine Biology	3
PHY 340	Classical Mechanics I	3
PHY 350	Intermediate Electricity and Magnetism	3
GSC 111	Earth System History	4
Elective #4		3
	Credit Hours	16
Spring		
MSC 215	Chemical Oceanography	3
MSC 216	Chemical Oceanography Laboratory	1
PHY 321	Thermodynamics and Kinetic Theory	3
PHY 360	Introduction to Modern Physics	3
MSC 204	Environmental Statistics	3
Elective #5		3
	Credit Hours	16
Senior Year		
Fall		
MSC Course		3
MSC Course		3
PHY 362	Modern Physics Honors Seminar	1
PHY 540	Classical Mechanics II	3
PHY 560	Quantum Mechanics and Modern Physics I	3
Elective #6		3
	Credit Hours	16

Spring		
MSC Course		3
MSC Course		3
PHY 351	Intermediate Electricity and Magnetism II	3
Elective #7		3
Elective #8		3
	Credit Hours	15
	Total Credit Hours	127

- * 8 elective courses must include:
- 3 Arts and Humanities Cognate courses
 - 3 People and Society Cognate courses
 - 1 Course (3 credits) at the 300+ level

Minor in Marine Science

Code	Title	Credit Hours
Required Courses		
MSC 111	Introduction to Marine Science	3
MSC 112	Introduction to Marine Science Lab	1
Select 12 credit hours of electives in Marine Science: ¹		12
MSC 215	Chemical Oceanography	
MSC 216	Chemical Oceanography Laboratory	
MSC 217	Physical and Chemical Processes in Coastal Ecosystems	
MSC 218	Biological Oceanography	
MSC 220	Climate and Global Change	
MSC 222	The Earth's Climate: Past and Future	
MSC 230	Introduction to Marine Biology	
MSC 232	Introduction to Marine Biology Laboratory	
MSC 240	Introduction to Marine Geology	
MSC 301	Introduction to Physical Oceanography	
MSC 302	Introduction to Physical Oceanography Lab	
MSC 310	Living Resources of the Ocean	
MSC 316	Global Primary Production	
MSC 317	Earth's Biogeochemistry	
MSC 318	Ecological Genetics	
MSC 319	Research Fundamentals	
MSC 321	Scientific Programming in the Atmospheric Sciences	
MSC 323	Invertebrate Zoology	
MSC 324	Biology of Fishes	
MSC 325	Biological Oceanographic Techniques	
MSC 326	Marine Genomics	
MSC 327	Marine Animal Neurophysiology and Behavior	
MSC 328	Introduction to Aquaculture	
MSC 329	Marine Vertebrate Zoology	
MSC 333	Ocean Human Health	
MSC 346	Climate Science and Policy	
MSC 347	Polar Science and Policy	
MSC 350	Survey of Marine Mammals	
MSC 355	Limnology	
MSC 364	Life in Moving Fluids	
MSC 365	Tropical Coastal Ecosystems: Lab and Field Methods	
MSC 366	Tropical Coastal Ecosystems	

MSC 371	Readings in Marine Science	
MSC 380	Field Studies in Marine and Aquatic Science	
MSC 381	Marine Field Ornithology	
MSC 403	Marine Environmental Toxicology	
MSC 404	Marine Organismal and Environmental Health	
MSC 410	Marine Conservation Science	
MSC 415	Coral Reef Science and Management	
MSC 417	Marine Biota and Biogeochemical Cycles	
MSC 432	Comparative Ecology of Terrestrial and Marine Systems	
MSC 462	Marine Biomedicine	
MSC 463	Marine Conservation Genetics	
MSC 464	Marine Comparative Immunology Lab	
MSC 465	Marine Comparative Immunology	
MSC 466	Environmental Physiology: Oxygen, Water, and Ionoregulatory Stress	
Approved MSC 372 and 500-level classes offered by the Rosenstiel School		
Total Credit Hours		16

¹ At least 6 of which must be at the 300-level or higher.

* Students majoring in the School of Marine and Atmospheric Science should replace MSC 111 and MSC 112 with an additional elective, and all electives must be above and beyond those used for the major. The Marine Science minor fulfills the requirements of a STEM cognate. Only those courses passed with a grade of "C-" or higher may be applied to the major or minor.

OCEANOGRAPHY

Dept. Code: OCE

Oceanography

The BSMAS in Oceanography is designed to give students a broad overview of the ocean sciences (physical, chemical, biological and geological oceanography, and ocean-atmosphere interactions as they relate to weather and climate) and specialized knowledge in one or more subdisciplines. Students are encouraged, but not required, to complete a second major in Chemistry, Physics, Biology, Geological Sciences, Meteorology, Mathematics, Computer Science or Engineering.

Majors in Oceanography

B.S.M.A.S. in Oceanography (p. 771)

B.S.M.A.S. IN OCEANOGRAPHY

Curriculum

Code	Title	Credit Hours
Marine Science		
MSC 111	Introduction to Marine Science	3
MSC 112	Introduction to Marine Science Lab	1
MSC 215	Chemical Oceanography	3
MSC 216	Chemical Oceanography Laboratory	1
MSC 218 or MSC 230	Biological Oceanography Introduction to Marine Biology	3
MSC 301	Introduction to Physical Oceanography	3
MSC 302	Introduction to Physical Oceanography Lab	1
MSC 103	Survey of Modern Meteorology	3
MSC 220	Climate and Global Change	3
Select 9 credit hours from the list comprised of 500-level OCE courses and the following courses		9
MSC 316	Global Primary Production	
MSC 317	Earth's Biogeochemistry	
MSC 318	Ecological Genetics	
MSC 321	Scientific Programming in the Atmospheric Sciences	
MSC 325	Biological Oceanographic Techniques	
MSC 326	Marine Genomics	
MSC 333	Ocean Human Health	
MSC 347	Polar Science and Policy	
MSC 351	Climate, Oceanography, and Biogeography of the Galapagos	
MSC 352	Biophysical Dynamics in the Ocean: Biogeography and Evolution of the Galapagos	
MSC 355	Limnology	
MSC 364	Life in Moving Fluids	
MSC 403	Marine Environmental Toxicology	
MSC 404	Marine Organismal and Environmental Health	
MSC 410	Marine Conservation Science	
MSC 415	Coral Reef Science and Management	
MSC 417	Marine Biota and Biogeochemical Cycles	
MSC 432	Comparative Ecology of Terrestrial and Marine Systems	
MSC 460	Spatial Applications in Marine Science	
MSC 462	Marine Biomedicine	
MSC 463	Marine Conservation Genetics	
MSC 465	Marine Comparative Immunology	
Other Required Courses		
BIL 150	General Biology	4
CHM 111	Principles of Chemistry I	3
CHM 112	Principles of Chemistry II	3
CHM 113	Chemistry Laboratory I	1
CHM 114	Chemistry Laboratory II	1
ENG 105	English Composition I	3
ENG 107 or ENG 106	English Composition II: Science and Technology English Composition II	3
GSC 111	Earth System History	4
MTH 161 or MTH 171	Calculus I Calculus I	4

MTH 162 or MTH 172	Calculus II Calculus II	4
Select one of the following:		3
MSC 204	Environmental Statistics	
MTH 224	Introduction to Probability and Statistics	
Select one of the following:		3-4
CSC 120	Computer Programming I	
ECE 118	Introduction to Programming	
Select one of the following:		6-8
PHY 201 & PHY 202	University Physics I for the Sciences and University Physics II for the Sciences	
PHY 205 & PHY 206	University Physics I and University Physics II	
Supplemental Science Courses		
Select 9 credit hours of science courses from the following:		9
BIL 160	Evolution and Biodiversity	
CHM 201	Organic Chemistry I (Lecture)	
CHM 360	Physical Chemistry I (Lecture)	
GSC 240	Introduction to Marine Geology	
MTH 210	Introduction to Linear Algebra	
MTH 311	Introduction to Ordinary Differential Equations	
PHY 207	University Physics III	
Electives		
Arts and Humanities Cognate Courses		9
People and Society Cognate Courses		9
Additional Electives		21
Total Credit Hours		120-123

Sample Plan of Study

Course	Title	Credit Hours
Freshman Year		
Fall		
MSC 111	Introduction to Marine Science	3
MSC 112	Introduction to Marine Science Lab	1
CHM 111	Principles of Chemistry I	3
CHM 113	Chemistry Laboratory I	1
ENG 105	English Composition I	3
MTH 161	Calculus I	4
	Credit Hours	15
Spring		
MSC 220	Climate and Global Change (PS Course #1)	3
BIL 150	General Biology	4
CHM 112	Principles of Chemistry II	3
CHM 114	Chemistry Laboratory II	1
MTH 162	Calculus II	4
	Credit Hours	15
Sophomore Year		
Fall		
MSC 215	Chemical Oceanography	3
MSC 216	Chemical Oceanography Laboratory	1
CSC 120	Computer Programming I	4
MTH 210	Introduction to Linear Algebra ¹	3

PHY 205	University Physics I	3
ENG 107	English Composition II: Science and Technology	3
	Credit Hours	17
Spring		
MSC 103	Survey of Modern Meteorology	3
MSC 204	Environmental Statistics	3
MSC 218	Biological Oceanography	3
GSC 111	Earth System History	4
PHY 206	University Physics II	3
	Credit Hours	16
Junior Year		
Fall		
MSC 301	Introduction to Physical Oceanography	3
MSC 302	Introduction to Physical Oceanography Lab	1
MSC 317	Earth's Biogeochemistry ²	3
CHM 201	Organic Chemistry I (Lecture) ¹	3
HUM Course #1		3
HUM Course #2		3
	Credit Hours	16
Spring		
Elective #1		3
Elective #2		3
Elective #3		3
Elective #4		3
Elective #5		3
	Credit Hours	15
Senior Year		
Fall		
MSC 417	Marine Biota and Biogeochemical Cycles ²	3
GSC 240	Introduction to Marine Geology ¹	3
OCE 512	Marine Organic Geochemistry ²	3
HUM Course #3		3
Elective #6		3
	Credit Hours	15
Spring		
MSC 460	Spatial Applications in Marine Science ³	3
OCE 522	Marine Microbial Dynamics ³	3
PS Course #2		3
PS Course #3		3
	Credit Hours	12
	Total Credit Hours	121

¹ Recommended for supplemental science courses.

² Recommended for upper level electives

³ Recommended for free electives.

Music

<http://www.music.miami.edu>

Phillip and Patricia Frost School of Music

Introduction

The University of Miami Frost School of Music awards three types of undergraduate degrees within fourteen major programs.

- Bachelor of Music
 - Instrumental Performance (MIP) (p. 787)
 - Keyboard Performance (MKP) (p. 793)
 - Vocal Performance (MVP) (p. 861)
 - Studio Jazz Instrumental (MSJI) (p. 851)
 - Studio Jazz Vocal (MSJV) (p. 851)
 - Music Education (MED) (p. 797)
 - Music Therapy (MTY) (p. 797)
 - Theory and Composition (MTC) (p. 841)
 - Media Writing and Production (MWP) (p. 841)
 - Music Business and Entertainment Industries (MBEI) (p. 810)
 - Musicianship, Artistry Development, and Entrepreneurship (MADE) (p. 817)
 - B.M. in Professional Studies (MPRO) (p. 822)
- Bachelor of Science
 - Music Engineering (MUE) (p. 826)
- Bachelor of Arts
 - Music (MUS) (p. 783)

Mission

The Frost School of Music seeks to transform lives through the study and performance of music, and to enhance music's future as the result of the most innovative and relevant curricula in higher education. The Frost School of Music is devoted to excellence and a culture of collegiality, in which a diversity of people, musical styles, and careers are valued. The Frost School of Music is a community of musicians committed to advanced musicianship for all Frost students across a broad array of majors and programs. The Frost School of Music seeks to elevate the community through intensive, sustained outreach to under-served populations. The Frost School of music strives to enhance the cultural richness of the University of Miami, South Florida and throughout the world as the result of world class performance, scholarship and research.

Accreditation

The Frost School of Music has been a member of the National Association of Schools of Music since 1939. The requirements for entrance and for graduation as set forth in this bulletin are in accordance with the principles of this association.

Goals

The primary goals are:

1. to provide music majors with a high quality education,
2. to provide opportunities for other university students to increase their musical skill, understanding, and appreciation,
3. to provide the music faculty with opportunities for creative activity and scholarly inquiry, and
4. to serve as an educational and cultural resource for the university, South Florida, and global communities.

Admissions

Admission to the Frost School of Music

Students admitted to the Frost School of Music must successfully complete a dual admission process. In addition to the general requirements for admission to the University, the undergraduate student must meet the following requirements of the Frost School of Music:

1. Submit a Frost School of Music Application to the Frost School of Music Admission Office.
2. Submit an Application for Undergraduate Study to the University Office of Undergraduate Admission.
3. Demonstrate performance proficiency by auditioning on campus, at designated regional audition centers, or by recording. Appropriate faculty committees will evaluate the audition.

4. After being admitted to the university each student will be required to participate in placement auditions and exams in theory and music performance. These examinations will be given immediately prior to the fall semester.
5. Transfer students who are admitted to the university will receive a tentative evaluation of their previous work from the office of Admission. Validation of credit hours in music will be based on the results of auditions and placement examinations discussed above. The Associate Dean for Undergraduate Studies of the Frost School of Music determines which transferred courses will meet specific requirements for graduation.
6. Admission is granted in Fall semesters only.

Students who are admitted to the Frost School of Music must begin a program of specialized requirements in music during their first semester.

Admission to the University (Undergraduate Students)

Application forms and bulletins for undergraduate students may be secured from the University of Miami web site (<http://www.miami.edu>). The University Office of Admission receives and processes all undergraduate applications, evaluates credentials, and mails letters of acceptance to applicants who qualify for entrance. Because of the university's selective admissions policy and limited enrollment only those applicants are accepted who present evidence of intellectual promise, unusual talent and potential, and strong personal qualifications. Admission as a transfer student requires a 3.0 grade point average from the previous institution. The University Office of Admission and the Frost School of Music determine admission to the university. Prospective students should make formal application for admission in the fall of the senior year in high school.

New Student Placement

New students will participate in an ensemble placement audition and music theory placement assessment during Frost Orientation. These auditions and assessments will determine the student's appropriate ensemble and music theory placement. Further information on placement materials and procedures will be communicated before Frost Orientation.

Academic Probation and Failed Course Policies

Students Who Fail to Successfully Complete a Music Course

Students who fail to successfully complete any music course, including zero credit forums, after the second enrollment will be dismissed from the Frost School of Music. Courses required for the degree must be taken at the next available opportunity and may not be dropped during the second enrollment.

Grading Criteria:

1. **Experiential Music Curriculum Core Courses** (48 credits) must be passed with a grade of a "C" or higher, including program forums ("C-" = failing);
2. **MED courses** must be passed with a grade of "C" or higher for Music Education and Music Therapy majors;
3. **Primary lessons** must be passed with a grade of "B-" or higher; and
4. All other music courses will be failing with a grade of "F."

Academic Probation

In addition to the University of Miami academic probation guidelines, a Frost School of Music student is subject to Academic Probation if she/he:

1. Fails to make satisfactory progress towards completion of degree; or
2. Earns an overall Term GPA below a 2.7.

A student who remains on probationary status after two consecutive semesters shall be subject to dismissal:

- Semester One = Probation One;
- Semester Two = Probation Two; and
- Semester Three = Dismissal

The decision to dismiss shall be made by the Academic Standards Committee (ASC) of FSOM. If the decision is made not to dismiss, the student shall remain on Academic Probation. Dismissal Procedures are outlined in the Frost School of Music Undergraduate Student Handbook.

Lessons

Primary Lessons

Primary lessons are for two (2) credit hours and must be taken on the student's primary instrument, unless otherwise approved. Students enrolled in primary lessons are required to perform a jury at the end of each semester. If a student wishes to take lessons on a secondary instrument, they must follow the procedures in the 'secondary lesson' section below.

There are two levels of undergraduate private lessons:

- Level 1 (V01) - Undergraduate freshman and sophomores, typically four semesters.

- Level 3 (V03) - Undergraduate juniors and seniors, typically four semesters.

The number of lessons required for graduation is outlined in the curriculum of each degree program found in the UM Academic Bulletin. Transfer students enrolled in Level 1 for their first semester will be placed at the appropriate level of study after their first jury.

Students earning a grade of "C+" or lower in lessons will be placed on probation for one semester. Following probation, an additional grade of "C+" or lower in lessons **will result in dismissal from the Frost School of Music.**

Secondary Lessons

Secondary lessons are available to FSOM and non-music students, pending studio approval, for one (1) credit hour. Students who wish to enroll in a secondary lesson must first receive approval from the applicable department and submit the Private Lessons Form, located on the FSOM Undergraduate Forms (http://www.miami.edu/frost/index.php/frost/programs/undergraduate_studies/undergraduate_forms) webpage,

There is a non-refundable \$300 secondary lesson fee required for each semester in which a secondary lesson is taken. This fee must be paid in full before enrollment. For further instructions please contact the Office of Undergraduate Studies.

Summer Lessons

Should a summer lesson be available, it will not fulfill degree requirements for FSOM academic programs.

Juries

A jury is designed to evaluate a student's musicianship and technical progress in their principal lesson. Juries are typically evaluated by a panel of performance faculty at the end of each semester. Repertoire and technical requirements are assigned by the student's private instructor. A portion of the final grade may be determined by studio class participation, recital attendance, or other requirements specific to the student's program of study.

Ensembles

Performing Ensembles

Ensembles provide music learning and performing experience for all students on the University of Miami campus through rehearsals and public concerts. Membership in each of these performing ensembles is based on auditions. Not all ensembles meet degree requirements. Please refer to the FSOM Undergraduate Student Handbook for detailed information regarding ensembles. Please see the course catalog for a complete list of all ensembles.

Instrumental Ensembles

- Accompanying
- American Music Ensemble (Songwriters)
- Avant Garde Ensemble
- "Band of the Hour" Marching Band
- Bluegrass Ensemble
- Blues Ensemble
- Brass Chamber Music
- Brass Choir
- Clarinet Choir
- Classical Guitar Ensemble
- Concert Jazz Band
- Contemporary Music Ensemble
- E.C.M. Ensemble
- Electronic Music Ensemble
- Flute Choir
- Funk/Fusion Ensemble
- Horace Silver Ensemble
- Ibis Ensemble
- Jazz Band III
- Jazz Bass Ensemble
- Jazz Guitar Ensemble
- Jazz Keyboard Ensemble
- Jazz Saxophone Ensemble
- Laptop Ensemble

- Mallet Ensemble
- Monk/Mingus Ensemble
- Percussion Chamber Music
- Salsa Ensemble
- Saxophone Ensemble
- Small Contemporary Ensemble
- Small Jazz Ensembles
- String-Keyboard Chamber Music
- Studio Jazz Band
- Studio Rhythm Section
- Symphonic Winds
- Symphony Orchestra
- Trombone Choir
- Tuba Ensemble
- University Band
- Wind Ensemble
- Woodwind Chamber Music

Vocal Ensembles

- Frost Chorale
- Jazz Vocal I-III
- Musical Theatre Workshop
- Opera Theater
- Symphonic Choir
- Women's Choir

Enrollment

Forums

Students must successfully complete a program forum each semester in residence. Program forums must be passed with a "C" or higher in order to be approved for graduation. The grade of a "C-" is considered failing. Please refer to the FSOM Undergraduate Student Handbook for detailed information regarding forums and studio classes.

Auditing

Students are not permitted to audit music courses.

Graduation Requirements

The general requirements for graduation from the University of Miami are described in the General Information (<http://bulletin.miami.edu/general-university-information>) section of the Academic Bulletin. These general requirements are included in the list of requirements for majors in the Frost School of Music. Students must satisfy all degree requirements in order to graduate. The student should consult his/her advisor regularly and review the Degree Progress Report available in CaneLink under Academic Requirements to ensure that these requirements are met. The Dean must approve changes or deviations from the printed requirements in writing. Degree requirements may be satisfied by successfully completing a course, an approved substitution for the course, an approved transfer course, or waiver from the course as a result of demonstrating the required competency through testing

Candidates for degrees must complete all requirements of the University and the Frost School of Music with a minimum "C" average (2.0) or better and at least 120 credits. Students may not graduate with an "I" or "NG" in any course.

Transfer Credits

Transfer Student Credit Evaluation

FSOM music course transfer equivalencies will be determined prior to Frost Orientation. Transfer Students will receive a pre-registration advising via email before enrolling in courses. If official transcripts are not received by the University, or if transfer credits are not correctly labeled, this process may be delayed. Please contact Eva Alonso at eva.alonso@miami.edu for further information.

Other Music Transfer Credits

If you have previously earned music credit at another institution and wish to receive transfer equivalencies, please complete the Transfer Credit Equivalency Form (http://www.miami.edu/frost/index.php/frost/programs/undergraduate_studies/undergraduate_forms) and return it to Eva Alonso in PLF 108 N.

Non-UM Programs (Summer, Study Abroad, and Term)

Students currently enrolled in the Frost School of Music who wish to Study Abroad must complete the Non-UM Program Request Form (https://registrar.miami.edu/_assets/pdf/new-site/Forms-1/Non-UM%20Program%20Application.0.1.pdf) through the Registrar's Office. If you wish to take summer courses away and earn college credit, please bring a completed Transfer Credit Equivalency Form (http://www.miami.edu/frost/index.php/frost/programs/undergraduate_studies/undergraduate_forms), along with the course description from the Non-UM Program, to the Undergraduate Studies Office. If you wish to transfer in a non-music course you must get the equivalency approved by the department in which the course lives (i.e. ENG 105 equivalency will need to be approved by the English Department). After the form is complete, please bring the form to the Office of Undergraduate Studies for final approval and processing.

If you have earned 56 credits or more, courses must be taken at a NASM or regionally accredited institution (four-year college or university). The last 45 credits prior to graduation must be in residence at the University of Miami.

Dual Degrees

Dual degrees have more stringent requirements than "double majors." The only courses that may count for both degrees are the general education requirements (ENG 105 and ENG 106, Math, People and Society cognate, and STEM cognate). For each degree a student must have a different major and minor, if a minor is required. The major for one degree may not be a minor for the other degree.

Music Opportunities for Non-Music Majors

Select music courses are available to students not enrolled in a music degree program. A list of courses is available on the music website (forms), <https://admissions.frost.miami.edu/undergraduate/current-students/>

Minors for Non-Music Students

- General Music Minor (p. 783) (Satisfies the Arts and Humanities Area of Knowledge) - Audition Required
- Dance Minor (p. 865)(Satisfies the Arts and Humanities Area of Knowledge) - Audition Required
- Music Business and Entertainment Industries Minor (p. 840) (Satisfies the People and Society Area of Knowledge) - No Audition Required

Students interested in the Minor in General Music must successfully pass an ensemble placement (if participating in an ensemble) or primary instrument audition (if enrolling in private lessons). Please contact the appropriate faculty member listed on the Ensemble Contact List or the Secondary Lesson Audition Contact List (located on the Undergraduate Forms Webpage (http://www.miami.edu/frost/index.php/frost/programs/undergraduate_studies/undergraduate_forms)) to inquire about audition materials and to schedule your audition.

Once you have received confirmation that you have passed the audition, request that the designated faculty member sign the bottom of the Declaration of Music Minor Form (http://www.miami.edu/frost/index.php/frost/programs/undergraduate_studies/undergraduate_forms) or the Declaration of Dance Minor Form (http://www.miami.edu/frost/index.php/frost/programs/undergraduate_studies/undergraduate_forms). For students declaring the General Music Minor, submit your completed Declaration of Music Minor Form to the Undergraduate Studies Office and declare your chosen music minor through your primary school. For students declaring the Minor in Dance, submit your completed Declaration of Dance Minor Form (http://www.miami.edu/frost/index.php/frost/programs/undergraduate_studies/undergraduate_forms) to the Dance Department and declare your chosen music minor through your primary school.

Cognates

All cognates that include courses offered by FSOM satisfy the Arts & Humanities Area of Knowledge. Please see a list of all applicable cognates below:

- World of Music (https://cognates.miami.edu/AT_0001) (AT_0001)
- Creative Arts in Therapy: Integrating Music and Dance into Counseling and Healthcare (https://cognates.miami.edu/AT_0099) (AT_0099)
- The Art and Culture of 17th Century Europe (https://cognates.miami.edu/AT_0020) (AT_0020)
- The Arts in Education: Contextual Connections (https://cognates.miami.edu/AT_0010) (AT_0010)
- Western Civilization: Historical Approaches (https://cognates.miami.edu/AT_0011) (AT_0011)

Secondary Lessons

Secondary lessons are available to FSOM and non-music students, pending studio approval, for one (1) credit hour per semester. Students who wish to enroll in a secondary lesson must first receive approval from the applicable department and submit the Private Lessons Form, located on the FSOM

Undergraduate Forms (http://www.miami.edu/frost/index.php/frost/programs/undergraduate_studies/undergraduate_forms) webpage, to the Office of Undergraduate Studies.

There is a \$300 secondary lesson fee required for each semester in which a secondary lesson is taken. This fee must be paid in full before enrollment. For further instructions, please visit the Office of Undergraduate Studies. The Secondary Lesson Contact List is located on the Undergraduate Forms Webpage (http://www.miami.edu/frost/index.php/frost/programs/undergraduate_studies/undergraduate_forms).

Ensembles

Non-music students may request to audition for any ensemble in the Frost School of Music. Students may enroll in ensembles upon approval of applicable faculty and ensemble instructor. If course is restricted to majors only in CaneLink, please send proof of faculty approval to the Office of Undergraduate Studies and a registration PIN will be created.

General Education

General Education Requirements

Music students are expected to meet the university general education requirements, detailed in the academic bulletin, in order to ensure that they have acquired essential intellectual skills. Music students are encouraged to engage in a range of academic disciplines.

English and Mathematics Requirements

Students requiring ENG 105, ENG 106, or MTH 101 must enroll in these classes during the first year in residence and are not permitted to drop the courses.

Course and Cognate Requirements

Code	Title	Credit Hours
ENG 105	English Composition I	3
ENG 106	English Composition II	3
Select one of the following:		3
MTH 101	Algebra for College Students (MIP, MKP, MVP, MSJI, MSJV, MED, MTY, MPRO)	
MTH 113	Finite Mathematics (MADE, MBEI, MUS, MTC, MWP)	
MTH 161	Calculus I (MUE)	
ST_XXXX	STEM Cognate	9
PS_XXXX	People & Society Cognate	9
UMX 100	Freshman Experience	0
Advanced Writing and Communication Skills (3 courses)		
Total Credit Hours		27

Areas of Knowledge

To discover cognates offered by UM, please visit the Cognate Search Engine (<https://cognates.miami.edu>). To declare a cognate and/or minor, students must submit a Minor and/or Cognate Declaration Form (http://www.miami.edu/frost/index.php/frost/programs/undergraduate_studies/undergraduate_forms) to the Office of Undergraduate Studies.

Arts and Humanities

All Frost School of Music students satisfy the Arts and Humanities Area of Knowledge, upon successful completion of the BM, BS, or BA music degree requirements.

People and Society

Students enrolled in the following degree programs must satisfy their People and Society Area of Knowledge with a cognate, minor, or major: MIP, MKP, MVP, MSJI, MSJV, MTC, MWP, MUE, and MPRO.

The following degree programs satisfy the People and Society Area of Knowledge upon successful completion of the required minor:

- MED Music Education with required minor in Education;
- MTY Music Therapy with required minor in Psychology;
- MBEI Music Business and Entertainment Industries with required minor in Business, Communications or Entertainment, if the minor is designated as People and Society; and
- MUS Bachelor of Arts in Music required minor outside of music may fulfill this requirement if the minor is in the People and Society Area of Knowledge.

Please note that a minor in Music Business and Entertainment Industries satisfies the People and Society Area of Knowledge.

Science, Technology, Engineering, and Math (STEM)

Students enrolled in the following degree programs must satisfy their STEM Area of Knowledge through a cognate, minor, or major: MIP, MKP, MVP, MSJI, MSJV, MED, MTY, MTC, MWP, MBEI, MADE, and MPRO.

The following degree programs satisfy the STEM cognate upon successful completion of the required minor:

- MUE Music Engineering with required minor in Electrical Engineering or Computer Engineering;
- MBEI Music Business and Entertainment Industries with required minor in Business, Communications or Entertainment, if the minor is designated as STEM;
- MUS Bachelor of Arts in Music required minor outside of music may fulfill this requirement if the minor is in the STEM area of knowledge.

Advanced Writing and Communication Skills

All students are required to successfully complete 3 Advanced Communications and Writing courses. Student degree requirements will include courses that meet the desired communication outcomes in evaluated and revised writing, speaking, stage presence, and audience engagement.

All music students will successfully complete:

1. A required musicology course, which will include substantial evaluated and revised writing components.
2. A Senior recital or culminating project, which will include evaluated communication skills in attracting an audience, engaging an audience during performance, and preparing program notes or similar media as appropriate to the medium/venue.
3. One required course in their major which will include discipline specific communication skills.

Assessment

There will be at least 2 specific assessments in each Advanced Communications Skills course for communications or writing equivalent to 4000 words, evaluated and revised.

- General Music Minor (p. 783)
- Music Business and Entertainment Industries Minor (p. 840)
- Creative American Music Minor (p. 839)
- Music Composition Minor (p. 851)
- Studio Music and Jazz Instrumental Minor (p. 860)
- Dance Minor (p. 865)
- Performer's Certificate in Instrumental Performance (p. 792)
- Performer's Certificate in Keyboard Performance (p. 797)
- Performer's Certificate in Jazz (p. 860)
- Performer's Certificate in Vocal Performance (p. 864)

Experiential Music Core Requirement (EMC)

The EMC Core courses are common to all Frost School of Music students regardless of degree program. The EMC core courses empower students to become internal musicians as they develop deep knowledge in music and a high level of musical skills. As a community of musicians, all students interact with their peers whose diverse interests strengthen their music making abilities.

Additional courses for Principal Instrument Lesson & Studio Class and Ensembles may be required for the major.

All EMC core courses must be successfully completed with a grade of "C" or higher. A grade of a "C-" is considered failing.

Code	Title	Credit Hours
Experiential Music Curriculum Core Courses		
Major Program Forum (each semester in residence)		0
MXX XX1 (Level 1)	Principal Instrument Lesson & Studio Class (semesters 1-4, 2 credit hours)	8
MXX XX3 (Level 3)	Principal Instrument Lesson & Studio Class (semesters 5-6, 2 credit hours)	4
MTC 140 or MSJ 140 or MMI 140	Experiential Musicianship I	3
MTC 141 or MSJ 141	Experiential Musicianship II	3

or MMI 141	Experiential Musicianship II	
MTC 240	Experiential Musicianship III	3
or MSJ 240	Experiential Musicianship III	
or MMI 240	Experiential Musicianship III	
MTC 241	Experiential Musicianship IV	3
or MSJ 241	Experiential Musicianship IV	
or MMI 241	Experiential Musicianship IV	
MTC 107	Skills Lab I	1
or MSJ 107	Skills Lab I	
or MMI 107	Skills Lab I	
MTC 108	Skills Lab II	1
or MSJ 108	Skills Lab II	
or MMI 108	Skills Lab II	
MTC 207	Skills Lab III	1
or MSJ 207	Skills Lab III	
or MMI 207	Skills Lab III: American Song Traditions	
MTC 208	Skills Lab IV	1
or MSJ 208	Skills Lab IV	
or MMI 208	Skills Lab IV: American Song Traditions	
MKP 140	Keyboard Studies I	1
MKP 141	Keyboard Studies II	1
MCY 140	Experiencing Music	3
Complete exactly one of the following:		3
MCY 141	Musical Traditions (MSJI, MSJV, MTY, MWP, MBEI, MADE, MUE)	
MCY 341	Music of the Mediaeval, Renaissance, and Baroque Periods (MIP, MKP, MVP, MED, MTC, MUS, MPRO)	
MMI 250	Essential Technologies for Musicians (OR MMI 151 for MUE)	3
MMI 310	Music Business and Entrepreneurship for Musicians (OR MMI 573 for MBEI)	3
Ensembles (semesters 1-6, 1 credit hour)		6
Total Credit Hours		48

Foote Fellow General Education Requirements

The Foote Fellows Honors Program recognizes the most educationally accomplished incoming students at the University of Miami. Foote Fellows have distinguished themselves both in and out of the classroom, are self-motivated, and think independently. Admission to the Foote Fellows Honors Program is by invitation.

Within the curricular framework of their school or college, Foote Fellows enjoy maximum freedom to explore a multitude of educational resources. Many Foote Fellows leverage this opportunity to take additional majors and/or minors and to study abroad.

At each of the nine undergraduate schools at the University of Miami, a dedicated advisor helps Foote Fellows chart their academic path and attain access to distinctive learning opportunities and educational guidance, such as special school-based seminars, faculty-mentored research, networking opportunities, and off-campus internships.

In addition, Foote Fellows have access to opportunities outside their school. Special Foote Fellow lectures are held throughout the academic year. "Books That Matter," a rigorous, multidisciplinary seminar in reading and analyzing significant works of nonfiction, is offered to Foote Fellows. In their junior and senior years, Foote Fellows are invited to join advanced, interdisciplinary, and integrative seminars taught by leading faculty members from across the University. Foote Fellows also benefit from focused advising regarding post-baccalaureate distinguished fellowships and awards, support and information about co-curricular opportunities from a dedicated program manager, and networking events with other Foote Fellows from all disciplines.

To graduate with the Foote Fellows Honors Program distinction, Foote Fellow students must achieve a minimum GPA of 3.5 by the completion of the final semester.

Eligibility for the Foote Fellows Honors Program transcript distinction for each student is determined by the lower of two GPAs:

1. UM cumulative graduation GPA

2. Combination GPA (UM cumulative graduation GPA + Transfer GPA)

The Foote Fellows Honors Program reflects the educational vision of former University of Miami President Edward T. Foote, who retired in 2000 after serving the University for twenty years.

Foote Fellows in the Frost School of Music have freedom within the General Education requirements as described below. However, Foote Fellow students are still required to accumulate twenty seven (27) total credit hours in non-music coursework to meet graduation requirements.

BA, MIP, MKP, MVP, MTC, MWP, MSJI, MSJV, MADE, MPRO

Code	Title	Credit Hours
ENG 105	English Composition I (may substitute with a non-music elective)	3
ENG 106	English Composition II (may substitute with a non-music elective)	3
ST_XXXX	STEM Cognate (may substitute with a non-music elective)	9
PS_XXXX	People & Society Cognate (may substitute with a non-music elective)	9
MTH 101 or MTH 113	Algebra for College Students (may substitute with a non-music elective) Finite Mathematics	3
UMX 100	The University of Miami Experience	0
Advanced Writing and Communications Skills (3 courses) are incorporated into the EMC core courses and Courses in the Major.		
Total Credit Hours		27

MBEI: Music Business & Entertainment Industries with a Required Minor in Business, Communications, or Entertainment

Code	Title	Credit Hours
ENG 105	English Composition I (may substitute with a non-music elective)	3
ENG 106	English Composition II (may substitute with a non-music elective)	3
MTH 113	Finite Mathematics (may substitute with a non-music elective)	3
ST_XXXX	STEM Cognate (may substitute with a non-music elective)	9
PS_XXXX	People & Society Cognate (most approved minors satisfy P&S)	9
UMX 100	The University of Miami Experience	0
Advanced Writing and Communications Skills (3 courses) are incorporated into the EMC core courses and Courses in the Major.		
Total Credit Hours		27

Music Education with Minor in Education

Code	Title	Credit Hours
ENG 105	English Composition I (may substitute with a non-music elective)	3
ENG 106	English Composition II (may substitute with a non-music elective)	3
MTH 101	Algebra for College Students (may substitute with a non-music elective)	3
ST_XXXX	STEM Cognate (may substitute with a non-music elective)	9
UMX 100	The University of Miami Experience	0
People & Society Cognate (satisfied with required Education Minor. Complete required courses in the major)		
Advanced Writing and Communications Skills (3 courses) are incorporated into the EMC core courses and Courses in the Major.		
Total Credit Hours		18

Music Therapy with Minor in Psychology

Code	Title	Credit Hours
ENG 105	English Composition I (may substitute with a non-music elective)	3
ENG 106	English Composition II (may substitute with a non-music elective)	3
MTH 101	Algebra for College Students (may substitute with a non-music elective)	3
ST_XXXX	STEM Cognate (not required, but must complete PSY 220, BIL 109, and one non-music elective)	9
UMX 100	The University of Miami Experience	0

People & Society Cognate (satisfied with required Psychology Minor. Complete required courses in the major)	
Advanced Writing and Communications Skills (3 courses) are incorporated into the EMC core courses and Courses in the Major.	
Total Credit Hours	18

Music Engineering & Technology with Required Minor in Electrical or Computer Engineering

Code	Title	Credit Hours
ENG 105	English Composition I (may substitute with a non-music elective)	3
ENG 106	English Composition II (may substitute with a non-music elective)	3
MTH 161	Calculus I (required course)	4
ST_XXXX	STEM Cognate (satisfied with Electrical or Computer Engineering minor)	9
PS_XXXX	People & Society Cognate (may substitute with a non-music elective)	9
UMX 100	The University of Miami Experience	0
Advanced Writing and Communications Skills (3 courses) are incorporated into the EMC core courses and Courses in the Major.		
Total Credit Hours		19

Bachelor of Arts in Music (MUS)

Dept. Code: MCY

Undergraduate students who are interested in musicology, music history or ethnomusicology are encouraged to enroll in the Bachelor of Arts in Music degree, through which they can pursue these and related subjects within a liberal arts music curriculum. There is no undergraduate degree in musicology.

Bachelor of Arts in Music

- B.A.M. Bachelor of Arts in Music (p. 783)

Minors

- Minor in General Music (p. 787)

B.A.M. Bachelor of Arts in Music

Introduction

The Bachelor of Arts in Music degree is a non-professional degree designed for talented musicians who wish to pursue a broad liberal arts education. Curriculum flexibility affords students the opportunity for a variety of pre-professional studies, including pre-medical and pre-legal. A minor outside the Frost School of Music is required. Students in the BA in Music program must earn a minimum 2.5 GPA each semester to remain in the program.

The mission of the Bachelor of Arts in Music is to provide students with the highest quality education possible in music, a broad education in the liberal arts, and in-depth study in an academic area outside of the Frost School of Music.

Educational Objectives

- Students will acquire a thorough knowledge of music theory and music history, and develop advanced competence in musical performance.
- They will develop the ability to think, speak, and write clearly with the capacity to explain and defend their views effectively and rationally based on substantive knowledge of the liberal arts.
- The student will acquire competency in a selected non-music academic area that includes a broad understanding of the area and contemporary thought within the area.

Advanced Writing and Communication Skills

Courses

All students are required to successfully complete 3 Advanced Writing and Communication Skills (AWC) courses. Student degree requirements will include courses that meet the desired communication outcomes in evaluated and revised writing, speaking, stage presence, and audience engagement.

All BA in Music students will successfully complete:

1. MCY 341, which will include substantial evaluated and revised writing components.

2. MCY or MTC 300+, which will include evaluated communication skills in attracting an audience, engaging an audience during performance, and preparing program notes or similar media as appropriate to the medium/venue.
3. MCY or MTC 300+, which will include discipline specific communication skills.

Assessment

There will be at least 2 specific assessments in each Advanced Communications Skills course for communications or writing equivalent to 4000 words, evaluated and revised.

Degree Requirements

Code	Title	Credit Hours
General Education Courses MUS		
ENG 105	English Composition I	3
ENG 106	English Composition II	3
MTH 113	Finite Mathematics	3
ST_XXXX	STEM Cognate (a STEM minor will satisfy this cognate)	9
PS_XXXX	People & Society Cognate (a P&S minor will satisfy this cognate)	9
UMX 100	The University of Miami Experience	0
	Advanced Writing and Communication Skills (3 courses) See details below.	0
Total General Education credits = 27		
Experiential Music Curriculum Core Courses MUS ¹		
MCY 7	B.A. in Music Forum (8 semesters)	0
MXX XX1 (Level 1)	Principal Instrument Lesson & Studio Class (semesters 1-4, 2 credit hours)	8
MXX XX3 (Level 3)	Principal Instrument Lesson & Studio Class (semesters 5-6, 2 credit hours)	4
MTC 140 or MSJ 140 or MMI 140	Experiential Musicianship I	3
MTC 141 or MSJ 141 or MMI 141	Experiential Musicianship II	3
MTC 240 or MSJ 240 or MMI 240	Experiential Musicianship III	3
MTC 241 or MSJ 241 or MMI 241	Experiential Musicianship IV	3
MTC 107 or MSJ 107 or MMI 107	Skills Lab I (co-requisite MTC 140/MSJ 140/MMI 140)	1
MTC 108 or MSJ 108 or MMI 108	Skills Lab II (co-requisite MTC 141/MSJ 141/MMI 141)	1
MTC 207 or MSJ 207 or MMI 207	Skills Lab III (co-requisite MTC 240/MSJ 240/MMI 240)	1
MTC 208 or MSJ 208 or MMI 208	Skills Lab IV (co-requisite MTC 241/MSJ 241/MMI 241)	1
MKP 140	Keyboard Studies I	1
MKP 141	Keyboard Studies II	1
MCY 140	Experiencing Music	3

MCY 341	Music of the Mediaeval, Renaissance, and Baroque Periods (AWC)	3
MMI 250	Essential Technologies for Musicians	3
MMI 310	Music Business and Entrepreneurship for Musicians	3
MIP/MSJ/MMI XXX	Ensembles (semesters 1-6, 1 credit hour)	6
Total credits for EMC Core courses = 48		
Courses in the MUS Major with Required Minor		
	Ensembles (semesters 7-8, 1 credit hour)	2
MXX XX3	(Level 3) Principal Instrument Lesson & Studio Class (semesters 7-8, 2 credit hours)	4
MCY 342	Music of the Classical, Romantic, and Modern Periods	3
MCY/MTC 300+	Elective (AWC)	3
	Arts Elective non-music	3
	Arts Elective non-music	3
	Humanities Elective non-music	3
	Humanities Elective non-music	3
	Foreign Language	3
	Foreign Language	3
	Minor non-music	3
	Minor non-music	3
	Minor non-music	3
	Minor non-music	3
	Minor non-music	3
Total credits for courses in the major = 45		
Total Credit Hours		120

¹ EMC core courses require a grade of "C" or higher. Lessons require a grade of "B-" or higher.

Suggested Plan of Study

Course	Title	Credit Hours
Year One		
Fall		
MCY 7	B.A. in Music Forum	0
MXX XX1 (Level 1) Principal Instrument/ Voice Lesson & Studio Class		2
MKP 140	Keyboard Studies I	1
MTC 140, MSJ 140, or MMI 140	Experiential Musicianship I or Experiential Musicianship I or Experiential Musicianship I	3
MTC 107, MSJ 107, or MMI 107	Skills Lab I or Skills Lab I or Skills Lab I	1
MCY 140	Experiencing Music	3
ENG 105	English Composition I	3
UMX 100	The University of Miami Experience	0
Ensemble		1
	Credit Hours	14
Spring		
MCY 7	B.A. in Music Forum	0
MXX XX1 (Level 1) Principal Instrument/Voice Lesson & Studio Class		2
MKP 141	Keyboard Studies II	1
MTC 141, MSJ 141, or MMI 141	Experiential Musicianship II or Experiential Musicianship II or Experiential Musicianship II	3

MTC 108, MSJ 108, or MMI 108	Skills Lab II or Skills Lab II or Skills Lab II	1
ENG 106	English Composition II	3
MTH 113	Finite Mathematics	3
Ensemble		1
	Credit Hours	14
Year Two		
Fall		
MCY 7	B.A. in Music Forum	0
MXX XX1 (Level 1) Principal Instrument/Voice Lesson & Studio Class		2
MMI 250	Essential Technologies for Musicians	3
MTC 240, MSJ 240, or MMI 240	Experiential Musicianship III or Experiential Musicianship III or Experiential Musicianship III	3
MTC 207, MSJ 207, or MMI 207	Skills Lab III or Skills Lab III or Skills Lab III: American Song Traditions	1
Minor-Non Music		3
People & Society Cognate		3
Ensemble		1
	Credit Hours	16
Spring		
MCY 7	B.A. in Music Forum	0
MXX XX1 (Level 1) Principal Instrument/Voice Lesson & Studio Class		2
Minor-Non Music		3
MTC 241, MSJ 241, or MMI 241	Experiential Musicianship IV or Experiential Musicianship IV or Experiential Musicianship IV	3
MTC 208, MSJ 208, or MMI 208	Skills Lab IV or Skills Lab IV or Skills Lab IV: American Song Traditions	1
Arts Elective-Non Music		3
STEM Cognate		3
Ensemble		1
	Credit Hours	16
Year Three		
Fall		
MCY 7	B.A. in Music Forum	0
MXX XX3 (Level 3) Principal Instrument/Voice Lesson & Studio Class		2
MCY 341	Music of the Mediaeval, Renaissance, and Baroque Periods	3
Minor-Non Music		3
Foreign Language		3
People and Society Cognate		3
Ensemble		1
	Credit Hours	15
Spring		
MCY 7	B.A. in Music Forum	0
MXX XX3 (Level 3) Principal Instrument/ Voice Lesson & Studio Class		2
MCY 342	Music of the Classical, Romantic, and Modern Periods	3
Minor-Non Music		3
Foreign Language		3
STEM Cognate		3

Ensemble		1
	Credit Hours	15
Year Four		
Fall		
MCY 7	B.A. in Music Forum	0
MXX XX3 (Level 3) Principal Instrument/ Voice Lesson & Studio Class		2
MMI 310	Music Business and Entrepreneurship for Musicians	3
Minor-Non Music		3
Humanities		3
People & Society Cognate		3
Ensemble		1
	Credit Hours	15
Spring		
MCY 7	B.A. in Music Forum	0
MXX XX3 (Level 3) Principal Instrument/ Voice Lesson & Studio Class		2
MCY/MTC 300+ Elective (AWC)		3
Arts Elective Non-Music		3
Humanities		3
STEM Cognate		3
Ensemble		1
	Credit Hours	15
	Total Credit Hours	120

Minor in General Music

(Audition Required)

Any student wishing to declare a minor in music must audition on an instrument and be approved by the Frost School of Music as a minor. The approval form is available here (<https://my.frost.miami.edu/undergraduate/forms>) or in the Undergraduate Dean's Office. A fee is assessed for private instruction. The fee is \$300 per semester and must be paid prior to enrolling. Please note that private lessons may not be available on all instruments. Studio space varies from year to year. A music minor requires 15 credit hours, 12 of which must be earned at the University of Miami.

Code	Title	Credit Hours
Complete exactly 2 courses from the following:		6
MTC 109	Music Theory Skills I (AP Music Theory Score of 5 satisfies this requirement.)	
MTC 110	Music Theory Skills II (AP Music Theory Score of 5 satisfies this requirement.)	
Complete exactly 1 course from the following:		3
MCY 124	The Evolution of Jazz	
MCY 127	Evolution of Rock	
MCY 131	Understanding Music	
Complete at least 6 credit hours from the following:		6
Private Lessons (maximum of 4 semesters)		
Ensembles (entrance by audition)		
Music Electives		
Total Credit Hours		15

Instrumental Performance (MIP)

Dept. Code: MIP

The Department of Instrumental Performance offers a bachelor of music performance degree and a performer's certificate in 17 traditional instruments: flute, oboe, clarinet, saxophone, bassoon, horn, trumpet, trombone, euphonium, tuba, percussion, violin, viola, violoncello, double bass, guitar, and harp.

Bachelor of Music: Instrumental Performance (MIP)

The purpose of the Bachelor of Music in Performance Degree is to

1. Provide the highest quality of education possible in the areas of musicianship that will lead toward a professional performance career or graduate study as a classical artist.
2. To provide performance opportunities that integrate the skills learned in music and other classes and to foster creativity and research.
3. To provide audition skills and repertoire as well as the skills for building and managing the non-performance aspects of a professional career.

Educational Objectives

- Students will develop musicianship skills and technique that will lead toward a professional career as a solo classical performer or graduate study.
- Students will be able to sight-read and prepare musical performances without assistance.
- Students will develop musicianship skills and technique for working within an ensemble leading towards a professional career or graduate study as a classical performer. Ensemble requirements will vary by applied area.
- Students will develop skills for fostering a professional career or graduate study as a classical performer.
- Students will have a broad knowledge of music literature in their applied area as well as an understanding of stylistic and theoretical principles of the various musical and historical periods.

Major in Instrumental Performance

- B.M. in Instrumental Performance (MIP) degree requirements (p. 788)

Certificates

- Instrumental Performance (p. 792)

B.M. in Instrumental Performance

Advanced Writing and Communication Skills

Courses

All students are required to successfully complete 3 Advanced Writing and Communication Skills (AWC) courses. Student degree requirements will include courses that meet the desired communication outcomes in evaluated and revised writing, speaking, stage presence, and audience engagement.

All Instrumental Performance students will successfully complete:

1. MCY 341 Music of the Medieval, Renaissance, and Baroque Periods, which will include substantial evaluated and revised writing components.
2. MIP XXX Private Lesson Level 3 Senior Recital, which will include evaluated communication skills in attracting an audience, engaging an audience during performance, and preparing program notes or similar media as appropriate to the medium/venue.
3. MIP 541-549 Pedagogy and Repertoire, which will include discipline specific communication skills.

Assessment

There will be at least 2 specific assessments in each Advanced Communications Skills course for communications or writing equivalent to 4000 words, evaluated and revised.

Degree Requirements

Code	Title	Credit Hours
General Education Courses MIP		
ENG 105	English Composition I	3
ENG 106	English Composition II	3
MTH 101	Algebra for College Students	3
ST_XXXX	STEM Cognate	9
PS_XXXX	People & Society Cognate	9
UMX 100	The University of Miami Experience	0
	Advanced Writing and Communication Skills (3 courses) see description below	
Total General Education credits = 27		
Experiential Music Curriculum Core Courses MIP ¹		

Complete 8 semesters of one of the following:

MIP 1	Brass Forum	0
MIP 2	Guitar Forum	0
MIP 5	Percussion Forum	0
MIP 7	String Forum	0
MIP 9	Woodwind Forum	0
MIP XX1 (Level 1)	Principal Instrument Lesson & Studio Class (semesters 1-4, 2 credit hours)	8
MIP XX3 (Level 3)	Principal Instrument Lesson & Studio Class (semesters 5-6, 2 credit hours)	4
MTC 140 & MTC 107	Experiential Musicianship I and Skills Lab I	4
MTC 141 & MTC 108	Experiential Musicianship II and Skills Lab II	4
MTC 240 & MTC 207	Experiential Musicianship III and Skills Lab III	4
MTC 241 & MTC 208	Experiential Musicianship IV and Skills Lab IV	4
MKP 140	Keyboard Studies I	1
MKP 141	Keyboard Studies II	1
MCY 140	Experiencing Music	3
MCY 341	Music of the Mediaeval, Renaissance, and Baroque Periods (AWC)	3
MMI 250	Essential Technologies for Musicians	3
MMI 310	Music Business and Entrepreneurship for Musicians	3
MIP XXX	Large Ensembles (3 semesters of 1 credit hour)	3
MIP XXX	Chamber Ensembles (3 semesters of 1 credit hour)	3
Courses in the MIP Major		
MIP XX3 (Level 3)	Principal Instrument Lesson & Studio Class (semesters 7-8, 2 credit hours)	4
	Junior & Senior recitals with lesson	
MIP XXX	Large Ensembles (5 semesters of 1 credit hour)	5
MIP XXX	Chamber Ensembles (5 semesters of 1 credit hour)	5
MIP 307	Skills Lab V: Classical Improvisation	2
MIP 308	Skills Lab VI: Composition as Applied Improvisation	2
MIP 407	Skills Lab VII: Basic Conducting/Arranging	2
MIP 408	Skills Lab VIII: Culminating Project	2
MKP 240	Keyboard Studies III	2
MKP 241	Keyboard Studies IV	2
MTC 311	Analysis and Experience	3
MTC 312	20th and 21st Century Techniques	3
MTC 313	18th Century Counterpoint	3
MTC 416	Orchestration	3
MCY 342	Music of the Classical, Romantic, and Modern Periods	3
Complete exactly one of the following:		
MIP 541	Bassoon Repertoire and Pedagogy (AWC)	2
MIP 542	Clarinet Repertoire and Pedagogy (AWC)	
MIP 543	Flute Repertoire and Pedagogy (AWC)	
MIP 544	Oboe Repertoire and Pedagogy (AWC)	
MIP 545	Brass Repertoire and Pedagogy (AWC)	
MIP 546	Percussion Repertoire and Pedagogy (AWC)	
MIP 547	Saxophone Repertoire and Pedagogy (AWC)	
MIP 548	Guitar Repertoire and Pedagogy (AWC)	
MIP 549	String Repertoire and Pedagogy (AWC)	

XXX XXX	Non-Music Elective	3
Total Credit Hours		121

¹ EMC core courses require a grade of "C" or higher. Lessons require a grade of "B-" or higher.

Suggested Plan of Study

Course	Title	Credit Hours
Year One		
Fall		
MIP 1, 2, 5, 7, or 9	Brass Forum or Guitar Forum or Percussion Forum or String Forum or Woodwind Forum	0
MIP Principal Instrument Lesson & Studio Class		2
MTC 140 & MTC 107	Experiential Musicianship I and Skills Lab I	4
MKP 140	Keyboard Studies I	1
MCY 140	Experiencing Music	3
ENG 105	English Composition I	3
Large Ensemble		1
Chamber Ensemble		1
UMX 100	The University of Miami Experience	0
		Credit Hours
		15
Spring		
MIP 1, 2, 5, 7, or 9	Brass Forum or Guitar Forum or Percussion Forum or String Forum or Woodwind Forum	0
MIP Principal Instrument Lesson & Studio Class		2
MTC 141 & MTC 108	Experiential Musicianship II and Skills Lab II	4
MKP 141	Keyboard Studies II	1
ENG 106	English Composition II	3
MTH 101	Algebra for College Students	3
Large Ensemble		1
Chamber Ensemble		1
		Credit Hours
		15
Year Two		
Fall		
MIP 1, 2, 5, 7, or 9	Brass Forum or Guitar Forum or Percussion Forum or String Forum or Woodwind Forum	0
MIP Principal Instrument Lesson & Studio Class		2
MTC 240 & MTC 207	Experiential Musicianship III and Skills Lab III	4
MKP 240	Keyboard Studies III	2
People & Society Cognate		3
STEM Cognate		3
Large Ensemble		1

Chamber Ensemble		1
	Credit Hours	16
Spring		
MIP Principal Instrument Lesson & Studio Class		2
MIP 1, 2, 5, 7, or 9	Brass Forum or Guitar Forum or Percussion Forum or String Forum or Woodwind Forum	0
MTC 241 & MTC 208	Experiential Musicianship IV and Skills Lab IV	4
MKP 241	Keyboard Studies IV	2
People & Society Cognate		3
STEM Cognate		3
Large Ensemble		1
Chamber Ensemble		1
	Credit Hours	16
Year Three		
Fall		
MIP Principal Instrument Lesson & Studio Class		2
MIP 1, 2, 5, 7, or 9	Brass Forum or Guitar Forum or Percussion Forum or String Forum or Woodwind Forum	0
MCY 341	Music of the Mediaeval, Renaissance, and Baroque Periods	3
MIP 307	Skills Lab V: Classical Improvisation	2
MMI 250	Essential Technologies for Musicians	3
MTC 313	18th Century Counterpoint	3
Large Ensemble		1
Chamber Ensemble		1
	Credit Hours	15
Spring		
MIP Principal Instrument Lesson & Studio Class		2
MIP 1, 2, 5, 7, or 9	Brass Forum or Guitar Forum or Percussion Forum or String Forum or Woodwind Forum	0
Junior Recital (with Lesson)		
MIP 308	Skills Lab VI: Composition as Applied Improvisation	2
MCY 342	Music of the Classical, Romantic, and Modern Periods	3
MTC 312	20th and 21st Century Techniques	3
STEM Cognate		3
Large Ensemble		1
Chamber Ensemble		1
	Credit Hours	15
Year Four		
Fall		
MIP Principal Instrument Lesson & Studio Class		2
MIP 1, 2, 5, 7, or 9	Brass Forum or Guitar Forum or Percussion Forum or String Forum or Woodwind Forum	0

MIP 407	Skills Lab VII: Basic Conducting/Arranging	2
MMI 310	Music Business and Entrepreneurship for Musicians	3
MTC 416	Orchestration	3
Non-Music Elective		3
Large Ensemble		1
Chamber Ensemble		1
	Credit Hours	15
Spring		
Principal Instrument Lesson & Studio Class		2
MIP 1, 2, 5, 7, or 9	Brass Forum or Guitar Forum or Percussion Forum or String Forum or Woodwind Forum	0
Senior Recital (with Lesson) AWC		
MIP 408	Skills Lab VIII: Culminating Project	2
Select one from the following:		2
MIP 541	Bassoon Repertoire and Pedagogy	
MIP 542	Clarinet Repertoire and Pedagogy	
MIP 543	Flute Repertoire and Pedagogy	
MIP 544	Oboe Repertoire and Pedagogy	
MIP 545	Brass Repertoire and Pedagogy	
MIP 546	Percussion Repertoire and Pedagogy	
MIP 547	Saxophone Repertoire and Pedagogy	
MIP 548	Guitar Repertoire and Pedagogy	
MIP 549	String Repertoire and Pedagogy	
MTC 311	Analysis and Experience	3
People in Society Cognate		3
Large Ensemble		1
Chamber Ensemble		1
	Credit Hours	14
	Total Credit Hours	121

Certificate in Instrumental Performance

Audition Required-Music Majors Only

Performance Certificates may be awarded to music majors, in non-performance degrees: MED, MTY, MTC, MWP, MBEI, MUE, and MUS, who meet the achievement level and standards of a music performance major on a single instrument as offered by the following degree programs: MIP, MVP, MKP, MSJI, and MSJV. Any student wishing to declare a Performance Certificate must audition on an instrument or voice and be approved by the appropriate department. In addition to the Experiential Music Curriculum Core Courses, the following requirements must be met in one of the following tracks: MIP, MVP, MKP, or MSJ. The Music Performance Certificate requires approval by designated departmental faculty. The appropriate performance level must be achieved as determined by the designated departmental faculty or the certificate will not have been earned, even if all courses have been successfully completed. The Music Performance Certificate will be awarded upon successful completion of all coursework and final approval of the designated departmental faculty.

* Students who will enroll in a required internship (i.e. student teaching) in their 8th semester may petition the department to perform the senior recital and satisfy the Principal Instrument Lesson & Studio Class degree requirements in their 7th semester.

Curriculum Requirements

Code	Title	Credit Hours
MIP	Principal Instrument Lesson & Studio Class (semesters 7-8, 2 credit hours) Level 3	4
	Senior Recital with lesson	
	Ensembles as assigned (usually 2 per semester)	10
MCY 341	Music of the Mediaeval, Renaissance, and Baroque Periods (you may substitute MCY 341 for MCY 141 in the EMC core)	3

MCY 342	Music of the Classical, Romantic, and Modern Periods	3
MTC 311	Analysis and Experience	3
or MTC 312	20th and 21st Century Techniques	
or MTC 313	18th Century Counterpoint	
Total required credits		23

Keyboard Performance (MKP)

Dept. Code: MKP

The Department of Keyboard Performance offers a bachelor of music performance degree and a performer's certificate in piano. It is a dynamic center for music scholarship. Regardless if a student is more versed in classical or contemporary repertoire, the performance and academic opportunities are exceptional and for all areas of keyboard study.

Bachelor of Music: Keyboard Performance (MKP)

The purpose of the Bachelor of Music in Keyboard Performance Degree: A degree from the Frost School of Music in Keyboard Performance will ensure a broad comprehensive training for a student in a performance-intensive environment. Degree programs incorporate performance, music research, pedagogy, and professional skills to cultivate students for a professional life in music. Graduates may seek careers as concert performers, collaborative pianists/accompanists, and/or as artist teachers.

Educational Objectives

Private lessons are taught with individual student goals in mind, and direction in academics and career pursuits are a priority for the entire faculty. We take pride in the reputation of our keyboard faculty for not only their distinguished concert careers, but also their dedication as inspiring teachers and mentors.

Major in Keyboard Performance

- B.M. in Keyboard Performance (p. 793)

Certificates

- Keyboard Performance (p. 797)

B.M. in Keyboard Performance

Advanced Writing and Communication Skills

Courses

All students are required to successfully complete 3 Advanced Writing and Communication Skills (AWC) courses. Student degree requirements will include courses that meet the desired communication outcomes in evaluated and revised writing, speaking, stage presence, and audience engagement.

All keyboard performance students will successfully complete:

1. MCY 341 Music of the Medieval, Renaissance, and Baroque Periods, which will include substantial evaluated and revised writing components.
2. MKP XXX Private Lesson Level 3 Senior Recital, which will include evaluated communication skills in attracting an audience, engaging an audience during performance, and preparing program notes or similar media as appropriate to the medium/venue.
3. MKP 547 Keyboard Pedagogy, which will include discipline specific communication skills.

Assessment

There will be at least 2 specific assessments in each Advanced Communications Skills course for communications or writing equivalent to 4000 words, evaluated and revised.

Degree Requirements

Code	Title	Credit Hours
General Education Courses MKP		
ENG 105	English Composition I	3
ENG 106	English Composition II	3
MTH 101	Algebra for College Students	3
ST_XXXX	STEM Cognate	9

PS_XXXX	People & Society Cognate	9
UMX 100	The University of Miami Experience	0
Total General Education credits = 27		
	Advanced Writing and Communication Skills (3 courses) see details below	
Experiential Music Curriculum Core Courses MKP ¹		
MKP 6	Piano Forum (8 semesters)	0
MKP PI1 (Level 1)	Piano Lesson & Studio Class (semesters 1-4, 2 credit hours)	8
MKP PI3 (Level 3)	Piano Lesson & Studio Class (semesters 5-6, 2 credit hours)	4
MTC 140 & MTC 107	Experiential Musicianship I and Skills Lab I	4
MTC 141 & MTC 108	Experiential Musicianship II and Skills Lab II	4
MTC 240 & MTC 207	Experiential Musicianship III and Skills Lab III	4
MTC 241 & MTC 208	Experiential Musicianship IV and Skills Lab IV	4
MKP 140	Keyboard Studies I (waived for piano majors and principals)	
MKP 141	Keyboard Studies II (waived for piano majors and principals)	
MCY 140	Experiencing Music	3
MCY 341	Music of the Mediaeval, Renaissance, and Baroque Periods (AWC)	3
MMI 250	Essential Technologies for Musicians	3
MMI 310	Music Business and Entrepreneurship for Musicians	3
	Ensembles (semesters 1-6, 1 credit hour)	6
Total credits for EMC Core courses = 46		
Courses in the MKP Major		
	Ensembles (semesters 7-8, 1 credit hour)	2
MKP PI3 (Level 3)	Piano Lesson & Studio Class (semesters 7-8, 2 credit hours) Junior & Senior recitals with lesson	4
Complete from the following courses 8 semesters of 1 credit hour:		
MKP 189	Accompanying, Level I	
MKP 190	Accompanying, Level II	
MKP 191	Accompanying, Level III	
MIP 307	Skills Lab V: Classical Improvisation	2
MIP 308	Skills Lab VI: Composition as Applied Improvisation	2
MTC 311	Analysis and Experience	3
MTC 312	20th and 21st Century Techniques	3
MTC 313	18th Century Counterpoint	3
MTC 416	Orchestration	3
MCY 342	Music of the Classical, Romantic, and Modern Periods	3
MCY 526	Keyboard Literature I	3
MKP 547	Keyboard Pedagogy (AWC)	3
MCY XXX	Elective	3
XXX XXX	Electives	6
Total credits for courses in the major = 48		
Total Credit Hours		121

¹ *EMC core courses require a grade of "C" or higher. Lessons require a grade of "B-" or higher.*

Suggested Plan of Study

Course	Title	Credit Hours
Year One		
Fall		
MKP 6	Piano Forum	0
MKP PI1	Piano	2
MTC 140 & MTC 107	Experiential Musicianship I and Skills Lab I	4
MCY 140	Experiencing Music	3
Select one of the following:		1
MKP 189	Accompanying, Level I	
MKP 190	Accompanying, Level II	
MKP 191	Accompanying, Level III	
ENG 105	English Composition I	3
UMX 100	The University of Miami Experience	0
Ensemble		1
	Credit Hours	14
Spring		
MKP 6	Piano Forum	0
MKP PI1	Piano	2
MTC 141 & MTC 108	Experiential Musicianship II and Skills Lab II	4
Select one of the following:		1
MKP 189	Accompanying, Level I	
MKP 190	Accompanying, Level II	
MKP 191	Accompanying, Level III	
ENG 106	English Composition II	3
MTH 101	Algebra for College Students	3
Ensemble		1
	Credit Hours	14
Year Two		
Fall		
MKP 6	Piano Forum	0
MKP PI1	Piano	2
MTC 240 & MTC 207	Experiential Musicianship III and Skills Lab III	4
Select one of the following:		1
MKP 189	Accompanying, Level I	
MKP 190	Accompanying, Level II	
MKP 191	Accompanying, Level III	
MMI 250	Essential Technologies for Musicians	3
People & Society Cognate		3
STEM Cognate		3
Ensemble		1
	Credit Hours	17
Spring		
MKP 6	Piano Forum	0
MKP PI1	Piano	2
Select one of the following:		1
MKP 189	Accompanying, Level I	
MKP 190	Accompanying, Level II	
MKP 191	Accompanying, Level III	

MTC 241 & MTC 208	Experiential Musicianship IV and Skills Lab IV	4
People & Society Cognate		3
STEM Cognate		3
Ensemble		1
	Credit Hours	14
Year Three		
Fall		
MKP 6	Piano Forum	0
MKP PI3	Piano	2
Select one of the following:		1
MKP 189	Accompanying, Level I	
MKP 190	Accompanying, Level II	
MKP 191	Accompanying, Level III	
MCY 341	Music of the Mediaeval, Renaissance, and Baroque Periods	3
MKP 547	Keyboard Pedagogy	3
MIP 307	Skills Lab V: Classical Improvisation	2
MTC 313	18th Century Counterpoint	3
Ensemble		1
	Credit Hours	15
Spring		
MKP 6	Piano Forum	0
MKP PI3	Piano	2
Junior Recital (with Lesson)		
Select one of the following:		1
MKP 189	Accompanying, Level I	
MKP 190	Accompanying, Level II	
MKP 191	Accompanying, Level III	
MCY 342	Music of the Classical, Romantic, and Modern Periods	3
MIP 308	Skills Lab VI: Composition as Applied Improvisation	2
MTC 312	20th and 21st Century Techniques	3
STEM Cognate		3
Ensemble		1
	Credit Hours	15
Year Four		
Fall		
MKP 6	Piano Forum	0
MKP PI3	Piano	2
Select one of the following:		1
MKP 189	Accompanying, Level I	
MKP 190	Accompanying, Level II	
MKP 191	Accompanying, Level III	
MCY 526	Keyboard Literature I	3
MCY Elective		3
MMI 310	Music Business and Entrepreneurship for Musicians	3
MTC 416	Orchestration	3
Ensemble		1
	Credit Hours	16
Spring		
MKP 6	Piano Forum	0
MKP PI3	Piano	2
Select one of the following:		1

MKP 189	Accompanying, Level I	
MKP 190	Accompanying, Level II	
MKP 191	Accompanying, Level III	
Senior Recital (with Lesson) AWC		
MTC 311	Analysis and Experience	3
Elective		3
Elective		3
People & Society Cognate		3
Ensemble		1
	Credit Hours	16
	Total Credit Hours	121

Certificate in Keyboard Performance

Audition Required-Music Majors Only

Performance Certificates may be awarded to music majors, in non-performance degrees: MED, MTY, MTC, MWP, MBEI, MUE, and MUS, who meet the achievement level and standards of a music performance major on a single instrument as offered by the following degree programs: MIP, MVP, MKP, MSJI, and MSJV. Any student wishing to declare a Performance Certificate must audition on an instrument or voice and be approved by the appropriate department. In addition to the Experiential Music Curriculum Core Courses, the following requirements must be met in one of the following tracks: MIP, MVP, MKP, or MSJ. The Music Performance Certificate requires approval by designated departmental faculty. The appropriate performance level must be achieved as determined by the designated departmental faculty or the certificate will not have been earned, even if all courses have been successfully completed. The Music Performance Certificate will be awarded upon successful completion of all coursework and final approval of the designated departmental faculty.

* Students who will enroll in a required internship (i.e. student teaching) in their 8th semester may petition the department to perform the senior recital and satisfy the Principal Instrument Lesson & Studio Class degree requirements in their 7th semester.

Curriculum Requirements

Code	Title	Credit Hours
MKP Principal Instrument Lesson & Studio Class (semesters 7-8, 2 credit hours) Level 3		4
Senior Recital with lesson		
Ensembles as assigned (usually 2 per semester)		10
MCY 341	Music of the Mediaeval, Renaissance, and Baroque Periods (you may substitute MCY 341 for MCY 141 in the EMC core)	3
MCY 342	Music of the Classical, Romantic, and Modern Periods	3
MTC 311	Analysis and Experience	3
or MTC 312	20th and 21st Century Techniques	
or MTC 313	18th Century Counterpoint	
Total required credits		23

Music Education and Music Therapy (MED) & (MTY)

Dept. Code: MED

The Department of Music Education and Music Therapy offers two degree programs,

- Music Education (MED)
- Music Therapy (MTY).

Majors in Music Education and Music Therapy

- B.M. in Music Education with Minor in Education (p. 798)
- B.M. in Music Therapy with Minor in Psychology (p. 803)

B.M. in Music Education with Minor in Education

Introduction

The Bachelor of Music in Music Education with Minor in Education degree program prepares undergraduate music students to become outstanding music educators who are certified by the Florida Department of Education (FL-DOE) to teach music in the schools of Florida and, through reciprocity agreements with other state DOEs, throughout the United States. A basic premise of the Bachelor of Music Education degree program is that music teachers must be both strong musicians and skilled educators; thus, competency as a performing and creating musician is as important as having strong foundations in pedagogy (both theory and practice). We believe our series of music education techniques and methods courses provide students with a broad foundation in teaching music through the lifespan (childhood through adulthood), as well as across a wide array of educational settings and musical contexts. This sequence incorporates ideas drawn from theory, research, and the practical experiences of the faculty and other successful practitioners. We also believe that students must be able to build themselves to meet their professional goals by developing a specialization in an area of music teaching through music education emphasis area electives.

Program Goals

- Help students develop the musical and teaching competencies necessary to enable them to demonstrate the generic and subject area competencies and the Florida Educational Accomplished Practices (FEAP) for becoming successful music teachers.
- Enable students to apply the musical and instructional skills developed in the program (and reinforced during field experience and student teaching) to teach music in a wide array of contexts.
- Help students to develop the skills and desire to continue music-making as a lifetime endeavor both personally and professionally.
- Help students develop skills in integrating information from the diverse professional literature into their teaching.

Educational Objectives

- Students must demonstrate generic competencies required by the university in general education courses.
- Students must demonstrate competencies related to the core Professional Education courses required by the State of Florida in Teaching and Learning (TAL) courses.
- Students must demonstrate musical competencies related to the requirements of the Bachelor of Music degree.
- Students must demonstrate teaching competencies related to the core courses in the music education.

The Music Education curriculum is designed to prepare students to teach music in a wide array of contexts, including (K-12) public & private schools. All Music Education majors must perform at a high level either vocally or on an instrument. Students must successfully complete the Florida General Knowledge Examination (FGKE) to be admitted to teacher candidacy and to graduate.

All students must develop knowledge of and performance ability on wind, string, and percussion instruments as well as, vocal skills to assure effective use of the voice in teaching.

Admission to and/or retention in the music education curriculum leading to Florida Teacher Certification requires that students be formally screened with respect to specific criteria. Following are the Requirements for Admission to Teacher Candidacy and for Admission to Associate Teaching:

Admission to Teacher Candidacy

1. Acceptance as a major in the music education program.
2. Satisfactory performance on the Florida General Knowledge Exam (FGKE).
3. Completion of 45 credit hours. (Transfer students must have at least 12 credit hours earned at the University of Miami.)
4. Successful completion of TAL 305 or TAL 404 (C or higher).
5. No grade less than a C in TAL & MED courses.
6. 2.5 minimum GPA in music courses.
7. Required Background Check completed through Miami-Dade Public Schools Office.
8. Completion of a successful Field Experience Requirement.

Admission to Student Teaching

1. Approval of MED faculty members.
2. Completion of 90 credit hours.
3. Completion of at least three-fourths of the courses in the teaching major, verified by advisor.
4. Admission to Teacher Candidacy through the Assistant Dean's Office in the School of Education & Human Development.
5. Completion of a C or better in all MED & TAL courses
6. 2.5 minimum GPA in TAL and music courses.
7. Completion of pre-internship field experiences with above-average evaluations.

Degree Requirements

Code	Title	Credit Hours
General Education Courses MED		
ENG 105	English Composition I	3
ENG 106	English Composition II	3
MTH 101	Algebra for College Students	3
ST_XXXX	STEM Cognate	9
	People & Society Cognate satisfied with Education Minor	0
UMX 100	The University of Miami Experience	0
Total General Education credits = 18		
	Advanced Writing and Communication Skills (3 courses) see details below	
Experiential Music Curriculum Core Courses MED ¹		
MED 15	Mus Edu Forum (7 or each semester in residence)	0
MXX XX1 (Level 1)	Principal Instrument Lesson & Studio Class (semesters 1-4, 2 credit hours)	8
MXX XX3 (Level 3)	Principal Instrument Lesson & Studio Class (semesters 5-6, 2 credit hours)	4
MTC 140 or MSJ 140 or MMI 140	Experiential Musicianship I	3
MTC 141 or MSJ 141 or MMI 141	Experiential Musicianship II	3
MTC 240 or MSJ 240 or MMI 240	Experiential Musicianship III	3
MTC 241 or MSJ 241 or MMI 241	Experiential Musicianship IV	3
MTC 107 or MSJ 107 or MMI 107	Skills Lab I (co-requisite MTC 140/MSJ 140/MMI 140)	1
MTC 108 or MSJ 108 or MMI 108	Skills Lab II (co-requisite MTC 141/MSJ 141/MMI 141)	1
MTC 207 or MSJ 207 or MMI 207	Skills Lab III (co-requisite MTC 240 /MSJ 240/MMI 240)	1
MTC 208 or MSJ 208 or MMI 208	Skills Lab IV (co-requisite MTC 241/MSJ 241/MMI 241)	1
MKP 140	Keyboard Studies I	1
MKP 141	Keyboard Studies II	1
MCY 140	Experiencing Music	3
MCY 341	Music of the Mediaeval, Renaissance, and Baroque Periods (AWC)	3
MMI 250	Essential Technologies for Musicians	3
MMI 310	Music Business and Entrepreneurship for Musicians	3
Ensembles	(semesters 1-6, 1 credit hour)	6
MIP 170	Marching Band (two semesters required for all brass, percussion, & woodwind principals)	
Total credits for EMC Core courses = 48		

Courses in the MED Major ¹		
MCY 342	Music of the Classical, Romantic, and Modern Periods	3
Ensemble	(semester 7, 1 credit hour)	1
MIP 181	Instrumental Conducting I	2
or MVP 181	Choral Conducting I	
MIP 182	Instrumental Conducting II	2
or MVP 182	Choral Conducting II	
MED 240	Woodwind Techniques	1
MED 241	Brass Techniques	1
MED 242	Percussion Techniques	1
MED 243	String Techniques	1
MED 244	Vocal Techniques	1-2
or MVP 250	Lyric Diction for Singers - English and Italian	
MED 245	Folk and Modern Instrumental Techniques	1
MED 542	Teaching General Music (K-5) (AWC)	3
MED 543	Teaching Instrumental Music	3
MED 544	Teaching Modern Music (7-12)	3
MED 549	Teaching Vocal Music	3
MED 433	Seminar for Teaching Associates.	1
MED 471	Internship in Music Education (Elementary School) (AWC) ²	6
MED 473	Internship in Music Education (Secondary School) (AWC) ²	6
TAL 103	Psychological Foundations of Education (minor)	3
TAL 305	Classroom and Behavior Management (minor)	3
TAL 306	Teacher Preparation Seminar I (minor)	0
TAL 404	Content Area Literacy in the Secondary Classroom (minor)	3
TAL 429	Teacher Preparation Seminar II (minor)	0
TAL 506	Issues and Strategies for ESOL (minor)	3
TAL 580	Seminar on Teaching (minor)	1
	Emphasis courses (approved by advisor)	9
Total credits for courses in the major = 61-62		
Total Credit Hours		127-128

¹ *MED, TAL and EMC courses require a grade of "C" or higher. Lessons require a grade of "B-" or higher.*

² *MED 475 Internship in Music Education (12 credits) can be substituted for MED 471 & MED 473*

Advanced Writing and Communication Skills

Courses

All students are required to successfully complete 3 Advanced Writing and Communication Skills (AWC) courses. Student degree requirements will include courses that meet the desired communication outcomes in evaluated and revised writing, speaking, stage presence, and audience engagement.

All Music Education students will successfully complete:

1. MCY 341 Music of the Medieval, Renaissance, and Baroque Periods, which will include substantial evaluated and revised writing components.
2. MED 471 & MED 473 Internship in Music Education (Elementary & Secondary) or MED 475 Internship in Music Education, which will include evaluated communication skills in attracting an audience, engaging an audience during performance, and preparing program notes or similar media as appropriate to the medium/venue.
3. MED 542 Teaching General Music, one required course in their major which will include discipline specific communication skills.

Assessment

There will be at least 2 specific assessments in each Advanced Communications Skills course for communications or writing equivalent to 4000 words, evaluated and revised.

Suggested Plan of Study

Course	Title	Credit Hours
Year One		
Fall		
MED 15	Mus Edu Forum	0
Principal Instrument/ Voice Lesson & Studio Class		2
MCY 140	Experiencing Music	3
MTC 140, MSJ 140, or MMI 140	Experiential Musicianship I or Experiential Musicianship I or Experiential Musicianship I	3
MKP 140	Keyboard Studies I	1
MTC 107, MSJ 107, or MMI 107	Skills Lab I or Skills Lab I or Skills Lab I	1
MED 244 or MVP 250	Vocal Techniques or Lyric Diction for Singers - English and Italian	1-2
ENG 105	English Composition I	3
UMX 100	The University of Miami Experience	0
Ensemble ¹		1
	Credit Hours	15-16
Spring		
MED 15	Mus Edu Forum	0
Principal Instrument/ Voice Lesson & Studio Class		2
MKP 141	Keyboard Studies II	1
MTC 141, MSJ 141, or MMI 141	Experiential Musicianship II or Experiential Musicianship II or Experiential Musicianship II	3
MTC 108, MSJ 108, or MMI 108	Skills Lab II or Skills Lab II or Skills Lab II	1
Select one of the following:		1
MED 240	Woodwind Techniques	
MED 241	Brass Techniques	
MED 242	Percussion Techniques	
MED 243	String Techniques	
ENG 106	English Composition II	3
MTH 101	Algebra for College Students	3
Ensemble ¹		1
	Credit Hours	15
Year Two		
Fall		
MED 15	Mus Edu Forum	0
Principal Instrument/ Voice Lesson & Studio Class		2
MTC 240, MSJ 240, or MMI 240	Experiential Musicianship III or Experiential Musicianship III or Experiential Musicianship III	3
MTC 207, MSJ 207, or MMI 207	Skills Lab III or Skills Lab III or Skills Lab III: American Song Traditions	1
Select one of the following:		1
MED 240	Woodwind Techniques	
MED 241	Brass Techniques	
MED 242	Percussion Techniques	
MED 243	String Techniques	

MIP 181 or MVP 181	Instrumental Conducting I or Choral Conducting I	2
TAL 103	Psychological Foundations of Education	3
TAL 305	Classroom and Behavior Management	3
TAL 306	Teacher Preparation Seminar I	0
Ensemble ¹		1
	Credit Hours	16
Spring		
MED 15	Mus Edu Forum	0
Principal Instrument/ Voice Lesson & Studio Class		2
MTC 241, MSJ 241, or MMI 241	Experiential Musicianship IV or Experiential Musicianship IV or Experiential Musicianship IV	3
MTC 208, MSJ 208, or MMI 208	Skills Lab IV or Skills Lab IV or Skills Lab IV: American Song Traditions	1
Select one of the following:		1
MED 240	Woodwind Techniques	
MED 241	Brass Techniques	
MED 242	Percussion Techniques	
MED 243	String Techniques	
MED 245	Folk and Modern Instrumental Techniques	1
MIP 182 or MVP 182	Instrumental Conducting II or Choral Conducting II	2
TAL 404	Content Area Literacy in the Secondary Classroom	3
STEM Cognate		3
Ensemble ¹		1
	Credit Hours	17
Year Three		
Fall		
MED 15	Mus Edu Forum	0
Principal Instrument/ Voice Lesson & Studio Class		2
MCY 341	Music of the Mediaeval, Renaissance, and Baroque Periods	3
Select one of the following:		1
MED 240	Woodwind Techniques	
MED 241	Brass Techniques	
MED 242	Percussion Techniques	
MED 243	String Techniques	
MED 542	Teaching General Music (K-5)	3
MED 549	Teaching Vocal Music	3
MED Emphasis Elective		3
Ensemble ¹		1
	Credit Hours	16
Spring		
MED 15	Mus Edu Forum	0
Principal Instrument/ Voice Lesson & Studio Class		2
MCY 342	Music of the Classical, Romantic, and Modern Periods	3
MED 543	Teaching Instrumental Music	3
MED 544	Teaching Modern Music (7-12)	3
MED Emphasis Elective		3
STEM Cognate		3
Ensemble ¹		1
	Credit Hours	18

Year Four		
Fall		
MED 15	Mus Edu Forum	0
MMI 250	Essential Technologies for Musicians	3
MMI 310	Music Business and Entrepreneurship for Musicians	3
TAL 429	Teacher Preparation Seminar II	0
TAL 506	Issues and Strategies for ESOL	3
MED Emphasis Elective		3
STEM Cognate		3
Ensemble ¹		1
Credit Hours		16
Spring		
MED 433	Seminar for Teaching Associates.	1
MED 471	Internship in Music Education (Elementary School)	6
MED 473	Internship in Music Education (Secondary School)	6
TAL 580	Seminar on Teaching	1
Credit Hours		14
Total Credit Hours		127-128

¹ Two semesters of Marching Band (MIP 170) required for all brass, percussion, & woodwind principals.

B.M. in Music Therapy with Minor in Psychology

Introduction

The music therapy program provides students with the opportunity to develop comprehensive musicianship as well as clinical knowledge and skills within a rich musical, scholarly and communicative environment. Music therapy majors must demonstrate musical proficiency, either vocally or instrumentally, and must acquire musical competency on guitar, piano, voice and percussion.

Graduates of this program are prepared for careers as professional music therapists in a variety of health care and educational settings. Furthermore, graduates are eligible to take the Board Certification Exam in music therapy, leading to the credential, Music Therapist Board Certified (MT-BC). The music therapy curriculum is approved by the American Music Therapy Association, and is based on the clinical and research paradigm known as Neurologic Music Therapy.

To remain in the Music Therapy program, students must earn a minimum 2.5 GPA each semester. Additionally, music therapy core courses must be completed with a grade of C or higher. All internship applications must include a written letter of recommendation from a music therapy faculty member.

Educational Objectives

The music therapy program is designed to address three primary objectives:

- **Comprehensive musicianship:** through intensive music study and performance experiences, students will articulate knowledge of music structure and style, produce aesthetically pleasing musical performances, and modify music for specific contexts.
- **Knowledge of human behavior:** by studying both theory and scientific evidence, students will develop an in-depth understanding of the systems of the human body, the intricacies of human behavior, as well as developmental norms and deviations in each domain of functioning.
- **Knowledge of Music Therapy:** students will engage in rigorous exploration of the theories and scientific evidence that support the use of music in a therapeutic context. Following the neurologic music therapy approach, all techniques learned in this program are based on scientific evidence regarding music perception and behavior. Furthermore, students have ample opportunity to establish and refine their therapeutic skills through five semesters of clinical practica in addition to a six-month, full-time clinical internship. Internship applications must include a written letter of recommendation from music therapy faculty member.

The Music Therapy Equivalency Program

The equivalency program is designed for the individual who has already completed a bachelor's degree in a related discipline, including the following courses:

Music Theory I, II, III and IV; Music History I and II; Conducting, Arranging, Applied Lessons (6 semesters), Performing Ensembles (8 semesters), Piano Competency (4 semesters of either lessons or group piano) and Introduction to Psychology.

Beyond these courses, the program consists of 50 credit hours that can be completed in two years, followed by a six-month clinical internship. All internship applications must include a written letter of recommendation from a music therapy faculty member. Please contact the Music Therapy Program Director for a listing of the 50 credit hours.

If any of the prerequisite courses have not yet been completed, they can be taken at the University of Miami. Taking these additional courses, however, may lengthen the amount of time required to complete the equivalency program. In certain situations, alternate courses from other universities can substitute for the required courses. Depending on the nature of the course, this decision will be made by the undergraduate dean, in consultation with the Music Therapy Program Director.

In order to determine exactly how many credits are required to complete the equivalency program, the student should obtain official transcripts for their previous degree and meet with the music therapy program director. Following completion of the course and internship, students are then eligible to sit for the music therapy board certification exam and can become professional members of the American Music Therapy Association (AMTA). For students wishing to pursue graduate studies in music therapy, the equivalency program can be combined with the master's degree in music therapy.

Degree Requirements

Code	Title	Credit Hours
General Education Courses MTY		
ENG 105	English Composition I	3
ENG 106	English Composition II	3
MTH 101	Algebra for College Students	3
ST_XXXX	STEM Cognate (should include PSY 220 and BIL 109)	9
	People & Society Cognate satisfied with Psychology Minor	0
UMX 100	The University of Miami Experience	0
	Advanced Writing and Communication Skills (3 courses) see details below	
Total General Education credits = 18		
Experiential Music Curriculum Core Courses MTY ¹		
MED 10	Mus Therapy Forum (8 semesters or each semester in residence)	0
MXX XX1 (Level 1)	Principal Instrument Lesson & Studio Class (semesters 1-4, 2 credit hours)	8
MXX XX3 (Level 3)	Principal Instrument Lesson & Studio Class (semesters 5-6, 2 credit hours)	4
MTC 140 or MSJ 140 or MMI 140	Experiential Musicianship I	3
MTC 141 or MSJ 141 or MMI 141	Experiential Musicianship II	3
MTC 240 or MSJ 240 or MMI 240	Experiential Musicianship III	3
MTC 241 or MSJ 241 or MMI 241	Experiential Musicianship IV	3
MTC 107 or MSJ 107 or MMI 107	Skills Lab I (co-requisite MTC 140/MSJ 140/MMI 140)	1
MTC 108 or MSJ 108 or MMI 108	Skills Lab II (co-requisite MTC 141/MSJ 141/MMI 141)	1
MTC 207 or MSJ 207 or MMI 207	Skills Lab III (co-requisite MTC 240 /MSJ 240/MMI 240)	1
MTC 208 or MSJ 208	Skills Lab IV (co-requisite MTC 241/MSJ 241/MMI 241)	1

or MMI 208	Skills Lab IV: American Song Traditions	
MKP 140	Keyboard Studies I	1
MKP 141	Keyboard Studies II	1
MCY 140	Experiencing Music	3
MCY 141	Musical Traditions (AWC)	3
MMI 250	Essential Technologies for Musicians	3
MMI 310	Music Business and Entrepreneurship for Musicians	3
MIP/MSJ/MMI XXX	Ensembles (semesters 1-6, 1 credit hour)	6
Total credits for EMC Core courses = 48		
Courses in the MTY Major ¹		
MIP/MSJ/MMI XXX	Ensembles (semesters 7-8, 1 credit hour)	2
MED 159	Introduction to Music Therapy	2
MED 149	Functional Techniques in Music Therapy I	2
MED 249	Functional Techniques in Music Therapy II	2
MED 259	Music Therapy Pre-Practicum	2
MED 359	Music Therapy Practicum 1A	1
MED 360	Music therapy Practicum 1B	1
MED 361	Music Therapy Practicum 2A	1
MED 362	Music Therapy Practicum 2B	1
MED 363	Music Therapy Practicum 3A (AWC)	1
MED 242	Percussion Techniques	1
MED 244	Vocal Techniques	1-2
or MVP 250	Lyric Diction for Singers - English and Italian	
MED 545	Music in Rehabilitation	3
MED 546	Music in Psychotherapy	3
MED 551	Music Therapy Research Methods (AWC)	3
MED 559	Internship in Music Therapy (requires recc. letter from MTY faculty)	3
MED 562	Psychology of Music I	3
MED 576	Music and Development	3
MTC XXX	Arranging/Orchestration Elective	3
DAN 290	Introduction to Dance-Movement Therapy	2
MIP 181	Instrumental Conducting I	2
or MVP 181	Choral Conducting I	
PSY 110	Introduction to Psychology (minor)	3
PSY 230	Child and Adolescent Development (minor)	3
PSY 240	Abnormal Psychology (minor)	3
PSY 292	Introduction to Biobehavioral Statistics for Non-Majors (minor)	3
PSY 345	Abnormal Child Psychology (minor)	3
MED 560	Internship in Music Therapy II ²	0
Total credits for courses in the major = 57		
Total Credit Hours		123-124

¹ EMC and MED courses require a grade of "C" or higher. Lessons require a grade of "B-" or higher.

² Students enrolling in MED 560 Music Therapy Internship II are considered full-time. Health insurance is mandatory but can be waived depending on visa status. International students must apply for CPT (Curricula Practical Training). This course confers full-time status for undergraduate students and fulfills a degree requirement for the Bachelor of Music Therapy degree program.

Advanced Writing and Communication Skills

Courses

All students are required to successfully complete 3 Advanced Writing and Communication Skills (AWC) courses. Student degree requirements will include courses that meet the desired communication outcomes in evaluated and revised writing, speaking, stage presence, and audience engagement.

All Music Therapy students will successfully complete:

1. MCY 141 Musical Trends and Traditions, which will include substantial evaluated and revised writing components.
2. MED 363 Senior Practicum, which will include evaluated communication skills in attracting an audience, engaging an audience during performance, and preparing program notes or similar media as appropriate to the medium/venue.
3. MED 551 Music Therapy Research Methods, which will include discipline specific communication skills.

Assessment

There will be at least 2 specific assessments in each Advanced Communications Skills course for communications or writing equivalent to 4000 words, evaluated and revised.

Suggested Plan of Study

Course	Title	Credit Hours
Year One		
Fall		
MED 10	Mus Therapy Forum	0
Principal Instrument Lesson/Voice Lesson & Studio Class		2
MCY 140	Experiencing Music	3
MTC 140, MSJ 140, or MMI 140	Experiential Musicianship I or Experiential Musicianship I or Experiential Musicianship I	3
MTC 107, MSJ 107, or MMI 107	Skills Lab I or Skills Lab I or Skills Lab I	1
MKP 140	Keyboard Studies I	1
MED 159	Introduction to Music Therapy	2
ENG 105	English Composition I	3
UMX Freshman Experience		0
Ensemble		1
		Credit Hours
		16
Spring		
MED 10	Mus Therapy Forum	0
Principal Instrument Lesson/Voice Lesson & Studio Class		2
MKP 141	Keyboard Studies II	1
MTC 141, MSJ 141, or MMI 141	Experiential Musicianship II or Experiential Musicianship II or Experiential Musicianship II	3
MTC 108, MSJ 108, or MMI 108	Skills Lab II or Skills Lab II or Skills Lab II	1
MED 149	Functional Techniques in Music Therapy I	2
ENG 106	English Composition II	3
MTH 101	Algebra for College Students	3
Ensemble		1
		Credit Hours
		16
Year Two		
Fall		
MED 10	Mus Therapy Forum	0
Principal Instrument Lesson/Voice Lesson & Studio Class		2
MTC 240, MSJ 240, or MMI 240	Experiential Musicianship III or Experiential Musicianship III or Experiential Musicianship III	3
MTC 207, MSJ 207, or MMI 207	Skills Lab III or Skills Lab III or Skills Lab III: American Song Traditions	1

MED 242	Percussion Techniques	1
MED 244 or MVP 250	Vocal Techniques or Lyric Diction for Singers - English and Italian	1-2
PSY 110	Introduction to Psychology	3
DAN 290	Introduction to Dance-Movement Therapy	2
Ensemble		1
	Credit Hours	14-15
Spring		
MED 10	Mus Therapy Forum	0
	Principal Instrument Lesson/Voice Lesson & Studio Class	2
MCY 141	Musical Traditions	3
MTC 241, MSJ 241, or MMI 241	Experiential Musicianship IV or Experiential Musicianship IV or Experiential Musicianship IV	3
MTC 208, MSJ 208, or MMI 208	Skills Lab IV or Skills Lab IV or Skills Lab IV: American Song Traditions	1
MED 259	Music Therapy Pre-Practicum	2
MED 359	Music Therapy Practicum 1A	1
PSY 230	Child and Adolescent Development	3
Ensemble		1
	Credit Hours	16
Year Three		
Fall		
MED 10	Mus Therapy Forum	0
	Principal Instrument Lesson/Voice Lesson & Studio Class	2
MIP 181 or MVP 181	Instrumental Conducting I or Choral Conducting I	2
MED 249	Functional Techniques in Music Therapy II	2
MED 360	Music therapy Practicum 1B	1
MED 576	Music and Development	3
STEM Cognate		3
Ensemble		1
	Credit Hours	14
Spring		
MED 10	Mus Therapy Forum	0
	Principal Instrument Lesson/Voice Lesson & Studio Class	2
MMI 250	Essential Technologies for Musicians	3
MED 361	Music Therapy Practicum 2A	1
MED 545	Music in Rehabilitation	3
PSY 240	Abnormal Psychology	3
STEM Cognate		3
Ensemble		1
	Credit Hours	16
Year Four		
Fall		
MED 10	Mus Therapy Forum	0
MED 362	Music Therapy Practicum 2B	1
MED 551	Music Therapy Research Methods	3
	MTC Arranging/Orchestration Elective	3
PSY 292	Introduction to Biobehavioral Statistics for Non-Majors	3
STEM Cognate		3

Ensemble		1
	Credit Hours	14
Spring		
MED 10	Mus Therapy Forum	0
MED 363	Music Therapy Practicum 3A	1
MED 546	Music in Psychotherapy	3
MED 559	Internship in Music Therapy	3
MED 562	Psychology of Music I	3
MMI 310	Music Business and Entrepreneurship for Musicians	3
PSY 345	Abnormal Child Psychology	3
Ensemble		1
	Credit Hours	17
Year Five		
Fall		
MED 560	Internship in Music Therapy II ¹	0
	Credit Hours	0
	Total Credit Hours	123-124

¹ Students enrolling in MED 560 Music Therapy Internship II are considered full-time. Health insurance is mandatory but can be waived depending on visa status. International students must apply for CPT (Curricula Practical Training). This course confers full-time status for undergraduate students and fulfills a degree requirement for the Bachelor of Music Therapy degree program.

MTY with Minor in Psychology - ACCELERATED PLAN

Course	Title	Credit Hours
Year One		
Fall		
MED 10	Mus Therapy Forum	0
Principal Instrument Lesson/Voice Lesson & Studio Class		2
MTC 140, MSJ 140, or MMI 140	Experiential Musicianship I or Experiential Musicianship I or Experiential Musicianship I	3
MTC 107, MSJ 107, or MMI 107	Skills Lab I or Skills Lab I or Skills Lab I	1
MCY 140	Experiencing Music	3
MKP 140	Keyboard Studies I	1
MED 159	Introduction to Music Therapy	2
ENG 105	English Composition I	3
UMX 100	The University of Miami Experience	0
Ensemble		1
	Credit Hours	16
Spring		
Principal Instrument Lesson/Voice Lesson & Studio Class		2
MED 10	Mus Therapy Forum	0
MTC 141, MSJ 141, or MMI 141	Experiential Musicianship II or Experiential Musicianship II or Experiential Musicianship II	3
MTC 108, MSJ 108, or MMI 108	Skills Lab II or Skills Lab II or Skills Lab II	1
MKP 141	Keyboard Studies II	1
MED 149	Functional Techniques in Music Therapy I	2
ENG 106	English Composition II	3
MTH 101	Algebra for College Students	3

DAN 290	Introduction to Dance-Movement Therapy	2
Ensemble		1
	Credit Hours	18
Year Two		
Fall		
MED 10	Mus Therapy Forum	0
Principal Instrument Lesson/Voice Lesson & Studio Class		2
MTC 240, MSJ 240, or MMI 240	Experiential Musicianship III or Experiential Musicianship III or Experiential Musicianship III	3
MTC 207, MSJ 207, or MMI 207	Skills Lab III or Skills Lab III or Skills Lab III: American Song Traditions	1
MED 244 or MVP 250	Vocal Techniques or Lyric Diction for Singers - English and Italian	1-2
MED 259	Music Therapy Pre-Practicum	2
MED 359	Music Therapy Practicum 1A	1
PSY 110	Introduction to Psychology	3
STEM Cognate		3
Ensemble		1
	Credit Hours	17-18
Spring		
MED 10	Mus Therapy Forum	0
Principal Instrument Lesson/Voice Lesson & Studio Class		2
MTC 241, MSJ 241, or MMI 241	Experiential Musicianship IV or Experiential Musicianship IV or Experiential Musicianship IV	3
MTC 208, MSJ 208, or MMI 208	Skills Lab IV or Skills Lab IV or Skills Lab IV: American Song Traditions	1
MCY 141	Musical Traditions	3
MED 242	Percussion Techniques	1
MED 360	Music therapy Practicum 1B	1
PSY 230	Child and Adolescent Development	3
PSY 240	Abnormal Psychology	3
Ensemble		1
	Credit Hours	18
Year Three		
Fall		
MED 10	Mus Therapy Forum	0
Principal Instrument Lesson/Voice Lesson & Studio Class		2
MED 249	Functional Techniques in Music Therapy II	2
MED 361	Music Therapy Practicum 2A	1
MED 576	Music and Development	3
MIP 181	Instrumental Conducting I	2
MMI 250	Essential Technologies for Musicians	3
PSY 292	Introduction to Biobehavioral Statistics for Non-Majors	3
Ensemble		1
	Credit Hours	17
Spring		
MED 10	Mus Therapy Forum	0
Principal Instrument Lesson/Voice Lesson & Studio Class		2
MED 362	Music Therapy Practicum 2B	1

MED 545	Music in Rehabilitation	3
MED 546	Music in Psychotherapy	3
MED 562	Psychology of Music I	3
PSY 345	Abnormal Child Psychology	3
Ensemble		1
	Credit Hours	16
Year Four		
Fall		
MED 10	Mus Therapy Forum	0
MMI 310	Music Business and Entrepreneurship for Musicians	3
MED 363	Music Therapy Practicum 3A	1
MED 551	Music Therapy Research Methods	3
MED 559	Internship in Music Therapy	3
MTC Arranging/Orchestration Elective		3
STEM Cognate		3
STEM Cognate		3
Ensemble		1
	Credit Hours	20
Spring		
MED 560	Internship in Music Therapy II ¹	0
	Credit Hours	0
	Total Credit Hours	122-123

¹ Students enrolling in MED 560 Music Therapy Internship II are considered full-time. Health insurance is mandatory but can be waived depending on visa status. International students must apply for CPT (Curricula Practical Training). This course confers full-time status for undergraduate students and fulfills a degree requirement for the Bachelor of Music Therapy degree program.

Music Media and Industry (MMI)

Department code: MMI.

The Department of Music Media and Industry offers degree programs in the following areas:

- B.M. in Music Business Entertainment Industries with a Business, Communications, or Entertainment-Related Minor.
- B.M. in Musicianship, Artistry Development, and Entrepreneurship with a Minor in Music Business and Entertainment Industries.
- B.M. in Professional Studies
- B.S. in Music Engineering Technology with a Minor in Computer or Electrical Engineering
- B.M. in Media Writing and Production

Majors

- B.M. in Music Business Entertainment Industries with a Business, Communications, or Entertainment-Related Minor (p. 810)
- B.M. in Musicianship, Artistry Development, and Entrepreneurship with a Minor in Music Business and Entertainment Industries (p. 817)
- B.M. in Professional Studies (p. 822)
- B.S. in Music Engineering Technology with a Minor in Computer or Electrical Engineering (p. 826)
- B.M. in Media Writing and Production (p. 841)

Minors

- Creative American Music Minor (p. 839)
- Music Business and Entertainment Industries Minor (p. 840)

B.M. in Music Business Entertainment Industries

Introduction

The Bachelor of Music in Music Business and Entertainment Industries is a professional degree program designed to prepare qualified musicians for careers in the business management, financial, legal, and artistic areas of the music industry. Music, business, and music business courses are

combined in an interdisciplinary curriculum, which includes a minor in Marketing, Business Law, Management, Finance, Business Technology, Public Relations, or other approved business-related area. For curriculum requirements see Minors for Non-Business Students. (p. 372)

Students must maintain a minimum GPA of 2.70 to remain in the MBEI Program.

Please see below for additional goals and degree requirements.

Educational Objectives

- Students will have a conceptual understanding of the structures and inter-relationships of the music and entertainment industries.
- Students will acquire knowledge and understanding of the vocabulary and terminology associated with the music and entertainment industries.
- Students will be able to comprehend and apply basic music publishing procedures including copyright administration, mechanical licensing and royalties distribution.
- Students will know how to promote and sell a music industry product.
- Students will have an understanding of the performing artist as a major economic factor in the marketplace.
- Students will develop a set of skills applicable to the music industry including: financial and project management, create and enact marketing and promotional plans, the ability to write basic agreements and licenses, and copyright management and administration.

Degree Requirements with a Business, Communications, or Entertainment-Related Minor

Code	Title	Credit Hours
General Education Courses MBEI		
ENG 105	English Composition I	3
ENG 106	English Composition II	3
MTH 113	Finite Mathematics	3
ST_XXXX	STEM Cognate (some approved minors satisfy STEM)	9
PS_XXXX	People & Society Cognate (most approved minors satisfy P&S)	0
UMX 100	The University of Miami Experience	0
	Advanced Writing and Communication Skills (3 courses) AWC. See details below.	0
Total General Education credits = 18		
Experiential Music Curriculum Core Courses ¹		
MMI 14	Music Industry Forum (each semester in residence)	0
MXX XX1 (Level 1)	Principal Instrument Lesson & Studio Class (semesters 1-4, 2 credit hours)	8
MXX XX3 (Level 3)	Principal Instrument Lesson & Studio Class (semesters 5-6, 2 credit hours)	4
MTC 140 or MSJ 140 or MMI 140	Experiential Musicianship I	3
MTC 141 or MSJ 141 or MMI 141	Experiential Musicianship II	3
MTC 240 or MSJ 240 or MMI 240	Experiential Musicianship III	3
MTC 241 or MSJ 241 or MMI 241	Experiential Musicianship IV	3
MKP 140	Keyboard Studies I	1
MTC 107 or MSJ 107 or MMI 107	Skills Lab I (co-requisite MTC 140/MSJ 140/MMI 140)	1
MTC 108 or MSJ 108	Skills Lab II (co-requisite MTC 141/MSJ 141/MMI 141)	1

or MMI 108	Skills Lab II	
MTC 207	Skills Lab III (co-requisite MTC 240/MSJ 240/MMI 240)	1
or MSJ 207	Skills Lab III	
or MMI 207	Skills Lab III: American Song Traditions	
MTC 208	Skills Lab IV (co-requisite MTC 241/MSJ 241/MMI 241)	1
or MSJ 208	Skills Lab IV	
or MMI 208	Skills Lab IV: American Song Traditions	
MKP 141	Keyboard Studies II	1
MCY 140	Experiencing Music	3
MCY 141	Musical Traditions (AWC)	3
MMI 250	Essential Technologies for Musicians	3
MMI 573	Music Publishing	3
MIP/MSJ/MMI/MVP:Ensembles (6 semesters of 1 credit hour)		6
Total credits for EMC Core courses = 48		
Courses in the MBEI Major		
MCY/MTC 300+	Musicology or Music Theory 300+ elective	3
MMI 173	Introduction to the Music Business	3
MMI 274	Introduction to Music Copyright Law	3
MMI 378	Music Business Agreements	3
MMI 537	Recorded Music Operations	3
MMI XXX	Elective	3
MMI XXX	Elective	3
MMI XXX	Elective	3
Select one of the following 3 AWC courses:		3
ENG 230	Advanced Professional Communication (AWC)	
COS 333	Business Communication (AWC)	
ENG 331	Legal Writing (AWC)	
	Minor Course (approved minor required)	3
	Minor Course (approved minor required)	3
	Business Elective (may satisfy minor course requirement)	3
	Business Elective (may satisfy minor course requirement)	3
	Minor Course or Elective	3
	Minor Course or Elective	3
	Minor Course or Elective	3
	Minor Course or Elective	3
	Minor Course or Elective	6
Total credits for courses in the major = 54		
Total Credit Hours		123

¹ EMC core courses require a grade of "C" or higher. Lessons require a grade of "B-" or higher.

Advanced Writing and Communication Skills

Courses

All students are required to successfully complete 3 Advanced Writing and Communication Skills (AWC) courses. Student degree requirements will include courses that meet the desired communication outcomes in evaluated and revised writing, speaking, stage presence, and audience engagement.

All music students will successfully complete:

1. MCY 141 Musical Trends and Traditions, which will include substantial evaluated and revised writing components.
2. MMI 537 Recorded Music Operations, which will include evaluated communication skills in attracting an audience, engaging an audience during performance, and preparing program notes or similar media as appropriate to the medium/venue.

3. ENG 230 Advanced Business Communications, COS 333 Business Communication, or ENG 331 Legal Writing which will include discipline specific communication skills.

Assessment

There will be at least 2 specific assessments in each Advanced Communications Skills course for communications or writing equivalent to 4000 words, evaluated and revised.

Suggested Plan of Study with a Required Minor in Business, Communications, or Entertainment

Course	Title	Credit Hours
Year One		
Fall		
MMI 14	Music Industry Forum	0
Principal Instrument/ Voice Lesson & Studio Class		2
MTC 140, MSJ 140, or MMI 140	Experiential Musicianship I or Experiential Musicianship I or Experiential Musicianship I	3
MTC 107, MSJ 107, or MMI 107	Skills Lab I or Skills Lab I or Skills Lab I	1
MCY 140	Experiencing Music	3
MKP 140	Keyboard Studies I	1
ENG 105	English Composition I	3
UMX 100	The University of Miami Experience	0
Ensemble		1
		Credit Hours
		14
Spring		
MMI 14	Music Industry Forum	0
Principal Instrument/Voice Lesson & Studio Class		2
MCY 141	Musical Traditions	3
MTC 141, MSJ 141, or MMI 141	Experiential Musicianship II or Experiential Musicianship II or Experiential Musicianship II	3
MTC 108, MSJ 108, or MMI 108	Skills Lab II or Skills Lab II or Skills Lab II	1
MKP 141	Keyboard Studies II	1
MMI 173	Introduction to the Music Business	3
ENG 106	English Composition II	3
Ensemble		1
		Credit Hours
		17
Year Two		
Fall		
MMI 14	Music Industry Forum	0
Principal Instrument/Voice Lesson & Studio Class		2
MTC 240, MSJ 240, or MMI 240	Experiential Musicianship III or Experiential Musicianship III or Experiential Musicianship III	3
MTC 207, MSJ 207, or MMI 207	Skills Lab III or Skills Lab III or Skills Lab III: American Song Traditions	1
MMI 274	Introduction to Music Copyright Law	3
Business Elective		3
MTH 113	Finite Mathematics	3

Ensemble		1
	Credit Hours	16
Spring		
MMI 14	Music Industry Forum	0
Principal Instrument/Voice Lesson & Studio Class		2
MTC 241, MSJ 241, or MMI 241	Experiential Musicianship IV or Experiential Musicianship IV or Experiential Musicianship IV	3
MTC 208, MSJ 208, or MMI 208	Skills Lab IV or Skills Lab IV or Skills Lab IV: American Song Traditions	1
MMI 250	Essential Technologies for Musicians	3
MMI 537	Recorded Music Operations	3
Minor Course or Elective		3
Ensemble		1
	Credit Hours	16
Year Three		
Fall		
MMI 14	Music Industry Forum	0
Principal Instrument/Voice Lesson & Studio Class		2
MMI 378	Music Business Agreements	3
MTC or MCY Elective 300 level or higher		3
Minor Course (P&S Cognate)		3
STEM Cognate		3
Ensemble		1
	Credit Hours	15
Spring		
MMI 14	Music Industry Forum	0
Principal Instrument/Voice Lesson & Studio Class		2
MMI 573	Music Publishing	3
Select one of the following Advanced Writing Communication Courses:		3
ENG 230	Advanced Professional Communication	
ENG 331	Legal Writing	
COS 333	Business Communication	
Minor Course (P&S Cognate)		3
Minor Course or Elective		3
Ensemble		1
	Credit Hours	15
Year Four		
Fall		
MMI 14	Music Industry Forum	0
MMI XXX	Elective	3
MMI XXX	Elective	3
Business Elective		3
Minor Course or Elective (P&S Cognate)		3
STEM Cognate		3
	Credit Hours	15
Spring		
MMI 14	Music Industry Forum	0
MMI XXX	Elective	3
Minor Course or Elective		3
Minor Course or Elective		3

STEM Cognate		3
	Credit Hours	12
	Total Credit Hours	120

Music Business & Entertainment Industries with CAM and Required Minor in Business, Communications, or Entertainment

Course	Title	Credit Hours
Year One		
Fall		
MMI 14	Music Industry Forum	0
Principal Instrument/Voice Lesson & Studio Class		2
MCY 140	Experiencing Music	3
MTC 140, MSJ 140, or MMI 140	Experiential Musicianship I or Experiential Musicianship I or Experiential Musicianship I	3
MTC 107, MSJ 107, or MMI 107	Skills Lab I or Skills Lab I or Skills Lab I	1
MKP 140	Keyboard Studies I	1
ENG 105	English Composition I	3
UMX 100	The University of Miami Experience	0
Ensemble		1
	Credit Hours	14
Spring		
MMI 14	Music Industry Forum	0
Principal Instrument/Voice Lesson & Studio Class		2
MCY 141	Musical Traditions	3
MTC 141, MSJ 141, or MMI 141	Experiential Musicianship II or Experiential Musicianship II or Experiential Musicianship II	3
MTC 108, MSJ 108, or MMI 108	Skills Lab II or Skills Lab II or Skills Lab II	1
MKP 141	Keyboard Studies II	1
MMI 173	Introduction to the Music Business	3
ENG 106	English Composition II	3
Ensemble		1
	Credit Hours	17
Year Two		
Fall		
MMI 14	Music Industry Forum	0
Principal Instrument/ Voice Lesson & Studio Class		2
MCY 221	Anglo-American Song Traditions (CAM minor)	3
MTC 240, MSJ 240, or MMI 240	Experiential Musicianship III or Experiential Musicianship III or Experiential Musicianship III	3
MTC 207, MSJ 207, or MMI 207	Skills Lab III (CAM minor) or Skills Lab III or Skills Lab III: American Song Traditions	1
MMI 274	Introduction to Music Copyright Law	3
MTH 113	Finite Mathematics	3
Ensemble		1
	Credit Hours	16

Spring		
MMI 14	Music Industry Forum	0
Principal Instrument/Voice Lesson & Studio Class		2
MTC 241, MSJ 241, or MMI 241	Experiential Musicianship IV or Experiential Musicianship IV or Experiential Musicianship IV	3
MTC 208, MSJ 208, or MMI 208	Skills Lab IV (CAM minor) or Skills Lab IV or Skills Lab IV: American Song Traditions	1
MCY 222	African-American Song Traditions (CAM minor)	3
MMI 250	Essential Technologies for Musicians	3
MMI 537	Recorded Music Operations	3
Ensemble		1
Credit Hours		16
Year Three		
Fall		
MMI 14	Music Industry Forum	0
Principal Instrument/ Voice Lesson & Studio Class		2
MMI 307	Skills Lab V: American Pop (CAM minor) ¹	1
MMI 320	Contemporary Lyric Writing (CAM minor)	3
MMI 378	Music Business Agreements	3
Minor Course (P&S Cognate)		3
STEM Cognate		3
Ensemble		1
Credit Hours		16
Spring		
MMI 14	Music Industry Forum	0
Principal Instrument/Voice Lesson & Studio Class		2
MMI 308	Skills Lab VI: American Pop (CAM minor) ¹	1
MMI 573	Music Publishing	3
Select one of the following Advanced Writing Communication Courses:		3
ENG 230	Advanced Professional Communication	
ENG 331	Legal Writing	
COS 333	Business Communication	
Minor Course (P&S Cognate)		3
Ensemble		1
Credit Hours		13
Year Four		
Fall		
MMI 14	Music Industry Forum	0
MCY 311	Modern American Pop Music (CAM minor)	3
Business Elective		3
Minor Course or Elective		3
MMI XXX		3
STEM Cognate		3
Credit Hours		15
Spring		
MMI 14	Music Industry Forum	0
MMI 445	Senior Project/Portfolio (CAM minor) ¹	1
Minor Course or Elective		3
Business Elective		3
Minor Course or Elective (P&S Cognate)		3

STEM Cognate		3
	Credit Hours	13
	Total Credit Hours	120

¹ MMI 307, MMI 308, and MMI 445 will satisfy one MMI Elective requirement.

B.M. in Musicianship, Artistry Development, and Entrepreneurship

The MADE major allows the freedom and flexibility for students to focus on their preferred areas of emphasis, with outcomes that lead toward a viable career of their own choosing.

Educational Objectives

Upon graduation, students will have:

- a highly competitive skill set in musicianship, artistry, and entrepreneurship, including performing, writing, arranging/orchestration, recording, musical direction, marketing and promotion, copyright management and administration, as well as the ability to write basic agreements and licenses;
- a diverse and applied understanding of the music industry;
- the ability to create and execute a sound business plan, as well as a portfolio/EPK that best showcases their brand identity.
- a minor in Music Business and Entertainment Industry.

Degree Requirements with a Music Business and Entertainment Industry Minor

Code	Title	Credit Hours
General Education Courses MADE		
ENG 105	English Composition I	3
ENG 106	English Composition II	3
MTH 113	Finite Mathematics	3
ST_XXXX	STEM Cognate (some approved minors satisfy STEM)	9
PS_XXXX	People & Society Cognate (Satisfied by MBEI minor. Students will be automatically declared as having satisfied this requirement upon successful completion.)	0
UMX 100	The University of Miami Experience	0
	Advanced Writing and Communication Skills (3 courses) AWC. See details below.	0
Total General Education credits = 18		
Experiential Music Curriculum Core Courses ¹		
MMI 15	Made Forum	0
MMI XX1	Principal Instrument Lesson & Studio Class Level 1 (semesters 1-4, 2 credit hours)	8
MMI XX3	Principal Instrument Lesson & Studio Class Level 3 (semesters 5-6, 2 credit hours)	4
MMI 140 & MMI 107	Experiential Musicianship I and Skills Lab I	4
MMI 141 & MMI 108	Experiential Musicianship II and Skills Lab II	4
MMI 240 & MMI 207	Experiential Musicianship III and Skills Lab III: American Song Traditions	4
MMI 241 & MMI 208	Experiential Musicianship IV and Skills Lab IV: American Song Traditions	4
MKP 140	Keyboard Studies I	1
MKP 141	Keyboard Studies II	1
MCY 140	Experiencing Music	3
MCY 141	Musical Traditions (AWC)	3
MMI 173 or MMI 310	Introduction to the Music Business Music Business and Entrepreneurship for Musicians	3

MMI 250	Essential Technologies for Musicians	3
Ensembles	(semesters 1-6, 1 credit hour)	6
Total credits for EMC Core courses = 48		
Courses in the MADE Major		
MMI XX3	Principal Instrument/Voice Lesson & Studio Class Level 3 (semesters 7-8, 2 credit hours)	4
Ensembles or Skills Ensembles	(4 semesters, 1 credit hour)	4
MMI 274	Introduction to Music Copyright Law	3
Select three Music Business Courses from the following:		
MMI 378	Music Business Agreements	
MMI 530	Entrepreneurship for Musicians	
MMI 537	Recorded Music Operations	
MMI Elective		
MMI 315	Contemporary Songwriting I	3
MMI 543	Music Marketing	3
MMI 445	Senior Project/Portfolio (AWC)	1
MTC 404	Live Performance Musical Direction	3
COS 333	Business Communication	3
or ENG 230	Advanced Professional Communication	
or ENG 331	Legal Writing	
MXX XXX	Approved Arranging/Orchestration Elective	3
MXX XXX	Approved Music Electives (200 level or higher)	9
Approved Electives		
Total credits for courses in the major = 54		
Total Credit Hours		120

¹ *EMC core courses require a grade of "C" or higher. Lessons require a grade of "B-" or higher*

Advanced Writing and Communication Skills

Courses

All students are required to successfully complete 3 Advanced Writing and Communication Skills (AWC) courses. Student degree requirements will include courses that meet the desired communication outcomes in evaluated and revised writing, speaking, stage presence, and audience engagement.

All music students will successfully complete:

- MCY 141 Musical Trends and Traditions, which will include substantial evaluated and revised writing components.
- MMI 445 Senior Project/Portfolio, this course is the capstone for both the CAM and MADE programs. Students will develop and compile a portfolio of creative works that showcase their individual artistry, including but not limited to recordings, videos, songs, scores, and/or other applicable media elements. Students will also be required to organize a public performance/showcase their works. Prerequisite: MADE Major or CAM Minor
- COS 333 Business Communication or ENG 200+ course (recommended courses ENG 230 or ENG 331)

Assessment

There will be at least 2 specific assessments in each Advanced Communications Skills course for communications or writing equivalent to 4000 words, evaluated and revised.

Plan of Study with Music Business and Entertainment Industry Minor

Course	Title	Credit Hours
Year One		
Fall		
MMI 15	Made Forum	0
MMI XX1	Principal Instrument/Voice Lesson & Studio Class	2
MMI 140 & MMI 107	Experiential Musicianship I and Skills Lab I	4

MCY 140	Experiencing Music	3
MKP 140	Keyboard Studies I	1
ENG 105	English Composition I	3
UMX 100	The University of Miami Experience	0
Ensemble		1
	Credit Hours	14
Spring		
MMI 15	Made Forum	0
MMI XX1 Principal Instrument/Voice Lesson & Studio Class		2
MMI 141 & MMI 108	Experiential Musicianship II and Skills Lab II	4
MCY 141	Musical Traditions (AWC)	3
MKP 141	Keyboard Studies II	1
ENG 106	English Composition II	3
MTH 113	Finite Mathematics	3
Ensemble		1
	Credit Hours	17
Year Two		
Fall		
MMI 15	Made Forum	0
MMI XX1 Principal Instrument/Voice Lesson & Studio Class		2
MMI 240 & MMI 207	Experiential Musicianship III and Skills Lab III: American Song Traditions	4
Approved Music Elective (200 level or higher)		3
MMI 173 or 310	Introduction to the Music Business (required minor) or Music Business and Entrepreneurship for Musicians	3
STEM Cognate		3
Ensemble		1
	Credit Hours	16
Spring		
MMI 15	Made Forum	0
MMI XX1 Principal Instrument/Voice Lesson & Studio Class		2
MMI 241 & MMI 208	Experiential Musicianship IV and Skills Lab IV: American Song Traditions	4
Approved Music Elective (200 level or higher)		3
MMI 274	Introduction to Music Copyright Law (required minor)	3
Ensemble		1
MMI 250	Essential Technologies for Musicians	3
	Credit Hours	16
Year Three		
Fall		
MMI 15	Made Forum	0
MMI XX3 Principal Instrument/Voice Lesson & Studio Class		2
Approved Arranging/Orchestration Elective		3
Approved Music Elective (200 level or higher)		3
Choose one of the following:		3
MMI 378	Music Business Agreements (required minor)	
MMI 530	Entrepreneurship for Musicians	
MMI 537	Recorded Music Operations	
MMI Elective		
STEM Cognate		3
Ensemble		1

Ensemble		1
	Credit Hours	16
Spring		
MMI 15	Made Forum	0
MMI XX3 Principal Instrument/Voice Lesson & Studio Class		2
MMI 315	Contemporary Songwriting I	3
Approved Elective		3
Choose one of the following:		3
MMI 378	Music Business Agreements (required minor)	
MMI 530	Entrepreneurship for Musicians	
MMI 537	Recorded Music Operations	
MMI Elective		
Ensemble		1
Ensemble		1
	Credit Hours	13
Year Four		
Fall		
MMI 15	Made Forum	0
MMI XX3 Principal Instrument/Voice Lesson & Studio Class		2
ENG XXX	ENG 200+ or COS 333 (recommended courses ENG 230 or ENG 331)	3
Choose one of the following:		3
MMI 378	Music Business Agreements (required minor)	
MMI 530	Entrepreneurship for Musicians	
MMI 537	Recorded Music Operations	
MMI Elective		
Ensemble		1
Approved Elective		3
STEM Cognate		3
	Credit Hours	15
Spring		
MMI 15	Made Forum	0
MMI XX3 Principal Instrument/Voice Lesson & Studio Class		2
MTC 404	Live Performance Musical Direction	3
MMI 445	Senior Project/Portfolio (/Business Plan (AWC))	1
MMI 543	Music Marketing	3
Approved Elective		3
Ensemble		1
	Credit Hours	13
	Total Credit Hours	120

Musicianship, Artistry Development & Entrepreneurship with Music Business & Entertainment Industry and Creative American Music (CAM) Minors

Course	Title	Credit Hours
Year One		
Fall		
MMI 15	Made Forum	0
MMI XX1 Principal Instrument/Voice Lesson & Studio Class		2
MMI 140 & MMI 107	Experiential Musicianship I and Skills Lab I	4
MCY 140	Experiencing Music	3
MKP 140	Keyboard Studies I	1
ENG 105	English Composition I	3

UMX 100	The University of Miami Experience	0
Ensemble		1
	Credit Hours	14
Spring		
MMI 15	Made Forum	0
MMI XX1	Principal Instrument/Voice Lesson & Studio Class	2
MMI 141 & MMI 108	Experiential Musicianship II and Skills Lab II	4
MCY 141	Musical Traditions (AWC)	3
MKP 141	Keyboard Studies II	1
ENG 106	English Composition II	3
MTH 113	Finite Mathematics	3
Ensemble		1
	Credit Hours	17
Year Two		
Fall		
MMI 15	Made Forum	0
MMI XX1	Principal Instrument/Voice Lesson & Studio Class	2
MMI 240 & MMI 207	Experiential Musicianship III and Skills Lab III: American Song Traditions	4
MMI 250	Essential Technologies for Musicians	3
MCY 221	Anglo-American Song Traditions	3
MMI 310 or 173	Music Business and Entrepreneurship for Musicians (required minor) or Introduction to the Music Business	3
Ensemble		1
	Credit Hours	16
Spring		
MMI 15	Made Forum	0
MMI XX1	Principal Instrument/Voice Lesson & Studio Class	2
MMI 241 & MMI 208	Experiential Musicianship IV and Skills Lab IV: American Song Traditions	4
MMI 274	Introduction to Music Copyright Law (required minor)	3
MCY 222	African-American Song Traditions	3
STEM Cognate		3
Ensemble		1
	Credit Hours	16
Year Three		
Fall		
MMI 15	Made Forum	0
MMI XX3	Principal Instrument/Voice Lesson & Studio Class	2
MMI 307	Skills Lab V: American Pop ²	1
MTC/MSJ/MMI Approved	Orchestration Elective	3
MMI 320	Contemporary Lyric Writing ¹	3
MCY 311	Modern American Pop Music	3
Choose one of the following:		3
MMI 378	Music Business Agreements (required minor)	
MMI 530	Entrepreneurship for Musicians	
MMI 537	Recorded Music Operations	
MMI Elective		
Ensemble		1
	Credit Hours	16
Spring		
MMI 15	Made Forum	0

MMI XX3 Principal Instrument/Voice Lesson & Studio Class		2
MMI 308	Skills Lab VI: American Pop ²	1
Approved Elective		3
Choose one of the following:		3
MMI 378	Music Business Agreements (required minor)	
MMI 530	Entrepreneurship for Musicians	
MMI 537	Recorded Music Operations	
MMI Elective		
STEM Cognate		3
Ensemble		1
	Credit Hours	13
Year Four		
Fall		
MMI 15	Made Forum	0
MMI XX3 Principal Instrument/Voice Lesson & Studio Class		2
MMI 543	Music Marketing	3
ENG XXX	ENG 200+ or COS 333 (recommended courses ENG 230 or ENG 331)	3
STEM Cognate		3
Choose one of the following:		3
MMI 378	Music Business Agreements (required minor)	
MMI 530	Entrepreneurship for Musicians	
MMI 537	Recorded Music Operations	
MMI Elective		
Ensemble		1
	Credit Hours	15
Spring		
MMI 15	Made Forum	0
MMI XX3 Principal Instrument/Voice Lesson & Studio Class		2
MTC 404	Live Performance Musical Direction	3
MMI 445	Senior Project/Portfolio (/Business Plan (AWC))	1
Approved Elective		3
Approved Elective		3
Ensemble		1
	Credit Hours	13
	Total Credit Hours	120

¹ MMI 320 substitutes for MMI 315.

² MMI 307/MMI 308 will count towards ensemble requirements.

B.M. in Professional Studies

The Bachelor of Music in Professional Studies will allow students to work closely with an advisor to develop individual goals and design a personalized program of study. While most music degree programs are highly prescriptive, the MPRO will allow students to tailor the curriculum to match their diverse personal and professional goals, as well as adjust to the rapidly changing music industry.

Students will select approved electives with the assistance of a guidance committee consisting of their assigned Faculty Advisor(s), Senior Academic Advisor, and the Associate Dean for Undergraduate Studies.

Curriculum Requirements

Code	Title	Credit Hours
General Education Courses MPRO		
ENG 105	English Composition I	3
ENG 106	English Composition II	3
MTH 113	Finite Mathematics	3

ST_XXXX	STEM Cognate (a STEM minor will satisfy this cognate)	9
PS_XXXX	People & Society Cognate (a P&S minor will satisfy this cognate)	9
UMX 100	The University of Miami Experience	0
	Advanced Writing and Communication Skills (3 courses) See details below.	0
Total General Education credits = 27		
Experiential Music Curriculum Core Courses MPRO ¹		
	Program forum as assigned (8 semesters)	0
MXX XX1 (Level 1)	Principal Instrument Lesson & Studio Class (semesters 1-4, 2 credit hours)	8
MXX XX3 (Level 3)	Principal Instrument Lesson & Studio Class (semesters 5-6, 2 credit hours)	4
MTC 140 or MSJ 140 or MMI 140	Experiential Musicianship I	3
MTC 141 or MSJ 141 or MMI 141	Experiential Musicianship II	3
MTC 240 or MSJ 240 or MMI 240	Experiential Musicianship III	3
MTC 241 or MSJ 241 or MMI 241	Experiential Musicianship IV	3
MTC 107 or MSJ 107 or MMI 107	Skills Lab I (co-requisite MTC 140/MSJ 140/MMI 140)	1
MTC 108 or MSJ 108 or MMI 108	Skills Lab II (co-requisite MTC 141/MSJ 141/MMI 141)	1
MTC 207 or MSJ 207 or MMI 207	Skills Lab III (co-requisite MTC 240/MSJ 240/MMI 240)	1
MTC 208 or MSJ 208 or MMI 208	Skills Lab IV (co-requisite MTC 241/MSJ 241/MMI 241)	1
MKP 140	Keyboard Studies I	1
MKP 141	Keyboard Studies II	1
MCY 140	Experiencing Music	3
MCY 141 or MCY 341	Musical Traditions	3
MMI 250	Music of the Mediaeval, Renaissance, and Baroque Periods	3
MMI 310	Essential Technologies for Musicians	3
MIP/MSJ/MMI XXX	Music Business and Entrepreneurship for Musicians	3
	Ensembles (semesters 1-6, 1 credit hour)	6
Total credits for EMC Core courses = 48		
Courses in the Major MPRO		
	Ensembles (semesters 7-8, 1 credit hour)	2
MXX XX3	(Level 3) Principal Instrument Lesson & Studio Class (semesters 7-8, 2 credit hours)	4
MCY/MTC 300+	Elective	3
MCY/MTC 300+	Elective	3
	Approved Music Elective (emphasis area)	3
	Approved Music Elective (emphasis area)	3

Approved Music Elective (emphasis area)	3
Approved Music Elective	3
Approved Music Elective	3
Approved Music Elective	3
Elective	3
Elective	3
Elective	3
Elective	3
Elective	3
Total credits for courses in the major = 45	
Total Credit Hours	120

Plan of Study

Course	Title	Credit Hours
Year One		
Fall		
Forum (in assigned area)		0
Principal Instrument/Voice Lesson & Studio Class (Level 1)		2
MTC 140, MSJ 140, or MMI 140	Experiential Musicianship I or Experiential Musicianship I or Experiential Musicianship I	3
MKP 140	Keyboard Studies I	1
MTC 107, MSJ 107, or MMI 107	Skills Lab I or Skills Lab I or Skills Lab I	1
MCY 140	Experiencing Music	3
ENG 105	English Composition I	3
Ensemble		1
UMX 100	The University of Miami Experience	0
	Credit Hours	14
Spring		
Forum (in assigned area)		0
Principal Instrument/Voice Lesson & Studio Class		2
MKP 141	Keyboard Studies II	1
MTC 141, MSJ 141, or MMI 141	Experiential Musicianship II or Experiential Musicianship II or Experiential Musicianship II	3
MTC 108, MSJ 108, or MMI 108	Skills Lab II or Skills Lab II or Skills Lab II	1
ENG 106	English Composition II	3
MTH 113	Finite Mathematics	3
Ensemble		1
	Credit Hours	14
Year Two		
Fall		
Forum (in assigned area)		0
Principal Instrument/Voice Lesson & Studio Class		2
MMI 250	Essential Technologies for Musicians	3
MTC 240, MSJ 240, or MMI 240	Experiential Musicianship III or Experiential Musicianship III or Experiential Musicianship III	3

MTC 207, MSJ 207, or MMI 207	Skills Lab III or Skills Lab III or Skills Lab III: American Song Traditions	1
Elective		3
People & Society Cognate		3
Ensemble		1
	Credit Hours	16
Spring		
Forum (in assigned area)		0
Principal Instrument/Voice Lesson & Studio Class		2
Elective		3
MTC 241, MSJ 241, or MMI 241	Experiential Musicianship IV or Experiential Musicianship IV or Experiential Musicianship IV	3
MTC 208, MSJ 208, or MMI 208	Skills Lab IV or Skills Lab IV or Skills Lab IV: American Song Traditions	1
Approved Music Elective (emphasis area)		3
STEM Cognate		3
Ensemble		1
	Credit Hours	16
Year Three		
Fall		
Forum (in assigned area)		0
Principal Instrument/Voice Lesson & Studio Class		2
MCY 341 or 141	Music of the Mediaeval, Renaissance, and Baroque Periods or Musical Traditions	3
Elective		3
Approved Music Elective (emphasis area)		3
People & Society Cognate		3
Ensemble		1
	Credit Hours	15
Spring		
Forum (in assigned area)		0
Principal Instrument/Voice Lesson & Studio Class		2
MCY/MTC 300+ Elective		3
Approved Music Elective		3
Approved Music Elective (emphasis area)		3
STEM Cognate		3
Ensemble		1
	Credit Hours	15
Year Four		
Fall		
Forum (in assigned area)		0
Principal Instrument/Voice Lesson & Studio Class		2
MMI 310	Music Business and Entrepreneurship for Musicians	3
Elective		3
Approved Music Elective		3
People & Society Cognate		3
Ensemble		1
	Credit Hours	15
Spring		
Forum (in assigned area)		0

Principal Instrument/Voice Lesson & Studio Class	2
MCY/MTC 300+ Elective (AWC)	3
Elective	3
Approved Music Elective	3
STEM Cognate	3
Ensemble	1
Credit Hours	15
Total Credit Hours	120

B.S. in Music Engineering Technology

Introduction

The mission of the Music Engineering Technology program is to:

1. Provide the highest quality education in the field of music engineering.
2. Promote advancements in the fidelity and creativity of music recording, production and reproduction.
3. Promote advancements in the invention, design and implementation of audio hardware and software.

The goals of the Music Engineering Technology program are to:

1. Further enhance the program's national and international stature.
2. Obtain teaching infrastructure and resources needed to provide contemporary education in the field of music engineering technology.
3. Ensure that curricular offerings are current and able to educate students in new and future theory and practice.
4. To help graduates find professional career positions.

Educational Objectives

- Understanding the theoretical basis of sound recording, processing and reproduction.
- Understanding the practice techniques used in sound recording, processing and reproduction.
- Designing and implementing original audio hardware and/or software.
- Understanding the principles of computer science (Bachelor of Music) or electrical engineering (Bachelor of Science).

The Music Engineering Technology curriculum is designed for musicians interested in pursuing a career in music recording, audio hardware and software design, and related professions in the audio, audio-video, multimedia, and internet industries. The program is interdisciplinary in nature; it includes courses in music, music engineering, computer science, electrical engineering, and mathematics. This program includes a minor in Electrical Engineering or a double major in Computer Science. Freshman students are expected to enroll in calculus, which carries a prerequisite of Trigonometry and Analytical Geometry. Prospective students are expected to have a strong background in music performance and in mathematics.

Degree Requirements with Computer Engineering Minor

Code	Title	Credit Hours
General Education Courses MUE		
ENG 105	English Composition I	3
ENG 106	English Composition II	3
MTH 161	Calculus I ³	4
	STEM Cognate satisfied with Electrical or Computer Engineering minor	0
PS_XXXX	People & Society Cognate	9
UMX 100	The University of Miami Experience	0
	Advanced Writing and Communication Skills (3 courses) See details below.	0
Total General Education credits = 19		
Experiential Music Curriculum Core Courses MUE¹		
MMI 13	Music Engineering Forum (8 semesters)	0
MXX XX1 (Level 1)	Principal Instrument Lesson & Studio Class (semesters 1-4, 2 credit hours)	8
MXX XX3 (Level 3)	Principal Instrument Lesson & Studio Class (semesters 5-6, 2 credit hours)	4

MTC 140 or MSJ 140 or MMI 140	Experiential Musicianship I Experiential Musicianship I Experiential Musicianship I	3
MTC 141 or MSJ 141 or MMI 141	Experiential Musicianship II Experiential Musicianship II Experiential Musicianship II	3
MTC 240 or MSJ 240 or MMI 240	Experiential Musicianship III Experiential Musicianship III Experiential Musicianship III	3
MTC 241 or MSJ 241 or MMI 241	Experiential Musicianship IV Experiential Musicianship IV Experiential Musicianship IV	3
MTC 107 or MSJ 107 or MMI 107	Skills Lab I (co-requisite MTC 140/MSJ 140/MMI 140) Skills Lab I Skills Lab I	1
MTC 108 or MSJ 108 or MMI 108	Skills Lab II (co-requisite MTC 141/MSJ 141/MMI 141) Skills Lab II Skills Lab II	1
MTC 207 or MSJ 207 or MMI 207	Skills Lab III (co-requisite MTC 240/MSJ 240/MMI 240) Skills Lab III Skills Lab III: American Song Traditions	1
MTC 208 or MSJ 208 or MMI 208	Skills Lab IV (co-requisite MTC 241/MSJ 241/MMI 241) Skills Lab IV Skills Lab IV: American Song Traditions	1
MKP 140	Keyboard Studies I	1
MKP 141	Keyboard Studies II	1
MCY 140	Experiencing Music	3
MCY 141	Musical Traditions (AWC)	3
MMI 151	Desktop Audio Production	3
MMI 310	Music Business and Entrepreneurship for Musicians	3
MIP/MSJ/MMI XXX	Ensembles (semesters 1-6, 1 credit hour)	6
Total credits for EMC Core courses = 48		
Courses in the MUE Major		
MMI 201	Introduction to Music Recording	3
MMI 160	Ensemble Recording Workshop I	3
MMI 161	Ensemble Recording Workshop II	3
MMI 401	Audio Electronics (AWC)	3
MMI 436	Audio Postproduction	3
MMI 502	Audio Signal Processing I	3
MMI 503	Audio Signal Processing II	3
Select two of the following Advanced Music Engineering Electives:		
MMI 460	Recital Recording and Sound Reinforcement (Recording Services) 2	
MMI 465	Internship in Music Engineering	
MMI 504	Audio Signal Processing III	
MMI 505	Current Trends in Music Engineering I	
MMI 506	Current Trends in Music Engineering II	
MMI 508	Current Trends in Music Engineering III	
MMI 510	Computational Psychoacoustics	
MMI 521	Timbral Ear Training	
CIM 353	Post Production Sound Editing and Design	
MMI 361	Acoustics	

MMI 172	Audio Design Workshop III	1
MMI 501	Transducer Theory	3
MMI 410	Music Engineering Capstone Project (AWC)	3
PHY 205	University Physics I	3
MTH 162	Calculus II ³	4
ECE 118	Introduction to Programming (required minor)	3
ECE 201	Electrical Circuit Theory	3
ECE 203	Electrical Circuits Laboratory	1
ECE 211	Logic Design (required minor)	3
ECE 212	Processors: Hardware, Software, and Interfacing (required minor)	3
ECE 218	Data Structures (required minor)	3
ECE 318	Algorithms (required minor)	3
ECE 412	Software Engineering and Architecture (either will satisfy require minor)	3
or ECE 413	Software Design and Verification	
Total credits for courses in the major = 62		
Total Credit Hours		130

¹ EMC core courses require a grade of "C" or higher. Lessons require a grade of "B- or higher.

² MMI 460 Recital Recording and Sound Reinforcement must be taken a minimum of 3 times to satisfy the Advanced MUE elective requirement.

³ Must complete calculus by end of sophomore year.

* A minimum 2.7 GPA is required to remain in the Music Engineering Technology program.

** A minimum 2.0 GPA is required in all Engineering courses taken.

Degree Requirements with Electrical Engineering Minor

Code	Title	Credit Hours
General Education Courses MUE		
ENG 105	English Composition I	3
ENG 106	English Composition II	3
MTH 161	Calculus I ³	4
	STEM Cognate satisfied with Electrical or Computer Engineering minor	0
PS_XXXX	People & Society Cognate	9
UMX 100	The University of Miami Experience	0
	Advanced Writing and Communication Skills (3 courses) See details below.	0
Total General Education credits = 19		
Experiential Music Curriculum Core Courses MUE ¹		
MMI 13	Music Engineering Forum (8 semesters)	0
MXX XX1 (Level 1)	Principal Instrument Lesson & Studio Class (semesters 1-4, 2 credit hours)	8
MXX XX3 (Level 3)	Principal Instrument Lesson & Studio Class (semesters 5-6, 2 credit hours)	4
MTC/MSJ/MMI 140	Experiential Musicianship I	3
MTC/MSJ/MMI 141	Experiential Musicianship II	3
MTC/MSJ/MMI 240	Experiential Musicianship III	3
MTC/MSJ/MMI 241	Experiential Musicianship IV	3
MTC/MSJ/MMI 107	Skills Lab I (co-requisite MTC 140/MSJ 140/MMI 140)	1
MTC/MSJ/MMI 108	Skills Lab II (co-requisite MTC 141/MSJ 141/MMI 141)	1
MTC/MSJ/MMI 207	Skills Lab III (co-requisite MTC 240/MSJ 240/MMI 240)	1
MTC/MSJ/MMI 208	Skills Lab IV (co-requisite MTC 241/MSJ 241/MMI 241)	1
MKP 140	Keyboard Studies I	1
MKP 141	Keyboard Studies II	1

MCY 140	Experiencing Music	3
MCY 141	Musical Traditions (AWC)	3
MMI 151	Desktop Audio Production	3
MMI 310	Music Business and Entrepreneurship for Musicians	3
MIP/MSJ/MMI XXX	Ensembles (semesters 1-6, 1 credit hour)	6
Total credits for EMC Core courses = 48		
Courses in the MUE Major		
MMI 201	Introduction to Music Recording	3
MMI 160	Ensemble Recording Workshop I	3
MMI 161	Ensemble Recording Workshop II	3
MMI 401	Audio Electronics (AWC)	3
MMI 436	Audio Postproduction	3
MMI 502	Audio Signal Processing I	3
MMI 503	Audio Signal Processing II	3
Select two of the following Advanced Music Engineering Electives:		6
MMI 460	Recital Recording and Sound Reinforcement (Recording Services) 2	
MMI 465	Internship in Music Engineering	
MMI 504	Audio Signal Processing III	
MMI 505	Current Trends in Music Engineering I	
MMI 506	Current Trends in Music Engineering II	
MMI 508	Current Trends in Music Engineering III	
MMI 510	Computational Psychoacoustics	
MMI 521	Timbral Ear Training	
CIM 353	Post Production Sound Editing and Design	
MMI 361	Acoustics	
MMI 172	Audio Design Workshop III	1
MMI 501	Transducer Theory	3
MMI 410	Music Engineering Capstone Project (AWC)	3
PHY 205	University Physics I	3
MTH 162	Calculus II ³	4
ECE 118	Introduction to Programming	3
ECE 201	Electrical Circuit Theory (required minor)	3
ECE 202	Electronics I (required minor)	3
ECE 203	Electrical Circuits Laboratory (required minor)	1
ECE 206	Circuits, Signals, and Systems (required minor)	3
ECE 211	Logic Design (required minor)	3
ECE 302	Electronics II (required minor)	3
Total credits for courses in the major = 60		
Total Credit Hours		127

¹ EMC core courses require a grade of "C" or higher. Lessons require a grade of "B-" or higher.

² MMI 460 Recital Recording and Sound Reinforcement must be taken a minimum of 3 times to satisfy the Advanced MUE elective requirement.

³ Must complete calculus by end of sophomore year.

* A minimum 2.7 GPA is required to remain in the Music Engineering Technology program.

** A minimum 2.0 GPA is required in all Engineering courses taken.

Advanced Writing and Communication Skills

Courses

All students are required to successfully complete 3 Advanced Writing and Communication Skills (AWC) courses. Student degree requirements will include courses that meet the desired communication outcomes in evaluated and revised writing, speaking, stage presence, and audience engagement.

All music students will successfully complete:

1. MCY 141 Musical Trends and Traditions, which will include substantial evaluated and revised writing components.
MMI 410 Music Engineering Capstone Project, which will include evaluated communication skills in attracting an audience, engaging an audience during performance, and preparing program notes or similar media as appropriate to the medium/venue.
MMI 401 Audio Electronics, which will include discipline specific communication skills.

Assessment

There will be at least 2 specific assessments in each Advanced Communications Skills course for communications or writing equivalent to 4000 words, evaluated and revised.

Plan of Study with Computer Engineering Minor

Course	Title	Credit Hours
Year One		
Fall		
MMI 13	Music Engineering Forum	0
Principal Instrument/ Voice Lesson & Studio Class		2
MTC 140, MSJ 140, or MMI 140	Experiential Musicianship I or Experiential Musicianship I or Experiential Musicianship I	3
MTC 107, MSJ 107, or MMI 107	Skills Lab I or Skills Lab I or Skills Lab I	1
MKP 140	Keyboard Studies I	1
MMI 201	Introduction to Music Recording	3.00
ENG 105	English Composition I	3
MTH 161	Calculus I ²	4
UMX 100	The University of Miami Experience	0
Ensemble ¹		1
Credit Hours		18
Spring		
MMI 13	Music Engineering Forum	0
Principal Instrument/ Voice Lesson & Studio Class		2
MTC 141, MSJ 141, or MMI 141	Experiential Musicianship II or Experiential Musicianship II or Experiential Musicianship II	3
MTC 108, MSJ 108, or MMI 108	Skills Lab II or Skills Lab II or Skills Lab II	1
MKP 141	Keyboard Studies II	1
MMI 160	Ensemble Recording Workshop I	3
ENG 106	English Composition II	3
MTH 162	Calculus II	4
Ensemble ¹		1
Credit Hours		18
Year Two		
Fall		
MMI 13	Music Engineering Forum	0
Principal Instrument/ Voice Lesson & Studio Class		2
MTC 240, MSJ 240, or MMI 240	Experiential Musicianship III or Experiential Musicianship III or Experiential Musicianship III	3
MTC 207, MSJ 207, or MMI 207	Skills Lab III or Skills Lab III or Skills Lab III: American Song Traditions	1

MMI 401	Audio Electronics	3.00
ECE 118	Introduction to Programming (required minor)	3
ECE 201	Electrical Circuit Theory	3
Ensemble		1
	Credit Hours	16
Spring		
MMI 13	Music Engineering Forum	0
Principal Instrument/ Voice Lesson & Studio Class		2
MTC 241, MSJ 241, or MMI 241	Experiential Musicianship IV or Experiential Musicianship IV or Experiential Musicianship IV	3
MTC 208, MSJ 208, or MMI 208	Skills Lab IV or Skills Lab IV or Skills Lab IV: American Song Traditions	1
MMI 161	Ensemble Recording Workshop II	3
ECE 203	Electrical Circuits Laboratory	1
ECE 218	Data Structures (required minor)	3
PHY 205	University Physics I	3
Ensemble		1
	Credit Hours	17
Year Three		
Fall		
MMI 13	Music Engineering Forum	0
Principal Instrument/ Voice Lesson & Studio Class		2
MCY 140	Experiencing Music	3
MMI 151	Desktop Audio Production	3
MMI 502	Audio Signal Processing I	3
ECE 211	Logic Design (required minor)	3
Ensemble		1
	Credit Hours	15
Spring		
MMI 13	Music Engineering Forum	0
Principal Instrument/ Voice Lesson & Studio Class		2
MCY 141	Musical Traditions	3
MMI 172	Audio Design Workshop III	1
MMI 436	Audio Postproduction	3
MMI 503	Audio Signal Processing II	3
ECE 412 or 413	Software Engineering and Architecture (Either required to satisfy minor) or Software Design and Verification	3
Ensemble		1
	Credit Hours	16
Year Four		
Fall		
MMI 13	Music Engineering Forum	0
MMI 310	Music Business and Entrepreneurship for Musicians	3
Select one of the following Advanced Music Engineering Electives:		3
MMI 460	Recital Recording and Sound Reinforcement (Recording Services) ²	
MMI 465	Internship in Music Engineering	
MMI 504	Audio Signal Processing III	
MMI 505	Current Trends in Music Engineering I	
MMI 506	Current Trends in Music Engineering II	
MMI 508	Current Trends in Music Engineering III	
MMI 510	Computational Psychoacoustics	

MMI 521	Timbral Ear Training	
CIM 353	Post Production Sound Editing and Design	
MMI 361	Acoustics	
ECE 318	Algorithms (required minor)	3
People & Society Cognate		3
People & Society Cognate		3
Credit Hours		15
Spring		
MMI 13	Music Engineering Forum	0
MMI 410	Music Engineering Capstone Project	3
MMI 510, 521, CIM 353, or MMI 361	Computational Psychoacoustics or Timbral Ear Training or Post Production Sound Editing and Design or Acoustics	3
Select one of the following Advanced Music Engineering Electives:		3
MMI 460	Recital Recording and Sound Reinforcement (Recording Services) ²	
MMI 465	Internship in Music Engineering	
MMI 504	Audio Signal Processing III	
MMI 505	Current Trends in Music Engineering I	
MMI 506	Current Trends in Music Engineering II	
MMI 508	Current Trends in Music Engineering III	
MMI 501	Transducer Theory	
MMI 521	Timbral Ear Training	
CIM 353	Post Production Sound Editing and Design	
MMI 361	Acoustics	
ECE 212	Processors: Hardware, Software, and Interfacing (required minor)	3
People & Society Cognate		3
Credit Hours		15
Total Credit Hours		130

² Must complete calculus by end of sophomore year.

Plan of Study with Electrical Engineering Minor

Course	Title	Credit Hours
Year One		
Fall		
MMI 13	Music Engineering Forum	0
Principal Instrument/ Voice Lesson & Studio Class		2
MTC 140, MSJ 140, or MMI 140	Experiential Musicianship I or Experiential Musicianship I or Experiential Musicianship I	3
MTC 107, MSJ 107, or MMI 107	Skills Lab I or Skills Lab I or Skills Lab I	1
MKP 140	Keyboard Studies I	1
MMI 201	Introduction to Music Recording	3.00
ENG 105	English Composition I	3
MTH 161	Calculus I ³	4
UMX 100	The University of Miami Experience	0
Ensemble		1
Credit Hours		18
Spring		
MMI 13	Music Engineering Forum	0

Principal Instrument/ Voice Lesson & Studio Class		2
MTC 141, MSJ 141, or MMI 141	Experiential Musicianship II or Experiential Musicianship II or Experiential Musicianship II	3
MTC 108, MSJ 108, or MMI 108	Skills Lab II or Skills Lab II or Skills Lab II	1
MKP 141	Keyboard Studies II	1
MMI 160	Ensemble Recording Workshop I	3
ENG 106	English Composition II	3
MTH 162	Calculus II ³	4
Ensemble		1
	Credit Hours	18
Year Two		
Fall		
MMI 13	Music Engineering Forum	0
Principal Instrument/ Voice Lesson & Studio Class		2
MTC 240, MSJ 240, or MMI 240	Experiential Musicianship III or Experiential Musicianship III or Experiential Musicianship III	3
MTC 207, MSJ 207, or MMI 207	Skills Lab III or Skills Lab III or Skills Lab III: American Song Traditions	1
MMI 401	Audio Electronics	3.00
ECE 118	Introduction to Programming	3
ECE 201	Electrical Circuit Theory (required minor)	3
Ensemble		1
	Credit Hours	16
Spring		
MMI 13	Music Engineering Forum	0
Principal Instrument/ Voice Lesson & Studio Class		2
MTC 241, MSJ 241, or MMI 241	Experiential Musicianship IV or Experiential Musicianship IV or Experiential Musicianship IV	3
MTC 208, MSJ 208, or MMI 208	Skills Lab IV or Skills Lab IV or Skills Lab IV: American Song Traditions	1
MMI 161	Ensemble Recording Workshop II	3
ECE 203	Electrical Circuits Laboratory (required minor)	1
PHY 205	University Physics I	3
Ensemble		1
	Credit Hours	14
Year Three		
Fall		
MMI 13	Music Engineering Forum	0
Principal Instrument/ Voice Lesson & Studio Class		2
MCY 140	Experiencing Music	3
MMI 151	Desktop Audio Production	3
MMI 502	Audio Signal Processing I	3
ECE 211	Logic Design (required minor)	3
Ensemble		1
	Credit Hours	15
Spring		
MMI 13	Music Engineering Forum	0

Principal Instrument/ Voice Lesson & Studio Class		2
MCY 141	Musical Traditions	3
MMI 436	Audio Postproduction	3
MMI 172	Audio Design Workshop III	1
MMI 503	Audio Signal Processing II	3
ECE 202	Electronics I (required minor)	3
Ensemble		1
	Credit Hours	16
Year Four		
Fall		
MMI 13	Music Engineering Forum	0
MMI 310	Music Business and Entrepreneurship for Musicians	3
Select one of the following Advanced Music Engineering Electives:		3
MMI 460	Recital Recording and Sound Reinforcement (Recording Services) ²	
MMI 465	Internship in Music Engineering	
MMI 504	Audio Signal Processing III	
MMI 505	Current Trends in Music Engineering I	
MMI 506	Current Trends in Music Engineering II	
MMI 508	Current Trends in Music Engineering III	
MMI 510	Computational Psychoacoustics	
MMI 521	Timbral Ear Training	
CIM 353	Post Production Sound Editing and Design	
MMI 361	Acoustics	
ECE 302	Electronics II (required minor)	3
People & Society Cognate		3
People & Society Cognate		3
	Credit Hours	15
Spring		
MMI 13	Music Engineering Forum	0
MMI 410	Music Engineering Capstone Project	3
Select one of the following Advanced Music Engineering Electives:		3
MMI 460	Recital Recording and Sound Reinforcement (Recording Services) ²	
MMI 465	Internship in Music Engineering	
MMI 504	Audio Signal Processing III	
MMI 505	Current Trends in Music Engineering I	
MMI 506	Current Trends in Music Engineering II	
MMI 508	Current Trends in Music Engineering III	
MMI 510	Computational Psychoacoustics	
MMI 521	Timbral Ear Training	
CIM 353	Post Production Sound Editing and Design	
MMI 361	Acoustics	
MMI 501	Transducer Theory	3
ECE 206	Circuits, Signals, and Systems (required minor)	3
People & Society Cognate		3
	Credit Hours	15
	Total Credit Hours	127

² MMI 460 Recital Recording and Sound Reinforcement can be taken 3 times for a total of 3 credits.

³ Must complete calculus by end of sophomore year.

Music Engineering Technology with Computer Engineering and Creative American Music (CAM) Minors

Course	Title	Credit Hours
Year One		
Fall		
MMI 13	Music Engineering Forum	0
Principal Instrument/Voice Lesson & Studio Class		2
MTC 140, MSJ 140, or MMI 140	Experiential Musicianship I or Experiential Musicianship I or Experiential Musicianship I	3
MTC 107, MSJ 107, or MMI 107	Skills Lab I or Skills Lab I or Skills Lab I	1
MKP 140	Keyboard Studies I	1
MMI 201	Introduction to Music Recording	3
ENG 105	English Composition I	3
MTH 161	Calculus I	4
UMX 100	The University of Miami Experience	0
Ensemble		1
	Credit Hours	18
Spring		
MMI 13	Music Engineering Forum	0
Principal Instrument/Voice Lesson & Studio Class		2
MTC 141, MSJ 141, or MMI 141	Experiential Musicianship II or Experiential Musicianship II or Experiential Musicianship II	3
MTC 108, MSJ 108, or MMI 108	Skills Lab II or Skills Lab II or Skills Lab II	1
MKP 141	Keyboard Studies II	1
MMI 160	Ensemble Recording Workshop I	3
ENG 106	English Composition II	3
MTH 162	Calculus II	4
Ensemble		1
	Credit Hours	18
Year Two		
Fall		
MMI 13	Music Engineering Forum	0
Principal Instrument/Voice Lesson & Studio Class		2
MTC 240, MSJ 240, or MMI 240	Experiential Musicianship III or Experiential Musicianship III or Experiential Musicianship III	3
MTC 207, MSJ 207, or MMI 207	Skills Lab III or Skills Lab III or Skills Lab III: American Song Traditions	1
MMI 401	Audio Electronics	3
ECE 118	Introduction to Programming (required minor)	3
ECE 201	Electrical Circuit Theory	3
MCY 221	Anglo-American Song Traditions	3
	Credit Hours	18
Spring		
MMI 13	Music Engineering Forum	0
Principal Instrument/Voice Lesson & Studio Class		2

MTC 241, MSJ 241, or MMI 241	Experiential Musicianship IV or Experiential Musicianship IV or Experiential Musicianship IV	3
MTC 208, MSJ 208, or MMI 208	Skills Lab IV or Skills Lab IV or Skills Lab IV: American Song Traditions	1
MMI 172	Audio Design Workshop III	1
MMI 161	Ensemble Recording Workshop II	3
ECE 203	Electrical Circuits Laboratory	1
PHY 205	University Physics I	3
MCY 222	African-American Song Traditions	3
Ensemble		1
	Credit Hours	18
Year Three		
Fall		
MMI 13	Music Engineering Forum	0
Principal Instrument/Voice Lesson & Studio Class		2
MCY 140	Experiencing Music	3
MMI 151	Desktop Audio Production	3
MMI 502	Audio Signal Processing I	3
ECE 211	Logic Design (required minor)	3
MMI 307	Skills Lab V: American Pop	1
MCY 311	Modern American Pop Music	3
	Credit Hours	18
Spring		
MMI 13	Music Engineering Forum	0
Principal Instrument/Voice Lesson & Studio Class		2
MCY 141	Musical Traditions	3
MMI 436	Audio Postproduction	3
MMI 503	Audio Signal Processing II	3
ECE 318	Algorithms (required minor)	3
ECE 412 or 413	Software Engineering and Architecture (Either will satisfy required minor) or Software Design and Verification	3
MMI 308	Skills Lab VI: American Pop	1
	Credit Hours	18
Year Four		
Fall		
MMI 13	Music Engineering Forum	0
MMI 310	Music Business and Entrepreneurship for Musicians	3
Select one of the following Advanced Music Engineering Electives:		3
MMI 460	Recital Recording and Sound Reinforcement (Recording Services) ²	
MMI 465	Internship in Music Engineering	
MMI 504	Audio Signal Processing III	
MMI 505	Current Trends in Music Engineering I	
MMI 506	Current Trends in Music Engineering II	
MMI 508	Current Trends in Music Engineering III	
MMI 510	Computational Psychoacoustics	
MMI 521	Timbral Ear Training	
CIM 353	Post Production Sound Editing and Design	
MMI 361	Acoustics	
ECE 218	Data Structures (required minor)	3
People & Society Cognate		3
People & Society Cognate		3

MMI 320	Contemporary Lyric Writing	3
	Credit Hours	18
Spring		
MMI 13	Music Engineering Forum	0
ECE 212	Processors: Hardware, Software, and Interfacing (required minor)	3
Select one of the following Advanced Music Engineering Electives:		3
MMI 460	Recital Recording and Sound Reinforcement (Recording Services) ²	
MMI 465	Internship in Music Engineering	
MMI 504	Audio Signal Processing III	
MMI 505	Current Trends in Music Engineering I	
MMI 506	Current Trends in Music Engineering II	
MMI 508	Current Trends in Music Engineering III	
MMI 510	Computational Psychoacoustics	
MMI 521	Timbral Ear Training	
CIM 353	Post Production Sound Editing and Design	
MMI 361	Acoustics	
MMI 410	Music Engineering Capstone Project	3
MMI 501	Transducer Theory	3
People & Society Cognate		3
MMI 445	Senior Project/Portfolio	1
Ensemble		1
	Credit Hours	17
	Total Credit Hours	143

Music Engineering Technology with Electrical Engineering and Creative American Music (CAM) Minors

Course	Title	Credit Hours
Year One		
Fall		
MMI 13	Music Engineering Forum	0
Principal Instrument/Voice Lesson & Studio Class		2
MTC 140, MSJ 140, or MMI 140	Experiential Musicianship I or Experiential Musicianship I or Experiential Musicianship I	3
MTC 107, MSJ 107, or MMI 107	Skills Lab I or Skills Lab I or Skills Lab I	1
MKP 140	Keyboard Studies I	1
MMI 201	Introduction to Music Recording	3
ENG 105	English Composition I	3
MTH 161	Calculus I	4
UMX 100	The University of Miami Experience	0
Ensemble		1
	Credit Hours	18
Spring		
MMI 13	Music Engineering Forum	0
Principal Instrument/Voice Lesson & Studio Class		2
MTC 141, MSJ 141, or MMI 141	Experiential Musicianship II or Experiential Musicianship II or Experiential Musicianship II	3
MTC 107, MSJ 107, or MMI 107	Skills Lab I or Skills Lab I or Skills Lab I	1

MKP 141	Keyboard Studies II	1
MMI 160	Ensemble Recording Workshop I	3
ENG 106	English Composition II	3
MTH 162	Calculus II	4
Ensemble		1
	Credit Hours	18
Year Two		
Fall		
MMI 13	Music Engineering Forum	0
Principal Instrument/Voice Lesson & Studio Class		2
MTC 240, MSJ 240, or MMI 240	Experiential Musicianship III or Experiential Musicianship III or Experiential Musicianship III	3
MTC 207, MSJ 207, or MMI 207	Skills Lab III or Skills Lab III or Skills Lab III: American Song Traditions	1
MCY 221	Anglo-American Song Traditions	3
MMI 401	Audio Electronics	3
ECE 118	Introduction to Programming	3
ECE 201	Electrical Circuit Theory (required minor)	3
	Credit Hours	18
Spring		
MMI 13	Music Engineering Forum	0
Principal Instrument/Voice Lesson & Studio Class		2
MTC 241, MSJ 241, or MMI 241	Experiential Musicianship IV or Experiential Musicianship IV or Experiential Musicianship IV	3
MTC 208, MSJ 208, or MMI 208	Skills Lab IV or Skills Lab IV or Skills Lab IV: American Song Traditions	1
MCY 222	African-American Song Traditions	3
MMI 161	Ensemble Recording Workshop II	3
ECE 203	Electrical Circuits Laboratory (required minor)	1
PHY 205	University Physics I	3
Ensemble		1
	Credit Hours	17
Year Three		
Fall		
MMI 13	Music Engineering Forum	0
Principal Instrument/Voice Lesson & Studio Class		2
MCY 140	Experiencing Music	3
MMI 307	Skills Lab V: American Pop	1
MCY 311	Modern American Pop Music	3
MMI 151	Desktop Audio Production	3
MMI 502	Audio Signal Processing I	3
ECE 211	Logic Design (required minor)	3
	Credit Hours	18
Spring		
MMI 13	Music Engineering Forum	0
Principal Instrument/Voice Lesson & Studio Class		2
MCY 141	Musical Traditions	3
MMI 172	Audio Design Workshop III	1
MMI 308	Skills Lab VI: American Pop	1

MMI 436	Audio Postproduction	3
MMI 503	Audio Signal Processing II	3
ECE 202	Electronics I (required minor)	3
Ensemble		1
	Credit Hours	17
Year Four		
Fall		
MMI 13	Music Engineering Forum	0
MMI 310	Music Business and Entrepreneurship for Musicians	3
Select one of the following Advanced Music Engineering Electives:		3
MMI 460	Recital Recording and Sound Reinforcement (Recording Services) ²	
MMI 465	Internship in Music Engineering	
MMI 504	Audio Signal Processing III	
MMI 505	Current Trends in Music Engineering I	
MMI 506	Current Trends in Music Engineering II	
MMI 508	Current Trends in Music Engineering III	
MMI 510	Computational Psychoacoustics	
MMI 521	Timbral Ear Training	
CIM 353	Post Production Sound Editing and Design	
MMI 361	Acoustics	
ECE 302	Electronics II (required minor)	3
MMI 320	Contemporary Lyric Writing	3
People & Society Cognate		3
People & Societe Cognate		3
	Credit Hours	18
Spring		
MMI 13	Music Engineering Forum	0
MMI 410	Music Engineering Capstone Project	3
Select one of the following Advanced Music Engineering Electives:		3
MMI 460	Recital Recording and Sound Reinforcement (Recording Services) ²	
MMI 465	Internship in Music Engineering	
MMI 504	Audio Signal Processing III	
MMI 505	Current Trends in Music Engineering I	
MMI 506	Current Trends in Music Engineering II	
MMI 508	Current Trends in Music Engineering III	
MMI 510	Computational Psychoacoustics	
MMI 521	Timbral Ear Training	
CIM 353	Post Production Sound Editing and Design	
MMI 361	Acoustics	
MMI 501	Transducer Theory	3
MMI 445	Senior Project/Portfolio	1
ECE 206	Circuits, Signals, and Systems (required minor)	3
People & Society Cognate		3
	Credit Hours	16
	Total Credit Hours	140

Minor in Creative American Music

(Audition Required, Music majors only)

The Bruce Hornsby Creative American Music Program

The Bruce Hornsby Creative American Music Program is designed to develop the creative skills of talented performing songwriters by immersing them in the diverse traditions that form the foundation of modern American songwriting. This rigorous approach will require students to become intimate,

both in understanding and practice, with the vast and varied legacy that is American music. The CAM Program is open to all Frost School of Music students by audition. Those who successfully complete the program will earn a minor in Creative American Music. A minor in Creative American Music requires 17 credit hours.

The Contemporary Performance Principal

The Contemporary Performance Principal accommodates talented songwriters, singers, and instrumentalists who are not classical or jazz musicians. Contemporary instruments include Guitar (Electric and Acoustic), Voice, Electric Bass, Keyboard, Media (Alternate Controllers/Electronic Producers), Strings (Fiddle, Electric Violin, etc.) and Percussion (incl. Drums). Songwriters will also apply to the Creative American Music Program. The Contemporary Performance Principal is available to students in the following majors: Music Business and Entertainment Industries, Music Engineering Technology, Media Writing and Production, Music Education, Music Theory/Composition, Music Therapy, and the Bachelor of Arts in Music. Pre-screening and audition are required.

Code	Title	Credit Hours
MCY 221 & MMI 207	Anglo-American Song Traditions and Skills Lab III: American Song Traditions	4
MCY 222 & MMI 208	African-American Song Traditions and Skills Lab IV: American Song Traditions	4
MCY 311	Modern American Pop Music	3
MMI 307	Skills Lab V: American Pop	1
MMI 308	Skills Lab VI: American Pop	1
MMI 320	Contemporary Lyric Writing	3
MMI 445	Senior Project/Portfolio	1
Total Credit Hours		17

MBEI with CAM minor plan of study (p. 813)

MADE with CAM minor plan of study (p. 818)

MWP with CAM minor plan of study (p. 843)

MUE with CAM minor plan of study (p. 830)

Minor in Music Business and Entertainment Industries

Course Offerings for music students (No Audition Required)

Code	Title	Credit Hours
MMI 274	Introduction to Music Copyright Law	3
MMI 310	Music Business and Entrepreneurship for Musicians (music majors only)	3
Choose 2 from the following options:		6
MMI 378	Music Business Agreements	
MMI 537	Recorded Music Operations	
MMI 580	Advanced Topics in Music Business	
Total Credit Hours		12

Course offerings for non-music students (No Audition Required)

Code	Title	Credit Hours
MMI 173	Introduction to the Music Business	3
MMI 274	Introduction to Music Copyright Law	3
Choose 2 from the following options:		6
MMI 378	Music Business Agreements	
MMI 537	Recorded Music Operations	
MMI 580	Advanced Topics in Music Business	
Total Credit Hours		12

Music Theory and Composition (MTC)

Dept. Code: MTC

The Department of Music Theory-Composition

- Music Theory-Composition (MTC)

Majors in Music Theory-Composition

- B.M. in Music Theory and Composition (p. 847)

Minor in Music Theory-Composition

- Music Composition (p. 851)

B.M. in Media Writing and Production

The Commercial Music & Production degree program is designed to prepare undergraduate students for the many issues facing today's commercial music writers and producers. In this specialized program, successful students complete diverse compositional assignments, develop technical and practical skills in the recording studio, and acquire an understanding of the music industry. Prospective students should furnish evidence of outstanding compositional ability as well as basic sequencing and music notation skills.

Advanced Writing and Communication Skills

Courses

All students are required to successfully complete 3 Advanced Writing and Communication Skills (AWC) courses. Student degree requirements will include courses that meet the desired communication outcomes in evaluated and revised writing, speaking, stage presence, and audience engagement.

All Media Writing and Production students will successfully complete:

1. MCY 141 Musical Trends and Traditions, which will include substantial evaluated and revised writing components.
2. MTC 402 Composition VIII, which will include evaluated communication skills in attracting an audience, engaging an audience during performance, and preparing program notes or similar media as appropriate to the medium/venue.
3. MTC 311 Analysis and Experience, which will include discipline specific communication skills.

Assessment

There will be at least 2 specific assessments in each Advanced Communications Skills course for communications or writing equivalent to 4000 words, evaluated and revised.

Degree Requirements

Code	Title	Credit Hours
General Education Courses MWP		
ENG 105	English Composition I	3
ENG 106	English Composition II	3
MTH 113	Finite Mathematics	3
ST_XXXX	STEM Cognate	9
PS_XXXX	People & Society Cognate	9
UMX 100	The University of Miami Experience	0
	Advanced Writing and Communication Skills (3 courses) See details below	0
Total General Education credits = 27		
Experiential Music Curriculum Core Courses MWP ¹		
MTC 15	Media Writing and Production forum (8 semesters)	0
MXX XX1 (Level 1)	Principal Instrument/Voice Lesson & Studio Class (semester 1-4, 2 credit hours)	8
MXX XX3 (Level 3)	Principal Instrument/Voice Lesson & Studio Class (semesters 5-6, 2 credit hours)	4
MTC 140	Experiential Musicianship I	3

or MSJ 140	Experiential Musicianship I	
or MMI 140	Experiential Musicianship I	
MTC 141	Experiential Musicianship II	3
or MSJ 141	Experiential Musicianship II	
or MMI 141	Experiential Musicianship II	
MTC 240	Experiential Musicianship III	3
or MSJ 240	Experiential Musicianship III	
or MSJ 240	Experiential Musicianship III	
MTC 241	Experiential Musicianship IV	3
or MSJ 241	Experiential Musicianship IV	
or MMI 241	Experiential Musicianship IV	
MTC 107	Skills Lab I (co-requisite MTC 140/MSJ 140/MMI 140)	1
or MSJ 107	Skills Lab I	
or MMI 107	Skills Lab I	
MTC 108	Skills Lab II (co-requisite MTC 141/MSJ 141/MMI 141)	1
or MSJ 108	Skills Lab II	
or MMI 108	Skills Lab II	
MTC 207	Skills Lab III (co-requisite MTC 240/MSJ 240/MMI 240)	1
or MSJ 207	Skills Lab III	
or MMI 207	Skills Lab III: American Song Traditions	
MTC 208	Skills Lab IV (co-requisite MTC 241/MSJ 241/MMI 241)	1
or MSJ 208	Skills Lab IV	
or MMI 208	Skills Lab IV: American Song Traditions	
MKP 140	Keyboard Studies I	1
MKP 141	Keyboard Studies II	1
MCY 140	Experiencing Music	3
MCY 141	Musical Traditions (AWC)	3
MMI 250	Essential Technologies for Musicians	3
MMI 310	Music Business and Entrepreneurship for Musicians	3
	Ensembles (semesters 1-6, 1 credit hour)	6
Total credits for EMC Core courses = 48		
Courses in the MWP Major		
MKP 240	Keyboard Studies III ((not required if MSJ or MMI 240 is satisfied))	2
MKP 241	Keyboard Studies IV ((not required if MSJ or MMI 241 is satisfied))	2
MTC 101	Composition I	2
MTC 102	Composition II	2
MTC 182	Composition Workshop (2 semesters of 1 credit hour)	2
MTC 203	Pop Composition I	2
MTC 204	Pop Composition II	2
MTC 303	Music for Media	3
MTC 304	Multimedia Projects.	3
MTC 311	Analysis and Experience (AWC)	3
MTC 312	20th and 21st Century Techniques	3
MTC 402	Composition VIII (AWC)	1
MTC 403	Advanced Music Editing	3
MTC 404	Live Performance Musical Direction	3
MTC 416	Orchestration	3
or MTC 516	Advanced Orchestration	
MTC 511	Film Scoring I	3
MTC 512	Film Scoring II	3
MSJ/MTC	Approved Elective	3
MCY 3XX	Musicology Elective	3

STC 114	Principles of Advertising	3
Total credits for courses in the major = 51		
Total Credit Hours		126

¹ EMC core courses require a grade of "C" or higher. Lessons require a grade of "B" or higher.

Suggested Plan of Study

Course	Title	Credit Hours
Year One		
Fall		
MTC 15	Media Writing and Production forum	0
Principal Instrument/ Voice Lesson & Studio Class		2
MKP 140	Keyboard Studies I	1
MTC 140, MSJ 140, or MMI 140	Experiential Musicianship I or Experiential Musicianship I or Experiential Musicianship I	3
MTC 107, MSJ 107, or MMI 107	Skills Lab I or Skills Lab I or Skills Lab I	1
MCY 140	Experiencing Music	3
MTC 101	Composition I	2
MTC 182	Composition Workshop	1
ENG 105	English Composition I	3
UMX 100	The University of Miami Experience	0
Ensemble		1
Credit Hours		17
Spring		
MTC 15	Media Writing and Production forum	0
Principal Instrument/ Voice Lesson & Studio Class		2
MTC 141, MSJ 141, or MMI 141	Experiential Musicianship II or Experiential Musicianship II or Experiential Musicianship II	3
MTC 108, MSJ 108, or MMI 108	Skills Lab II or Skills Lab II or Skills Lab II	1
MKP 141	Keyboard Studies II	1
MTC 102	Composition II	2
MTC 182	Composition Workshop	1
ENG 106	English Composition II	3
MTH 113	Finite Mathematics	3
Ensemble		1
Credit Hours		17
Year Two		
Fall		
MTC 15	Media Writing and Production forum	0
MTC 240, MSJ 240, or MMI 240	Experiential Musicianship III or Experiential Musicianship III or Experiential Musicianship III	3
MTC 207, MSJ 207, or MMI 207	Skills Lab III or Skills Lab III or Skills Lab III: American Song Traditions	1
MKP 240	Keyboard Studies III ((not required if MSJ or MMI 240 satisfied))	2
MMI 250	Essential Technologies for Musicians	3
MTC 203	Pop Composition I	2

Principal Instrument/ Voice Lesson & Studio Class	2
Ensemble	1
Credit Hours	14
Spring	
MTC 15	Media Writing and Production forum
Principal Instrument/ Voice Lesson & Studio Class	2
MTC 241, MSJ 241, or MMI 241	Experiential Musicianship IV or Experiential Musicianship IV or Experiential Musicianship IV
MTC 208, MSJ 208, or MMI 208	Skills Lab IV or Skills Lab IV or Skills Lab IV: American Song Traditions
MCY 141	Musical Traditions
MKP 241	Keyboard Studies IV ((not required if MSJ or MMI 241 is satisfied))
MTC 204	Pop Composition II
People & Society Cognate	3
Ensemble	1
Credit Hours	17
Year Three	
Fall	
MTC 15	Media Writing and Production forum
Principal Instrument/ Voice Lesson & Studio Class	2
MTC 303	Music for Media
STC 114	Principles of Advertising
MTC 311	Analysis and Experience
Ensemble	1
STEM Cognate	3
Credit Hours	15
Spring	
MTC 15	Media Writing and Production forum
Principal Instrument/ Voice Lesson & Studio Class	2
MTC 312	20th and 21st Century Techniques
MTC 304	Multimedia Projects.
Ensemble	1
MCY 300+ Elective	3
People & Society Cognate	3
Credit Hours	15
Year Four	
Fall	
MTC 15	Media Writing and Production forum
MMI 310	Music Business and Entrepreneurship for Musicians
MTC 403	Advanced Music Editing
MTC 511	Film Scoring I
MTC 416 or 516	Orchestration or Advanced Orchestration
STEM Cognate	3
Credit Hours	15
Spring	
MTC 15	Media Writing and Production forum
MTC 402	Composition VIII
MTC 404	Live Performance Musical Direction
MTC 512	Film Scoring II
People & Society Cognate	3

STEM Cognate	3
MSJ or MTC Approved Elective	3
Credit Hours	16
Total Credit Hours	126

Media Writing & Production with Creative American Music (CAM)

Course	Title	Credit Hours
Year One		
Fall		
MTC 15	Media Writing and Production forum	0
Principal Instrument/Voice Lesson & Studio Class		2
MTC 140, MSJ 140, or MMI 140	Experiential Musicianship I or Experiential Musicianship I or Experiential Musicianship I	3
MKP 140	Keyboard Studies I	1
MCY 140	Experiencing Music	3
MTC 107, MSJ 107, or MMI 107	Skills Lab I or Skills Lab I or Skills Lab I	1
MTC 101	Composition I	2
MTC 182	Composition Workshop	1
ENG 105	English Composition I	3
UMX 100	The University of Miami Experience	0
Ensemble		1
Credit Hours		17
Spring		
MTC 15	Media Writing and Production forum	0
Principal Instrument/Voice Lesson & Studio Class		2
MTC 141, MSJ 141, or MMI 141	Experiential Musicianship II or Experiential Musicianship II or Experiential Musicianship II	3
MKP 141	Keyboard Studies II	1
MTC 108, MSJ 108, or MMI 108	Skills Lab II or Skills Lab II or Skills Lab II	1
MTC 102	Composition II	2
MTC 182	Composition Workshop	1
ENG 106	English Composition II	3
MTH 113	Finite Mathematics	3
Ensemble		1
Credit Hours		17
Year Two		
Fall		
MTC 15	Media Writing and Production forum	0
Principal Instrument/Voice Lesson & Studio Class		2
MTC 240, MSJ 240, or MMI 240	Experiential Musicianship III or Experiential Musicianship III or Experiential Musicianship III	3
MTC 207, MSJ 207, or MMI 207	Skills Lab III or Skills Lab III or Skills Lab III: American Song Traditions	1
MCY 221	Anglo-American Song Traditions ³	3
MMI 250	Essential Technologies for Musicians	3
MTC 203	Pop Composition I	2

Ensemble		1
MKP 240	Keyboard Studies III ((not required if enrolled in MSJ or MMI 240))	2
	Credit Hours	17
Spring		
MTC 15	Media Writing and Production forum	0
	Principal Instrument/Voice Lesson & Studio Class	2
MTC 241, MSJ 241, or MMI 241	Experiential Musicianship IV or Experiential Musicianship IV or Experiential Musicianship IV	3
MTC 208, MSJ 208, or MMI 208	Skills Lab IV or Skills Lab IV or Skills Lab IV: American Song Traditions	1
MKP 241	Keyboard Studies IV ((not required if MSJ or MMI 241 is satisfied))	2
MCY 222	African-American Song Traditions	3
MCY 141	Musical Traditions	3
MTC 204	Pop Composition II	2
Ensemble		1
	Credit Hours	17
Year Three		
Fall		
MTC 15	Media Writing and Production forum	0
	Principal Instrument/Voice & Studio Class	2
MCY 311	Modern American Pop Music	3
MMI 307	Skills Lab V: American Pop ²	1
MTC 303	Music for Media	3
MTC 311	Analysis and Experience ¹	3
STC 114	Principles of Advertising	3
	Credit Hours	15
Spring		
MTC 15	Media Writing and Production forum	0
	Principal Instrument/Voice Lesson & Studio Class	2
MTC 304	Multimedia Projects.	3
MTC 312	20th and 21st Century Techniques	3
MMI 308	Skills Lab VI: American Pop ²	1
MMI 320	Contemporary Lyric Writing	3
	People & Society Cognate	3
	STEM Cognate	3
	Credit Hours	18
Year Four		
Fall		
MTC 15	Media Writing and Production forum	0
MTC 403	Advanced Music Editing	3
MTC 416 or 516	Orchestration or Advanced Orchestration	3
MTC 511	Film Scoring I	3
	People & Society Cognate	3
	STEM Cognate	3
	Credit Hours	15
Spring		
MTC 15	Media Writing and Production forum	0
MTC 404	Live Performance Musical Direction	3
MTC 512	Film Scoring II	3
MMI 310	Music Business and Entrepreneurship for Musicians	3

MTC 402	Composition VIII	1
People & Society Cognate		3
STEM Cognate		3
	Credit Hours	16
	Total Credit Hours	132

- ¹ MCY 311 will satisfy the required Musicology Elective (MCY 3XX).
- ² MMI 307 and MMI 308 will count towards two ensemble degree requirements.
- ³ MSJ/MTC Approved elective will be substituted with MCY 221.

B.M. in Music Theory and Composition

Introduction

The Bachelor of Music in Composition is designed to:

1. Provide students with a learning environment conducive to the pursuit, fostering, development, and exchange of ideas and information, particularly as it pertains to music composition and performance.
2. To provide student access to varied composition communities.
3. To continue to build upon the Frost School of Music's reputation as an innovative, forward-thinking, and first-rate center for advanced study.
4. To maintain the highest educational, professional, and ethical standards.

Goals of the program are:

1. To provide students with training to be fluent in basic compositional skills.
2. To help students understand various directions that are available to composers in the 21st century.
3. To help students perform and realize their music.

The curriculum in Composition is designed for those students intending to pursue a career as a composer and/or to pursue graduate degrees in Composition. Prospective students are expected to furnish evidence of compositional ability.

Educational Objectives

- Students develop basic compositional skills of varying lengths and genres.
- Students compose works utilizing various compositional techniques and styles.
- Students compose works for varied instrumentation and/or media.

Advanced Writing and Communication Skills

Courses

All students are required to successfully complete 3 Advanced Writing and Communication Skills (AWC) courses. Student degree requirements will include courses that meet the desired communication outcomes in evaluated and revised writing, speaking, stage presence, and audience engagement.

All Music Theory and Composition students will successfully complete:

1. MCY 341 Music of the Medieval, Renaissance, and Baroque Periods, which will include substantial evaluated and revised writing components.
2. MTC 402 Composition VIII, which will include evaluated communication skills in attracting an audience, engaging an audience during performance, and preparing program notes or similar media as appropriate to the medium/venue.
3. MTC 311 Analysis and Experience which will include discipline specific communication skills.

Assessment

There will be at least 2 specific assessments in each Advanced Communications Skills course for communications or writing equivalent to 4000 words, evaluated and revised.

Degree Requirements

Code	Title	Credit Hours
General Education Courses MTC		
ENG 105	English Composition I	3

ENG 106	English Composition II	3
MTH 113	Finite Mathematics	3
ST_XXXX	STEM Cognate	9
PS_XXXX	People & Society Cognate	9
UMX 100	The University of Miami Experience	0
	Advanced Writing and Communication Skills (3 courses) AWC. See details below	
Total General Education credits = 27		
Experiential Music Curriculum Core Courses MTC¹		
MTC 12	Composition Forum (8 semesters)	0
MXX XX1 (Level 1)	Principal Instrument/Voice Lesson & Studio Class (semesters 1-4, 2 credit hours)	8
MXX XX3 (Level 3)	Principal Instrument/Voice Lesson & Studio Class (semesters 5-6, 2 credit hours)	4
MTC 140 & MTC 107	Experiential Musicianship I and Skills Lab I ²	4
MTC 141 & MTC 108	Experiential Musicianship II and Skills Lab II ²	4
MTC 240 & MTC 207	Experiential Musicianship III and Skills Lab III ²	4
MTC 241 & MTC 208	Experiential Musicianship IV and Skills Lab IV ²	4
MKP 140	Keyboard Studies I	1
MKP 141	Keyboard Studies II	1
MCY 140	Experiencing Music	3
MCY 341	Music of the Mediaeval, Renaissance, and Baroque Periods	3
MTC 506	Digital Editing and Sequencing	3
MMI 310	Music Business and Entrepreneurship for Musicians	3
	Ensembles (semesters 1-6, 1 credit hour)	6
Total credits for EMC Core courses		
Courses in the MTC Major		
	Ensembles (semesters 7-8, 1 credit hour)	2
MTC 101	Composition I	2
MTC 102	Composition II	2
MTC 201	Composition III	2
MTC 202	Composition IV	2
MTC 301	Composition V	2
MTC 302	Composition VI	2
MTC 401	Composition VII	2
MTC 402	Composition VIII (Senior Composition Recital)	1
MTC 182	Composition Workshop (4 semesters of 1 credit hour)	4
MTC 311	Analysis and Experience	3
MTC 312	20th and 21st Century Techniques	3
MTC 313	18th Century Counterpoint	3
MTC 505	Analysis and History of Electroacoustic and Acousmatic Music	2
MTC 516	Advanced Orchestration	3
MTC 518	Advanced Counterpoint	3
MTC/MCY	Elective Music Theory or Musicology	3
MCY 342	Music of the Classical, Romantic, and Modern Periods	3
MKP 240	Keyboard Studies III	2
MKP 241	Keyboard Studies IV	2
MIP 181 or MVP 181	Instrumental Conducting I Choral Conducting I	2

MIP 182 or MVP 182	Instrumental Conducting II Choral Conducting II	2
Total credits for courses in the major = 52		
Total Credit Hours		127

¹ EMC core courses require a grade of "C" or higher. Lessons require a grade of "B-" or higher.

² Jazz or Contemporary principals will be required to take MTC 140/MTC 107, MTC 141/MTC 108, MTC 240/MTC 207, MTC 241/MTC 208.

Suggested Plan of Study

Course	Title	Credit Hours
Year One		
Fall		
MTC 12	Composition Forum	0
Principal Instrument/ Voice Lesson & Studio Class		2
MTC 140	Experiential Musicianship I	3
MTC 107	Skills Lab I	1
MKP 140	Keyboard Studies I	1
MCY 140	Experiencing Music	3
MTC 101	Composition I	2
MTC 182	Composition Workshop	1
ENG 105	English Composition I	3
UMX 100	The University of Miami Experience	0
Ensemble		1
		Credit Hours
		17
Spring		
MTC 12	Composition Forum	0
Principal Instrument/ Voice Lesson & Studio Class		2
MTC 141	Experiential Musicianship II	3
MTC 108	Skills Lab II	1
MKP 141	Keyboard Studies II	1
MTC 102	Composition II	2
MTC 182	Composition Workshop	1
ENG 106	English Composition II	3
MTH 113	Finite Mathematics	3
Ensemble		1
		Credit Hours
		17
Year Two		
Fall		
MTC 12	Composition Forum	0
Principal Instrument/ Voice Lesson & Studio Class		2
MTC 240	Experiential Musicianship III	3
MTC 207	Skills Lab III	1
MKP 240	Keyboard Studies III	2
MTC 182	Composition Workshop	1
MTC 201	Composition III	2
MTC 505	Analysis and History of Electroacoustic and Acousmatic Music	2
STEM Cognate		3
Ensemble		1
		Credit Hours
		17
Spring		
MTC 12	Composition Forum	0
Principal Instrument/ Voice Lesson & Studio Class		2

MTC 241	Experiential Musicianship IV	3
MTC 208	Skills Lab IV	1
MKP 241	Keyboard Studies IV	2
MTC 182	Composition Workshop	1
MTC 202	Composition IV	2
MTC 506	Digital Editing and Sequencing	3
People & Society Cognate		3
Ensemble		1
	Credit Hours	18
Year Three		
Fall		
MTC 12	Composition Forum	0
MCY 341	Music of the Mediaeval, Renaissance, and Baroque Periods	3
MTC 301	Composition V	2
MIP 181 or MVP 181	Instrumental Conducting I or Choral Conducting I	2
MTC 311	Analysis and Experience	3
MTC 313	18th Century Counterpoint	3
Principal Instrument/ Voice Lesson & Studio Class		2
Ensemble		1
	Credit Hours	16
Spring		
MTC 12	Composition Forum	0
MCY 342	Music of the Classical, Romantic, and Modern Periods	3
MTC 302	Composition VI	2
MIP 182 or MVP 182	Instrumental Conducting II or Choral Conducting II	2
MTC 312	20th and 21st Century Techniques	3
MTC 516	Advanced Orchestration	3
Principal Instrument/ Voice Lesson & Studio Class		2
Ensemble		1
	Credit Hours	16
Year Four		
Fall		
MTC 12	Composition Forum	0
MMI 310	Music Business and Entrepreneurship for Musicians	3
MTC 401	Composition VII	2
MTC/MCY Elective		3
People & Society Cognate		3
Ensemble		1
	Credit Hours	12
Spring		
MTC 12	Composition Forum	0
MTC 402	Composition VIII	1
MTC 518	Advanced Counterpoint	3
People & Society Cognate		3
STEM Cognate		3
STEM Cognate		3
Ensemble		1

Senior Composition Recital	0
Credit Hours	14
Total Credit Hours	127

Minor in Music Composition

A minor in music composition is primarily intended for students in the Frost School of Music who are pursuing majors in other fields within the Frost School. Students interested in this minor are required to submit a portfolio to the chairman of the department for approval before declaring the minor. The minor consists of 15 credit hours.

Code	Title	Credit Hours
MTC 101	Composition I	2
MTC 102	Composition II	2
MTC 201	Composition III	2
MTC 202	Composition IV	2
MTC 182	Composition Workshop (4 semesters of 1 credit hour)	4
Complete exactly 1 course from the following:		3
MTC 416	Orchestration	
MTC 516	Advanced Orchestration	
MTC 312	20th and 21st Century Techniques	
Total Credit Hours		15

Studio Music and Jazz (MSJI) & (MSJV)

Dept. Code: MSJ

The Department of Studio Music and Jazz includes two programs, instrumental and vocal.

Introduction

The mission of the Studio Music and Jazz Performance Program is to:

- Prepare jazz instrumentalists to enter the music profession or graduate school.
- Identify, recruit, and retain high quality students who seek to pursue studio/jazz performance as a career.
- Foster faculty creativity and performance which serves as a role model for students.
- Develop, and revise courses in jazz improvisation, jazz arranging/composition and provide on and off campus performance opportunities.
- Produce in our on campus facility, recordings for the Down Beat Student Music Awards, compact disks, radio and Internet broadcast.
- Provide a platform of learning that includes performance, composition/arranging, technology, conducting, scholarship and production.

Educational Objectives

- Students will develop musical performance skills necessary to make them competitive in the jazz world.
- Students will develop performance skills in a variety of large and small ensembles that allow a student to participate in the professional jazz world.
- Students will develop the skills necessary to play in a chamber setting emphasizing spontaneous interaction and improvisation.
- Students will develop the skills necessary to play in large jazz ensembles emphasizing the development of ensemble skills necessary in a reading situation.
- Students will perform a senior recital of sixty-minute duration that demonstrates their capabilities in the jazz idiom.
- Students will develop the skills necessary to arrange and compose in a variety of styles appropriate to the jazz and contemporary music field.

Majors in Studio Music and Jazz

- B.M. in Studio Music and Jazz Instrumental (p. 852)
- B.M. in Studio Music and Jazz Voice (p. 857)

Minor in Studio Music and Jazz

- Studio Music and Jazz Instrumental (Music Majors Only) (p. 860)

Certificates

- Jazz Performance (p. 860)

B.M. in Studio Music and Jazz Instrumental

Dept. Code: MSJ

The instrumental curriculum in Studio Music and Jazz is designed for interested and qualified students who desire to continue to develop to the highest degree their background and skills in the performance of studio music and jazz. Admission to this major pre-supposes musical training in jazz on the principal instrument.

Advanced Writing and Communication Skills

Courses

All students are required to successfully complete 3 Advanced Writing and Communication Skills (AWC) courses. Student degree requirements will include courses that meet the desired communication outcomes in evaluated and revised writing, speaking, stage presence, and audience engagement.

All Studio Jazz Instrumental students will successfully complete:

1. MCY 141 Musical Trends and Traditions, which will include substantial evaluated and revised writing components.
2. MSJ XXX Private Lesson Level 3 Senior Recital, which will include evaluated communication skills in attracting an audience, engaging an audience during performance, and preparing program notes or similar media as appropriate to the medium/venue.
3. MSJ 213 Analysis & Evolution of Jazz Styles II, which will include discipline specific communication skills.

Assessment

There will be at least 2 specific assessments in each Advanced Communications Skills course for communications or writing equivalent to 4000 words, evaluated and revised.

Degree Requirements

Code	Title	Credit Hours
General Education Courses MSJI		
ENG 105	English Composition I	3
ENG 106	English Composition II	3
MTH 101	Algebra for College Students	3
ST_XXXX	STEM Cognate	9
PS_XXXX	People & Society Cognate	9
UMX 100	The University of Miami Experience	0
	Advanced Writing and Communication Skills (3 courses)AWC. See details below	0
Total General Education credits = 27		
Experiential Music Curriculum Core Courses MSJI ¹		
MSJ 3	Jazz Forum (8 semesters)	0
MSJ XX1 (Level 1)	Principal Instrument Lesson & Studio Class (semesters 1-4, 2 credit hours)	8
MSJ XX3 (Level 3)	Principal Instrument Lesson & Studio Class (semesters 5-6, 2 credit hours)	4
MSJ 140 & MSJ 107	Experiential Musicianship I and Skills Lab I	4
MSJ 141 & MSJ 108	Experiential Musicianship II and Skills Lab II	4
MSJ 240 & MSJ 207	Experiential Musicianship III and Skills Lab III	4
MSJ 241 & MSJ 208	Experiential Musicianship IV and Skills Lab IV	4
MKP 140	Keyboard Studies I	1

MKP 141	Keyboard Studies II	1
MCY 140	Experiencing Music	3
MCY 141	Musical Traditions (AWC)	3
MMI 250	Essential Technologies for Musicians	3
MMI 310	Music Business and Entrepreneurship for Musicians	3
MSJ XXX	Large Ensembles (semesters 1-6, 1 credit hour)	6
Total credit for EMC Core courses = 48		
Courses in the MSJI Major		
MSJ XXX	Large Ensembles (semesters 7-8, 1 credit hour)	2
MSJ XXX	Small Ensembles (4 semesters, 1 credit hour)	4
MSJ XX3 (Level 3)	Principal Instrument Lesson & Studio Class (semesters 7-8, 2 credit hours)	4
	Senior recital with lesson	
MSJ 113	Analysis and Evolution of Jazz Styles I	3
MSJ 124	Introduction to Jazz Improvisation	3
MSJ 213	Analysis and Evolution of Jazz Styles II (AWC)	3
MSJ 242 or MSJ 320	Jazz Percussion Techniques Basic Drumset Styles and Techniques (Part 2)	1
MSJ 342	Technology Skills III	3
MSJ 371 or MSJ 220	Jazz Improvisation I Basic Drumset Styles and Techniques (Part 1)	3
MSJ 509	Jazz Composition I	3
MSJ 519	Advanced Modern Arranging I	3
MSJ 520	Advanced Modern Arranging II	3
MSJ 565	Advanced Improvisation I (choose section for drumset students.)	3
MSJ 566	Advanced Improvisation II (choose section for drumset students.)	3
MIP 181	Instrumental Conducting I	2
	Elective	3
Total credits for courses in the major = 46		
Total Credit Hours		121

¹ EMC core courses require a grade of "C" or higher. Lessons require a grade of "B-" or higher.

Suggested Plan of Study - Studio Music and Instrumental

Course	Title	Credit Hours
Year One		
Fall		
MSJ 3	Jazz Forum	0
MSJ Principal Instrument Lesson & Studio Class		2
MSJ 140 & MSJ 107	Experiential Musicianship I and Skills Lab I	4
MCY 140	Experiencing Music	3
MKP 140	Keyboard Studies I	1
MSJ 124	Introduction to Jazz Improvisation	3
ENG 105	English Composition I	3
UMX 100	The University of Miami Experience	0
MSJ Large Ensemble		1
		Credit Hours
		17
Spring		
MSJ 3	Jazz Forum	0
MSJ Principal Instrument Lesson & Studio Class		2
MSJ 141 & MSJ 108	Experiential Musicianship II and Skills Lab II	4

MCY 141	Musical Traditions (AWC)	3
MKP 141	Keyboard Studies II	1
ENG 106	English Composition II	3
MTH 101	Algebra for College Students	3
MSJ Large Ensemble		1
	Credit Hours	17
Year Two		
Fall		
MSJ 3	Jazz Forum	0
MSJ Principal Instrument Lesson & Studio Class		2
MSJ 240 & MSJ 207	Experiential Musicianship III and Skills Lab III	4
MSJ 113	Analysis and Evolution of Jazz Styles I	3
MSJ 371	Jazz Improvisation I	3
People & Society Cognate		3
MSJ Large Ensemble		1
	Credit Hours	16
Spring		
MSJ 3	Jazz Forum	0
MSJ Principal Instrument Lesson & Studio Class		2
MSJ 241 & MSJ 208	Experiential Musicianship IV and Skills Lab IV	4
MSJ 213	Analysis and Evolution of Jazz Styles II (AWC)	3
MMI 250	Essential Technologies for Musicians	3
People & Society Cognate		3
MSJ Large Ensemble		1
	Credit Hours	16
Year Three		
Fall		
MSJ 3	Jazz Forum	0
MSJ Principal Instrument & Studio Class		2
MSJ 342	Technology Skills III	3
MSJ 519	Advanced Modern Arranging I	3
MIP 181	Instrumental Conducting I	2
People & Society Cognate		3
MSJ Small Ensemble		1
MSJ Large Ensemble		1
	Credit Hours	15
Spring		
MSJ 3	Jazz Forum	0
MSJ Principal Instrument Lesson & Studio Class		2
MSJ 520	Advanced Modern Arranging II	3
MSJ 565	Advanced Improvisation I	3
STEM Cognate		3
MSJ Small Ensemble		1
MSJ Large Ensemble		1
	Credit Hours	13
Year Four		
Fall		
MSJ 3	Jazz Forum	0
MSJ Principal Instrument Lesson & Studio Class		2

MSJ 242 or 320	Jazz Percussion Techniques or Basic Drumset Styles and Techniques (Part 2)	1
MSJ 509	Jazz Composition I	3
MSJ 566	Advanced Improvisation II	3
STEM Cognate		3
MSJ Small Ensemble		1
MSJ Large Ensemble		1
	Credit Hours	14
Spring		
MSJ 3	Jazz Forum	0
MSJ Principal Instrument Lesson & Studio Class		2
Senior Recital (with lesson) AWC		
MMI 310	Music Business and Entrepreneurship for Musicians	3
Elective		3
STEM Cognate		3
MSJ Small Ensemble		1
MSJ Large Ensemble		1
	Credit Hours	13
	Total Credit Hours	121

Suggested Plan of Study - Drumset (Jazz Percussion)

Course	Title	Credit Hours
Year One		
Fall		
MSJ 3	Jazz Forum	0
MSJ Principal Instrument Lesson & Studio Class		2
MSJ 140 & MSJ 107	Experiential Musicianship I and Skills Lab I	4
MCY 140	Experiencing Music	3
MKP 140	Keyboard Studies I	1
MSJ 220	Basic Drumset Styles and Techniques (Part 1)	3
ENG 105	English Composition I	3
UMX 100	The University of Miami Experience	0
MSJ Large Ensemble		1
	Credit Hours	17
Spring		
MSJ 3	Jazz Forum	0
MSJ Principal Instrument Lesson & Studio Class		2
MSJ 141 & MSJ 108	Experiential Musicianship II and Skills Lab II	4
MCY 141	Musical Traditions	3
MKP 141	Keyboard Studies II	1
MSJ 320	Basic Drumset Styles and Techniques (Part 2)	1
ENG 106	English Composition II	3
MSJ Large Ensemble		1
	Credit Hours	15
Year Two		
Fall		
MSJ 3	Jazz Forum	0
MSJ Principal Instrument Lesson & Studio Class		2
MSJ 240 & MSJ 207	Experiential Musicianship III and Skills Lab III	4

MSJ 113	Analysis and Evolution of Jazz Styles I (AWC)	3
MSJ 565	Advanced Improvisation I	3
People & Society Cognate		3
MSJ Large Ensemble		1
	Credit Hours	16
Spring		
MSJ 3	Jazz Forum	0
MSJ Principal Instrument Lesson & Studio Class		2
MSJ 241 & MSJ 208	Experiential Musicianship IV and Skills Lab IV	4
MSJ 213	Analysis and Evolution of Jazz Styles II (AWC)	3
MMI 250	Essential Technologies for Musicians	3
MSJ 566	Advanced Improvisation II	3
MSJ Large Ensemble		1
	Credit Hours	16
Year Three		
Fall		
MSJ 3	Jazz Forum	0
MSJ Principal Instrument & Studio Class		2
MSJ 342	Technology Skills III	3
MSJ 519	Advanced Modern Arranging I	3
MTH 101	Algebra for College Students	3
MIP 181	Instrumental Conducting I	2
MSJ Small Ensemble		1
MSJ Large Ensemble		1
	Credit Hours	15
Spring		
MSJ 3	Jazz Forum	0
MSJ Principal Instrument Lesson & Studio Class		2
MSJ 124	Introduction to Jazz Improvisation	3
MSJ 520	Advanced Modern Arranging II	3
STEM Cognate		3
People & Society Cognate		3
MSJ Small Ensemble		1
MSJ Large Ensemble		1
	Credit Hours	16
Year Four		
Fall		
MSJ 3	Jazz Forum	0
MSJ Principal Instrument & Studio Class		2
MSJ 509	Jazz Composition I	3
People & Society Cognate		3
STEM Cognate		3
MSJ Small Ensemble		1
MSJ Large Ensemble		1
	Credit Hours	13
Spring		
MSJ 3	Jazz Forum	0
MSJ Principal Instrument Lesson & Studio Class		2
MMI 310	Music Business and Entrepreneurship for Musicians	3
Senior Recital (with Lesson)		
Elective		3

STEM Cognate	3
MSJ Small Ensemble	1
MSJ Large Ensemble	1
Credit Hours	13
Total Credit Hours	121

B.M. in Studio Music and Jazz Voice

Dept Code: MSJ

The vocal curriculum in Studio Music and Jazz is designed for interested and qualified vocalists who desire to continue to develop to the highest degree their backgrounds and skills in the performance of studio music (recording), jazz, and contemporary pop music. Admission to this major pre-supposes music training in jazz.

Advanced Writing and Communication Skills

Courses

All students are required to successfully complete 3 Advanced Writing and Communication Skills (AWC) courses. Student degree requirements will include courses that meet the desired communication outcomes in evaluated and revised writing, speaking, stage presence, and audience engagement.

All Studio Jazz Vocal students will successfully complete:

1. MCY 141 Musical Trends and Traditions, which will include substantial evaluated and revised writing components.
2. MSJ VO3 Private Lesson Senior Recital, which will include evaluated communication skills in attracting an audience, engaging an audience during performance, and preparing program notes or similar media as appropriate to the medium/venue.
3. MSJ 213 Analysis & Evolution of Jazz Styles II, which will include discipline specific communication skills.

Assessment

There will be at least 2 specific assessments in each Advanced Communications Skills course for communications or writing equivalent to 4000 words, evaluated and revised.

Degree Requirements

Code	Title	Credit Hours
General Education Courses MSJV		
ENG 105	English Composition I	3
ENG 106	English Composition II	3
MTH 101	Algebra for College Students	3
ST_XXXX	STEM Cognate	9
PS_XXXX	People & Society Cognate	9
UMX 100	The University of Miami Experience	0
	Advanced Writing and Communication Skills (3 Course) See details below	0
Experiential Music Curriculum Core Courses MSJV ¹		
MSJ 3	Jazz Forum (8 semesters)	0
MSJ V01 (Level 1)	Voice Lesson & Studio Class (semesters 1-4, 2 credit hours)	8
MSJ V03 (Level 3)	Voice Lesson & Studio Class (semesters 5-6, 2 credit hours)	4
MSJ 140 & MSJ 107	Experiential Musicianship I and Skills Lab I	4
MSJ 141 & MSJ 108	Experiential Musicianship II and Skills Lab II	4
MSJ 240 & MSJ 207	Experiential Musicianship III and Skills Lab III	4
MSJ 241 & MSJ 208	Experiential Musicianship IV and Skills Lab IV	4
MKP 140	Keyboard Studies I	1

MKP 141	Keyboard Studies II	1
MCY 140	Experiencing Music	3
MCY 141	Musical Traditions (AWC)	3
MMI 250	Essential Technologies for Musicians	3
MMI 310	Music Business and Entrepreneurship for Musicians	3
MSJ XXX	Large Ensembles (semesters 1-6, 1 credit hour)	6
Courses in the MSJV Major		
MSJ XXX	Large Ensembles (semesters 7-8, 1 credit hour)	2
MSJ XXX	Small Ensembles (4 semesters, 1 credit hour)	4
MSJ V03 (Level 3)	Voice Lesson & Studio Class (semesters 7-8, 2 credit hours)	4
	Senior recital with lesson	
MSJ 113	Analysis and Evolution of Jazz Styles I	3
MSJ 124	Introduction to Jazz Improvisation	3
MSJ 213	Analysis and Evolution of Jazz Styles II (AWC)	3
MSJ 342	Technology Skills III	3
MSJ 242	Jazz Percussion Techniques	1
MSJ 371	Jazz Improvisation I (AWC)	3
MSJ 372	Jazz Vocal Improvisation I	3
MSJ 509	Jazz Composition I	3
MSJ 516	Jazz Vocal Arranging	3
MSJ 519	Advanced Modern Arranging I	3
MVP 538	Vocal Pedagogy	2
MIP 181	Instrumental Conducting I	2
	Non-Music Elective	3
Total Credit Hours		120

¹ *EMC core courses require a grade of "C" or higher. Lessons require a grade of "B-" or higher.*

Suggested Plan of Study

Course	Title	Credit Hours
Year One		
Fall		
MSJ 3	Jazz Forum	0
MSJ V01	Jazz Voice	2
MSJ 140 & MSJ 107	Experiential Musicianship I and Skills Lab I	4
MCY 140	Experiencing Music	3
MKP 140	Keyboard Studies I	1
MSJ 124	Introduction to Jazz Improvisation	3
ENG 105	English Composition I	3
UMX 100	The University of Miami Experience	0
MSJ Large Ensemble		1
	Credit Hours	17
Spring		
MSJ 3	Jazz Forum	0
MSJ V01	Jazz Voice	2
MSJ 141 & MSJ 108	Experiential Musicianship II and Skills Lab II	4
MCY 141	Musical Traditions	3
MKP 141	Keyboard Studies II	1
ENG 106	English Composition II	3
MTH 101	Algebra for College Students	3

MSJ Large Ensemble		1
	Credit Hours	17
Year Two		
Fall		
MSJ 3	Jazz Forum	0
MSJ V01	Jazz Voice	2
MSJ 113	Analysis and Evolution of Jazz Styles I	3
MSJ 240 & MSJ 207	Experiential Musicianship III and Skills Lab III	4
MSJ 371	Jazz Improvisation I	3
People & Society Cognate		3
MSJ Large Ensemble		1
	Credit Hours	16
Spring		
MSJ 3	Jazz Forum	0
MSJ V01	Jazz Voice	2
MSJ 213	Analysis and Evolution of Jazz Styles II (AWC)	3
MSJ 241 & MSJ 208	Experiential Musicianship IV and Skills Lab IV	4
MMI 250	Essential Technologies for Musicians	3
MSJ 372	Jazz Vocal Improvisation I	3
MSJ Large Ensemble		1
	Credit Hours	16
Year Three		
Fall		
MSJ 3	Jazz Forum	0
MSJ V03	Jazz Voice	2
MSJ 342	Technology Skills III	3
MSJ 519	Advanced Modern Arranging I	3
MIP 181	Instrumental Conducting I	2
People & Society Cognate		3
MSJ Small Ensemble		1
MSJ Large Ensemble		1
	Credit Hours	15
Spring		
MSJ 3	Jazz Forum	0
MSJ V03	Jazz Voice	2
MSJ 516	Jazz Vocal Arranging	3
People & Society Cognate		3
STEM Cognate		3
MSJ Small Ensemble		1
MSJ Large Ensemble		1
	Credit Hours	13
Year Four		
Fall		
MSJ 3	Jazz Forum	0
MSJ V03	Jazz Voice	2
MSJ 242	Jazz Percussion Techniques	1
MSJ 509	Jazz Composition I	3
MVP 538	Vocal Pedagogy	2
STEM Cognate		3
MSJ Small Ensemble		1

MSJ Large Ensemble		1
	Credit Hours	13
Spring		
MSJ 3	Jazz Forum	0
MSJ V03	Jazz Voice	2
Senior Recital (with Lesson) AWC		
MMI 310	Music Business and Entrepreneurship for Musicians	3
Non-Music Elective		
STEM Cognate		
MSJ Small Ensemble		1
MSJ Large Ensemble		1
	Credit Hours	13
	Total Credit Hours	120

Certificate in Jazz Performance

Audition Required-Music Majors Only

Performance Certificates may be awarded to music majors, in non-performance degrees: MED, MTY, MTC, MWP, MBEI, MUE, and MUS, who meet the achievement level and standards of a music performance major on a single instrument as offered by the following degree programs: MIP, MVP, MKP, MSJI, and MSJV. Any student wishing to declare a Performance Certificate must audition on an instrument or voice and be approved by the appropriate department. In addition to the Experiential Music Curriculum Core Courses, the following requirements must be met in one of the following tracks: MIP, MVP, MKP, or MSJ. The Music Performance Certificate requires approval by designated departmental faculty. The appropriate performance level must be achieved as determined by the designated departmental faculty or the certificate will not have been earned, even if all courses have been successfully completed. The Music Performance Certificate will be awarded upon successful completion of all coursework and final approval of the designated departmental faculty.

* Students who will enroll in a required internship (i.e. student teaching) in their 8th semester may petition the department to perform the senior recital and satisfy the Principal Instrument Lesson & Studio Class degree requirements in their 7th semester.

Curriculum Requirements

Code	Title	Credit Hours
MSJ Principal Instrument Lesson & Studio Class (semesters 7-8, 2 credit hours) Level 3		4
Senior Recital with lesson		
Ensembles as assigned (usually 2 per semester)		10
MSJ 124	Introduction to Jazz Improvisation	3
MSJ 371	Jazz Improvisation I	3
MSJ 113	Analysis and Evolution of Jazz Styles I	3
or MSJ 213	Analysis and Evolution of Jazz Styles II	
MSJ 565	Advanced Improvisation I	3
or MSJ 566	Advanced Improvisation II	
Total required credits		26

Minor in Studio Music and Jazz Instrumental (Music Majors Only)

A 12 credit hour minor is available for students enrolled in the Frost School of Music whose principal performance medium is a jazz instrument. Permission of the studio teacher is required. The following courses must be taken to fulfill the requirement of this minor:

Code	Title	Credit Hours
MSJ 113	Analysis and Evolution of Jazz Styles I	3
MSJ 124	Introduction to Jazz Improvisation	3
MSJ 371	Jazz Improvisation I	3
MSJ 519	Advanced Modern Arranging I	3
Total Credit Hours		12

Vocal Performance (MVP)

Dept. Code: MVP

The Department of Vocal Performance offers a bachelor of music degree in vocal performance.

Major in Vocal Performance

- B.M. in Vocal Performance (p. 861)

Minors

- Minor in Dance (p. 865)

Certificates

- Vocal Performance (p. 864)

B.M. in Vocal Performance

Dept Code: MVP

The Department of Vocal Performance offers a bachelor of music degree in vocal performance.

Advanced Writing and Communication Skills

Courses

All students are required to successfully complete 3 Advanced Writing and Communication Skills (AWC) courses. Student degree requirements will include courses that meet the desired communication outcomes in evaluated and revised writing, speaking, stage presence, and audience engagement.

All Vocal Performance students will successfully complete:

1. MCY 341 Music of the Medieval, Renaissance, and Baroque Periods which will include substantial evaluated and revised writing components.
2. MVP VO3 Private Lesson (Level 3) Senior Recital, which will include evaluated communication skills in attracting an audience, engaging an audience during performance, and preparing program notes or similar media as appropriate to the medium/venue.
3. MVP 538 Vocal Pedagogy, which will include discipline specific communication skills.

Assessment

There will be at least 2 specific assessments in each Advanced Communications Skills course for communications or writing equivalent to 4000 words, evaluated and revised.

Degree Requirements

Code	Title	Credit Hours
General Education Courses MVP		
ENG 105	English Composition I	3
ENG 106	English Composition II	3
MTH 101	Algebra for College Students	3
ST_XXXX	STEM Cognate	9
PS_XXXX	People & Society Cognate	9
UMX 100	The University of Miami Experience	0
	Advanced Writing and Communication Skills (3 course) see details below	0
Total General Education credits = 27		
Experiential Music Curriculum Core Courses MVP ¹		
MVP 8	Voice Forum (8 semesters)	0
MVP VO1 (Level 1)	Voice Lesson & Studio Class (semesters 1-4, 2 credit hours)	8
MVP VO3 (Level 3)	Voice Lesson & Studio Class (semesters 5-6, 2 credit hours)	4

MTC 140 & MTC 107	Experiential Musicianship I and Skills Lab I	4
MTC 141 & MTC 108	Experiential Musicianship II and Skills Lab II	4
MTC 240 & MTC 207	Experiential Musicianship III and Skills Lab III	4
MTC 241 & MTC 208	Experiential Musicianship IV and Skills Lab IV	4
MKP 140	Keyboard Studies I	1
MKP 141	Keyboard Studies II	1
MCY 140	Experiencing Music	3
MCY 341	Music of the Mediaeval, Renaissance, and Baroque Periods (AWC)	3
MMI 250	Essential Technologies for Musicians	3
MMI 310	Music Business and Entrepreneurship for Musicians	3
MVP XXX	Choral Ensembles (semesters 1-6, 1 credit hour)	6
Total credits for EMC Core courses = 48		
Courses in the MVP Major		
MVP XXX	Choral Ensembles (semesters 7-8, 1 credit hour)	2
MVP XXX	Opera Theater I-IV (4 semesters, 1 credit hour)	4
MVP VO3 (Level 3)	Voice Lesson & Studio Class (semesters 7-8, 2 credit hours) Junior & Senior recitals with lesson	4
MCY 342	Music of the Classical, Romantic, and Modern Periods	3
MCY 522	Operatic Literature	3
MCY 525	Art Song Literature	3
MKP 240	Keyboard Studies III	2
MKP 241	Keyboard Studies IV	2
MTC 311	Analysis and Experience	3
MVP 181	Choral Conducting I	2
MVP 250	Lyric Diction for Singers - English and Italian	2
MVP 252	Lyric Diction for Singers - German and French	2
MVP 538	Vocal Pedagogy (AWC)	2
MVP 552	Vocal Performance Preparation (1 credit class for 3 semesters)	3
ITA 101	Elementary Italian I	3
FRE XXX	French	3
GER XXX	German	3
Total credits for courses in the major = 46		
Total Credit Hours		121

¹ *EMC core courses require a grade of "C" or higher. Lessons require a grade of "B-" or higher.*

Suggested Plan of Study

Course	Title	Credit Hours
Year One		
Fall		
MVP 8	Voice Forum	0
MVP VO1	Voice	2
MTC 140 & MTC 107	Experiential Musicianship I and Skills Lab I	4
MCY 140	Experiencing Music	3
MKP 140	Keyboard Studies I	1
MVP 188	Opera Theater I	1
MVP 250	Lyric Diction for Singers - English and Italian	2
ENG 105	English Composition I	3

UMX 100	The University of Miami Experience	0
Choral Ensemble		1
	Credit Hours	17
Spring		
MVP 8	Voice Forum	0
MVP VO1	Voice	2
MTC 141 & MTC 108	Experiential Musicianship II and Skills Lab II	4
MKP 141	Keyboard Studies II	1
MVP 252	Lyric Diction for Singers - German and French	2
ENG 106	English Composition II	3
MTH 101	Algebra for College Students	3
Choral Ensemble		1
	Credit Hours	16
Year Two		
Fall		
MVP 8	Voice Forum	0
MVP VO1	Voice	2
MKP 240	Keyboard Studies III	2
MTC 240 & MTC 207	Experiential Musicianship III and Skills Lab III	4
MMI 250	Essential Technologies for Musicians	3
MVP 181	Choral Conducting I	2
MVP 288	Opera Theater III	1
Choral Ensemble		1
	Credit Hours	15
Spring		
MVP 8	Voice Forum	0
MVP VO1	Voice	2
MKP 241	Keyboard Studies IV	2
MTC 241 & MTC 208	Experiential Musicianship IV and Skills Lab IV	4
ITA 101	Elementary Italian I	3
STEM Cognate		3
Choral Ensemble		1
	Credit Hours	15
Year Three		
Fall		
MVP 8	Voice Forum	0
MVP VO3	Voice	2
MCY 341	Music of the Mediaeval, Renaissance, and Baroque Periods	3
MVP 388	Opera Theater V	1
People & Society Cognate		3
GER XXX	German	3
STEM Cognate		3
Choral Ensemble		1
	Credit Hours	16
Spring		
MVP 8	Voice Forum	0
MVP VO3	Voice	2
MCY 342	Music of the Classical, Romantic, and Modern Periods	3
MCY 522 or 525	Operatic Literature or Art Song Literature	3

MVP 552	Vocal Performance Preparation	1
Junior Recital (with Lesson)		
FRE XXX	French	3
Choral Ensemble		
Credit Hours		13
Year Four		
Fall		
MVP 8	Voice Forum	0
MVP V03	Voice	2
MMI 310	Music Business and Entrepreneurship for Musicians	3
MTC 311	Analysis and Experience	3
MVP 538	Vocal Pedagogy	2
MVP 552	Vocal Performance Preparation	1
MVP 488	Opera Theater VII	1
People & Society Cognate		
Choral Ensemble		
Credit Hours		16
Spring		
MVP 8	Voice Forum	0
MVP V03	Voice	2
MCY 522 or 525	Operatic Literature or Art Song Literature	3
MVP 552	Vocal Performance Preparation	1
Senior Recital (with Lesson) AWC		
People & Society Cognate		
STEM Cognate		
Choral Ensemble		
Credit Hours		13
Total Credit Hours		121

Certificate in Vocal Performance

Audition Required-Music Majors Only

Performance Certificates may be awarded to music majors, in non-performance degrees: MED, MTY, MTC, MWP, MBEI, MUE, and MUS, who meet the achievement level and standards of a music performance major on a single instrument as offered by the following degree programs: MIP, MVP, MKP, MSJI, and MSJV. Any student wishing to declare a Performance Certificate must audition on an instrument or voice and be approved by the appropriate department. In addition to the Experiential Music Curriculum Core Courses, the following requirements must be met in one of the following tracks: MIP, MVP, MKP, or MSJ. The Music Performance Certificate requires approval by designated departmental faculty. The appropriate performance level must be achieved as determined by the designated departmental faculty or the certificate will not have been earned, even if all courses have been successfully completed. The Music Performance Certificate will be awarded upon successful completion of all coursework and final approval of the designated departmental faculty.

* Students who will enroll in a required internship (i.e. student teaching) in their 8th semester may petition the department to perform the senior recital and satisfy the Principal Instrument Lesson & Studio Class degree requirements in their 7th semester.

Curriculum Requirements

Code	Title	Credit Hours
MVP Principal Instrument Lesson & Studio Class (semesters 7-8, 2 credit hours) Level 3		
Senior Recital with lesson		
Ensembles as assigned (usually 2 per semester)		10
MCY 341	Music of the Mediaeval, Renaissance, and Baroque Periods (you may substitute MCY 341 for MCY 141 in the EMC core)	3
MCY 342	Music of the Classical, Romantic, and Modern Periods	3
MVP 250	Lyric Diction for Singers - English and Italian	2

MVP 252	Lyric Diction for Singers - German and French	2
MCY 522	Operatic Literature	3
or MCY 525	Art Song Literature	
Total required credits		27

Minor in Dance

<https://dance.frost.miami.edu/>

***There is no undergraduate degree for dance.**

The dance minor is open to all university students with the approval of their advisor. Students intending to minor in dance are required to write a statement (150-300 words) explaining their motivation to minor in dance or submit a resume of their dance experience or a video of themselves in dance performance or class for consideration. Send your statement, video or resume to Carol Kaminsky at c.kaminsky@miami.edu. All dance minors must maintain a grade point average of 3.0 in dance courses. There is no undergraduate major in dance.

Code	Title	Credit Hours
DAN 130	Orientation to Dance (prerequisite for all students interested in the Dance minor)	2
Complete exactly 1 course from - Advanced Studio Technique:		3
DAN 211	Modern Dance, Level Two	
DAN 311	Modern Dance, Level Three	
DAN 411	Modern Dance; Level Four	
Complete exactly 1 course from - Dance Education:		3
DAN 385	Methods of Teaching Dance (K-12)	
DAN 585	Methods of Teaching Dance K-12 (Advanced)	
Complete exactly 1 course from - Dance History:		3
DAN 250	World History of the Dance	
DAN 450	History of Modern Dance	
DAN 550	Women in Theatrical Dance	
Complete exactly 4 credit hours from - Studio Electives:		4
DAN 111	Modern Dance, Level One	
DAN 121	Ballet, Level One	
DAN 140	Theatre Dance Forms	
DAN 190	Improvisation	
DAN 221	Ballet, Level Two	
DAN 240	Cultural Dance Forms	
DAN 280	Dance Composition Level 2	
DAN 285	Creative Dance for Children	
DAN 286	Teaching Dance to Children	
DAN 290	Introduction to Dance-Movement Therapy	
DAN 291	Dance Movement Therapy	
DAN 380	Dance Composition Level 3	
Total Credit Hours		15

Nursing and Health Studies

<http://www.miami.edu/sonhs>

The School of Nursing and Health Studies (SONHS) is committed to academic excellence, the advancement of healthcare, and service to society. Opportunities are available for students to study and earn course credit in a variety of local and international settings.

Mission

The mission of the SONHS is to educate students and support faculty committed to excellence in nursing and health science. Through research, education and practice, the school will create and disseminate health knowledge and prepare culturally competent leaders to provide safe service to our community, the nation and the world.

Baccalaureate Degrees

The SONHS offers three baccalaureate degrees:

1. **Bachelor of Science in Health Science (BSHS)**
2. **Bachelor of Science in Nursing (BSN)**
3. **Bachelor of Science in Public Health (BSPH)**

Student Responsibilities

Students in the SONHS are responsible for fulfilling their degree requirements. Students are also responsible for complying with all provisions outlined in the Academic Bulletin and the Student Handbook.

Academic Bulletin and Student Handbook

In addition to the material listed in the Academic Bulletin, all SONHS students are held to the policies, procedures, and requirements listed in the most current Student Handbook (<http://www.sonhs.miami.edu/academics/student-handbooks>) for their respective degree program. Please note the material included in the Student Handbook is subject to change throughout the academic year and may not be reflected in the Academic Bulletin.

The Student Handbook contains the most current information. Consult an academic advisor in the Office of Student Services (OSS) (<http://oss.sonhs.miami.edu>) for questions related to academic requirements and opportunities.

Accommodations Policy for Students with Disabilities

The SONHS adheres to standards of the Americans with Disabilities Act. Any student needing special accommodations should seek assistance through the Office of Disability Services (ODS) (<http://umarc.miami.edu/arc/ODS.html>), which is the primary on-campus resource responsible for the coordination of services for students with disabilities. Students must follow ODS' policies, procedures, and timelines to request assistance. Please note ODS has strict deadlines to apply for accommodations; only students who are officially registered with ODS may be granted accommodations.

Financial Assistance

Students interested in obtaining financial assistance in the form of student loans, grants, etc. should contact the Office of Financial Assistance (<http://www.miami.edu/admission/index.php/ofas>).

The SONHS also offers limited merit-based and need-based scholarships to continuing students. The types of scholarships available and the qualifications for them vary by semester. Continuing students who wish to be considered for the SONHS scholarships must apply for such scholarships through the SONHS General Scholarship Application. Calls for applications are e-mailed to continuing students once each semester to prompt students to apply who wish to be considered for a scholarship for the next term. Additional information on the SONHS scholarships as well as health science-, nursing-, and public health-related outside scholarships can be found on the SONHS Scholarships website (<http://www.sonhs.miami.edu/admissions-and-financial-aid/financial-aid-and-community-scholarships>).

Facilities

The SONHS is located on the Coral Gables Campus. The four-story, Jerusalem-stone and stucco M. Christine Schwartz Center for Nursing and Health Studies opened in Fall 2006. The building features classrooms and clinical practice labs, conference rooms, a computer lab, and a simulation academy, all equipped with the latest technology. The spacious 53,000 square foot facility supports the work of more than 40 nurse-scientists and clinical educators, as well as approximately 1,100 undergraduate and graduate students enrolled in the SONHS' health science, nursing, and public health programs.

In Fall 2017, the SONHS opened the new, state-of-the-art, 41,000 square foot, 5 story Simulation Hospital (http://www.miami.edu/sonhs/index.php/simulation_hospital). The Simulation Hospital is a one-of-a-kind facility, as it is one of the first education-dedicated simulation facilities located on a college campus. This new facility uses the latest simulation technology to provide SONHS students with the highest-quality healthcare education

through a variety of simulated clinical environments. It also provides opportunities for public health-related simulation experiences and creates ample opportunities for inter-professional education (IPE).

Library resources for SONHS students are available at the Otto G. Richter Library (<http://library.miami.edu>) on the Coral Gables Campus and the Louis Calder Memorial Library (<http://calder.med.miami.edu>) on the Medical Campus.

Clinical experiences are offered in a variety of hospitals and health-related agencies in the community, including the University of Miami Hospital, Jackson Health System, Sylvester Comprehensive Cancer Center, Nicklaus Children's Hospital, and approximately 170 other community partners.

The Foote Fellows Honors Program (<http://admissions.miami.edu/undergraduate/academics/programs-of-distinction/foote-fellows>) at the University of Miami (UM) recognizes the most educationally accomplished incoming students. Throughout high school, Foote Fellows distinguished themselves both in and out of the classroom as self-motivated, independent-thinking individuals dedicated to the pursuit of knowledge. This program was built to reflect these ideals and to embody the educational vision of former University of Miami President, Edward T. Foote, who retired in 2000 after serving the University for twenty years.

Program Benefits and Opportunities

Foote Fellows in the School of Nursing and Health Studies (SONHS) are exempt from the Areas of Proficiency (e.g., English and mathematics), Areas of Knowledge (i.e., cognates), and Advanced Writing and Communication requirements. These exemptions provide Foote Fellows with unmatched freedom and flexibility to explore a multitude of educational endeavors within the curricular framework of the SONHS. Many Foote Fellows leverage this opportunity to complete additional majors, minors, and/or cognates, study abroad, participate in research, etc.

SONHS Foote Fellows may be eligible to participate in various global initiatives (<http://www.sonhs.miami.edu/academics/global-programs>), research experiences, civically-engaged or clinically-based courses, and academic lectures. They will be invited to join advanced, interdisciplinary Foote Fellow seminars taught by leading faculty members from across the University (e.g., "Books That Matter"). Furthermore, Foote Fellows receive focused advising by the Foote Fellow program coordinator on post-baccalaureate prestigious awards and fellowships. SONHS Foote Fellows should speak with the academic advisors located in the Office of Student Services (OSS) (<http://oss.sonhs.miami.edu>) to learn more about their academic and extracurricular opportunities.

Admission Criteria

Admission to the SONHS Foote Fellows program is by invitation only. To be considered for this program, health science, nursing, and public health students must have a weighted high school GPA of 4.5 or higher and a SAT score of 1300 or higher (verbal and math) or an ACT score of 30 or higher.

Students must also submit a portfolio consisting of (a) an essay on their desire to contribute to decreasing health disparities, including a description of at least one health disparity and a plan for addressing it, (b) a historical account of their community service, volunteer, and leadership experience, and (c) a discussion of their short-term and long-term goals.

Outcome Criteria

Foote Fellows in the SONHS will maintain an undergraduate GPA of 3.5 or higher. The GPA used to make this determination is the UM-specific GPA or the Combined GPA (i.e., UM-specific and Transfer GPA combined), whichever is lower. Foote Fellows must also create a capstone portfolio that includes examples of (a) how they have addressed a health disparity throughout their program of study and of (b) the community service, volunteer, and leadership experiences they have participated in throughout their time at the University of Miami.

Health Science

Academic Programs

The University of Miami (UM) School of Nursing and Health Studies (SONHS) offers courses leading to the degree of Bachelor of Science in Health Science (BSHS). Baccalaureate education provides the foundation for further education in specialized health professional fields. All students who pursue the BSHS degree graduate with a health science major and one of the following pre-professional tracks:

1. General Track
2. Health Management and Policy Track
3. Pre-Medical Track
4. Pre-Occupational Therapy Track
5. Pre-Pharmacy Track
6. Pre-Physical Therapy Track

Students are encouraged to contact graduate programs directly to ascertain if there are specific course requirements they must complete above and beyond those included in their chosen pre-professional track.

Admission

Admission as a new freshman or transfer student to the BSHS program is handled through the Office of Undergraduate Admission (http://admissions.miami.edu/undergraduate/index.html?utm_source=Mailers&utm_medium=Print&utm_campaign=FromPrint) and is open to applicants who meet the general requirements for admission to the UM.

In accepting students into the BSHS program, the UM does not in any way ensure admittance into professional graduate programs. Admission to professional graduate programs is dependent upon strong undergraduate academic performance and appropriate, well-rounded extracurricular experiences. Admission to these programs is determined independently by the school or program to which the student applies.

Applicants interested in any of the SONHS' baccalaureate programs are encouraged to speak with a representative from the SONHS' Office of Student Services (OSS) (<http://oss.sonhs.miami.edu>) and/or the UM's Office of Undergraduate Admission (http://admissions.miami.edu/undergraduate/index.html?utm_source=Mailers&utm_medium=Print&utm_campaign=FromPrint).

Academic Policies

Grades

Students should refer to the Student Handbook (<http://www.sonhs.miami.edu/academics/student-handbooks>) for more detailed information on the SONHS' policies related to grades, progression, and dismissal.

Undergraduate BSHS students must earn a C- or higher in each course for the major to progress.

When a course must be repeated, progression in the BSHS program may be altered in order for prerequisites to be met. Such alteration may lengthen the time required to complete the BSHS program.

Grade Point Averages (GPAs)

Students should refer to the Student Handbook (<http://www.sonhs.miami.edu/academics/student-handbooks>) for more detailed information on the SONHS' policies related to GPAs, progression, and dismissal.

Requirements to Declare

Current UM students who wish to switch into the BSHS program must possess a minimum 2.8 UM GPA to be considered for admission.

Incoming transfer students who plan to enter the BSHS program must possess a minimum 2.8 transfer GPA to be considered for admission.

Requirements to Continue

BSHS are strongly encouraged not to continue with the BSHS degree if they have less than a 2.5 UM GPA after 15 credits completed in the major.

Requirements to Graduate

Students enrolled in the BSHS program must complete their coursework with a minimum 2.0 UM GPA and a minimum 2.0 major GPA to graduate.

Prerequisites and Corequisites

Students must successfully complete all specified prerequisites with a C or higher before entering a nursing course or with a C- or higher before entering a health science or public health course. Students must also register for all required corequisites at the time of enrollment. If students enroll in a health science, nursing, or public health course without the proper prerequisite or corequisite, they may be dropped from the course at the discretion of the course instructor, OSS, Associate Dean, or Dean. Students should consult an academic advisor in the OSS (<http://oss.sonhs.miami.edu>) to discuss any questions related to course enrollment.

Note: All Health Science majors must take the anatomy and physiology lectures and labs offered through the SONHS (i.e., HCS 212/213 and HCS 215/216) as stated in their plan of study. No exceptions will be made to take other UM anatomy or physiology lectures or labs outside of the SONHS.

Residency Requirements

Undergraduate BSHS students must adhere to the general UM residency rules. At least half of the health science major must be taken in residence at the UM. Exceptions to the residency requirements may only be obtained through an appeal to the Undergraduate Academic Standing and Admissions Committee (UGASAC). Students should speak with an academic advisor in the OSS (<http://oss.sonhs.miami.edu>) for more information on the residency requirements and on the UGASAC appeals process.

Transfer Credit

Students may transfer health science, nursing, or public health courses from other institutions to the UM with approval by the OSS (<http://oss.sonhs.miami.edu>). Detailed course descriptions or syllabi must be presented to the OSS (<http://oss.sonhs.miami.edu>) for transfer equivalency reviews.

Degree Requirements

Listed in this section are the degree requirements for the BSHS program.

The University of Miami's General Education Requirements (GERs) consist of the Areas of Proficiency, Areas of Knowledge, and Advanced Writing and Communication Skills requirements. Through the completion of the GERs, graduates acquire essential intellectual skills and engage a range of academic disciplines. The GERs provide students with the opportunity to study methodologies and achievements in all areas of human inquiry and creative endeavor, and to cultivate abilities essential for the acquisition of knowledge. The GERs also allow students to create an integrative map for their academic careers, providing a context for more focused studies.

There are numerous ways students can create plans of study for the BSHS program. Students should feel empowered to use the information listed in the Academic Bulletin and the Student Handbook (<http://www.sonhs.miami.edu/academics/student-handbooks>) to take charge of their education, pursue their own academic interests, and create their own, unique plans of study. Students should meet with an academic advisor in the OSS (<http://oss.sonhs.miami.edu>) to discuss any questions related to degree requirements and plans of study.

Areas of Proficiency

The Areas of Proficiency requirements ensure students either possess or develop the ability to express themselves effectively, to use mathematics with facility, and to reason cogently.

English Composition

Good writing facilitates clear thinking, and clear thinking is the foundation of effective communication. The expectation is that students become adept at using the English language as an effective communication tool. Effective writing skills are representative of an educated person because they are instruments to advance ideas efficiently and persuasively.

Requirements

Students complete this requirement by completing ENG 105 and ENG 106 (Note: SAT or ACT verbal scores can be used to waive the ENG 105 requirement; credit will not be awarded for the waiver. Students who enter UM with credits for ENG 105 or ENG 106 may take ENG 208 to finish this requirement).

Outcomes

By completing the English Composition requirement, students will be able to:

1. gather information, synthesize data, compare various points of view, and present results in writing
2. develop the ability to read texts critically and to use textual evidence to support a sophisticated written argument
3. consider audience, tone, organization, and standard conventions in relationship to specific rhetorical tasks

Mathematics & Computer Science

In a world increasingly influenced by science and technology, it is important for students to acquire the capacity to use and understand essential mathematical applications. The mathematics requirement helps students learn to use quantitative methods to solve problems by emphasizing the manipulation, interpretation, and application of quantitative data.

Requirements

Students complete this requirement by completing a course in each of the following areas:

1. **Calculus:** MTH 141, MTH 161, or MTH 171
2. **Computer Science:** 1 CSC or BTE course
3. **Statistics:**
 - a. Health Management and Policy Track: MAS 201 or other approved statistics course
 - b. All other tracks: HCS 202 or other approved statistics course

Math placement criteria is established affected by the Department of Mathematics (<http://www.math.miami.edu/undergraduate/aleks-math-placement>). The following items may affect students' math placement at the UM: SAT and ACT scores, ALEKS math placement scores, and AP, IB, dual enrollment, and transfer credits. Students should review the information listed on the Department of Mathematics (<http://www.math.miami.edu/undergraduate/aleks-math-placement>) website and consult with an academic advisor in the OSS (<http://oss.sonhs.miami.edu>) if they have any questions.

Outcomes

By completing the Mathematics requirement, students will be able to:

1. select quantitative tools appropriate for solving problems
2. use quantitative tools appropriate for solving problems
3. interpret quantitative data in an appropriate manner for solving problems

Areas of Knowledge (Cognates)

The Areas of Knowledge requirement is designed to help students understand and appreciate intellectual achievements in major areas of human inquiry and creative endeavor. The courses offered in the Areas of Knowledge provide a broad array of intellectual and cultural exploration. In satisfying these requirements, students examine creative expression in the arts, literature, and philosophy; study human development and behavior; and explore the mathematical, scientific, and technological world.

Students fulfill the Areas of Knowledge requirement by completing a specific "cognate" in three distinct areas: Arts & Humanities, People & Society, and Science, Technology, Engineering, and Mathematics (STEM). Cognates are groups of "at least three related courses for at least 9 credits" focused on a specific topic. Majors and minors can be used to fulfill a cognate in its respective Area of Knowledge. Each cognate used to fulfill one of the Areas of Knowledge must have a different Responsible Academic Unit (RAU). Several cognates may include the same courses; however, one course cannot be used to complete multiple cognates. For more information on cognates, go to the "General Education Requirements" section of the Academic Bulletin or visit <http://www.miami.edu/cognates/>.

Arts & Humanities

Arts & Humanities cognates engage students in the study of the most enduring and influential works of art, imagination, and culture. Through study, creation, and performance, courses in this area enable students to understand the works of artists, musicians, novelists, philosophers, playwrights, poets, historians, and theologians. These courses cultivate the ability to interpret, critically evaluate, and experience the creative products of human culture and expression.

Requirements

Complete one Arts & Humanities cognate.

Outcomes

By completing the Arts & Humanities requirement, students will be able to:

1. critically evaluate and interpret the creative products of humanistic and artistic expression, applying appropriate vocabulary and concepts for their description and analysis
2. understand the creation and performance of art

People & Society

People & Society cognates help students understand and analyze the organization of society and the patterns of social change, in the past and in the contemporary world.

Requirements

Complete one People & Society cognate.

Outcomes

By completing the People & Society requirement, students will be able to:

1. analyze the organization of society
2. analyze patterns of social change

Science, Technology, Engineering, and Mathematics (STEM)

STEM cognates develop students' abilities to think critically about mathematical, scientific, and technological issues by understanding the processes and methods of scientific inquiry involved in experimentation, observation, and quantitative analysis. The STEM cognates nurture literacies that enable students to make informed decisions in an increasingly complex world.

Requirements

Complete one STEM cognate. The health science major may be used to fulfill this cognate area.

Outcomes

By completing the STEM requirement, students will be able to:

1. understand the use of quantitative tools, experimentation, and observation to analyze and solve mathematical, scientific, environmental, and technological problems
2. interpret quantitative data and draw useful conclusions

Major

Refer to the "Major Requirements" section below for information on the courses required for the BSHS program.

Minor

All students must complete a minor from the SONHS' approved minors list. An approved second major from this list waives the minor requirement. See the OSS (<http://oss.sonhs.miami.edu>) for details.

Advanced Writing and Communication Skills

The Advanced Writing and Communication Skills requirement empowers health science students to develop their communication skills, both written and verbal, enabling them to better articulate information relating to health science, nursing, and public health.

Requirements

To fulfill this requirement, students must complete five designated writing-intensive courses. Several health science requirements and/or electives may qualify as writing-intensive.

Health Science Courses that Require Formal Student Writing or Presentation

The following SONHS courses carry writing and presentation components and may count for the BSHS program:

Course	Writing Assignment	Student Presentations
BPH 301	Various papers	Various presentations
BPH 305	Three reflective papers	Final student presentation
BPH 309	Three reflective papers	Final student presentation
BPH 310	Four reflective papers	Final student presentation
BPH 321	Five reflective papers	Student presentations throughout class
BPH 490	Five journal entries, final paper	Final student presentation

Outcomes

By completing the Advanced Writing and Communication Skills requirement, students will be able to:

1. effectively communicate information related to health science in both speech and in writing, using appropriate information sources, presentation formats, and technologies
2. demonstrate the necessary written and verbal communication skills to effectively carry out a career in healthcare

Plan for Assessment

Student Performance on Written Assignments and Presentations

In order to graduate from the BSHS program students must successfully pass two courses in English Composition (i.e., ENG 105 and ENG 106) as well as five writing-intensive courses with a grade greater than or equal to 70%. Grading of student written assignments and oral presentations are based on defined rubrics. These courses may be applied to the BSHS program as outlined in the major requirements. A number of elective courses in the BSHS curriculum also require students to submit significant written assignments and give oral presentations throughout the semester. Throughout the BSHS curriculum, students must demonstrate their ability to write and communicate accurately and with clarity in order to successfully complete their courses.

Graduating Senior Survey (GSS) Responses for Questions Related to Written and Verbal Communication

Based on the results from the GSS, students believe their undergraduate coursework in the BSHS program significantly enhanced their written, oral, and formal presentation skills, which, in turn, allowed them to more effectively interact with various individuals and groups.

Electives

Students must earn a minimum of 120 credits to complete the BSHS degree. Students may need to take varying numbers of elective credits beyond the degree requirements listed above to reach the 120 credit threshold.

Major Requirements

Health science must be a student's first major. There is no additional major offered in health science.

Visit the "TRACKS IN BSHS PROGRAMS" link to learn more about the major requirements for the SONHS' BSHS programs, which are listed under the "OVERVIEW" section for each BSHS program.

Minor Requirements

There is no minor available in health science.

Classes Not Applicable Toward SONHS Degrees

The following courses do not count toward the 120 credits required of the BSHS degree: DAN 101-104, ENG 103, and MTH 099. Based on their ENG or MTH placement scores, students may need to complete ENG 103 or MTH 099 before enrolling in higher-level requirements. Even though the courses listed above cannot count toward graduation, they can count toward the 12 credits required to be considered a full-time student.

Senior Assessments

In line with the SONHS' ongoing accreditation efforts, seniors with a major in the health science, nursing, and public health may be required to participate in general or major-specific senior assessments lasting up to several hours each. Scores on senior assessments will not affect students' GPAs or ability to graduate, but failure to complete required assessments may delay or prevent students' ability to graduate.

Research Experience

Students may participate in research experiences through the SONHS (<http://www.miami.edu/sonhs/index.php/sonhs/research>) or the Office of Undergraduate Research and Community Outreach (http://www.miami.edu/index.php/undergraduate_research_and_community_outreach) during their time at the UM. Students should speak with the academic advisors located in the OSS (<http://oss.sonhs.miami.edu>) to learn more about the research opportunities available to them at the UM.

Required Coursework and Sample Plans of Study

Visit the "TRACKS IN BSHS PROGRAMS" link to learn more about the academic requirements for the SONHS' BSHS programs and to view sample graduation plans, which are listed under the "OVERVIEW" and "PLAN OF STUDY" sections, respectively, for each BSHS program.

Major in Health Science

- BSHS, Health Science Major, General Track (p. 872)
- BSHS, Health Science Major, Health Management and Policy Track (p. 875)
- BSHS, Health Science Major, Pre-Medical Track (p. 879)
- BSHS, Health Science Major, Pre-Occupational Therapy Track (p. 882)
- BSHS, Health Science Major, Pre-Pharmacy Track (p. 886)
- BSHS, Health Science Major, Pre-Physical Therapy Track (p. 889)

BSHS - General Track

Students enrolled in the General Track must complete the coursework listed below to earn the BSHS degree through the School of Nursing and Health Studies (SONHS). Students should meet with an academic advisor in the Office of Student Services (OSS) (http://www.miami.edu/sonhs/index.php/sonhs/office_of_student_services) to discuss any questions related to their degree requirements.

Curriculum Requirements

Code	Title	Credit Hours
Areas of Proficiency		
English Composition		
ENG 105	English Composition I	3
ENG 106	English Composition II	3
Mathematics & Computer Science		
Calculus: MTH 141, MTH 161, or MTH 171		4
Computer Science: 1 CSC or BTE course		3
Statistics: HCS 202 or other approved statistics course		3
Areas of Knowledge		
Arts & Humanities		9
People & Society		9
Science, Technology, Engineering, and Mathematics (STEM)*		0
Major		
BIL 150 & BIL 151	General Biology and General Biology Laboratory	5
BIL 160 & BIL 161	Evolution and Biodiversity and Evolution and Biodiversity Laboratory	5
BIL 250	Genetics	3
BIL 255	Cellular and Molecular Biology	3
BPH 306	Principles of Nutrition	3
HCS 212 & HCS 213	Human Anatomy and Human Anatomy Laboratory	4
HCS 215	Principles of Systemic Physiology	3

Elective**	3
Choose one physics option below:	10-11
College Physics:	
PHY 101 & PHY 106	College Physics I and College Physics Laboratory I
PHY 102 & PHY 108	College Physics II and College Physics Laboratory II
University Physics for the Life Sciences:	
PHY 201 & PHY 106	University Physics I for the Sciences and College Physics Laboratory I
PHY 202 & PHY 108	University Physics II for the Sciences and College Physics Laboratory II
University Physics:	
PHY 205	University Physics I
PHY 206 & PHY 208	University Physics II and University Physics II Lab
PHY 207 & PHY 209	University Physics III and University Physics III Lab
Choose one chemistry option below:	8-16
Chemistry for Life Sciences:	
CHM 103 & CHM 105	Chemistry for Life Sciences I (Lecture) and Chemistry for Life Sciences I (Laboratory)
CHM 104 & CHM 106	Chemistry for Life Sciences II (Lecture) and Chemistry for Life Sciences II (Laboratory)
Traditional Chemistry:***	
CHM 111 & CHM 113	Principles of Chemistry I and Chemistry Laboratory I
CHM 112 & CHM 114	Principles of Chemistry II and Chemistry Laboratory II
CHM 201 & CHM 205	Organic Chemistry I (Lecture) and Organic Chemistry Laboratory I
CHM 202 & CHM 206	Organic Chemistry II (Lecture) and Organic Chemistry Laboratory II
Chemistry for the Biosciences:***	
CHM 121 & CHM 113	Chemistry for the Biosciences I and Chemistry Laboratory I
CHM 221 & CHM 114	CHM211 Chemistry for the Biosciences II and Chemistry Laboratory II
CHM 222 & CHM 205	CHM212 Chemistry for the Biosciences III and Organic Chemistry Laboratory I
CHM 206	Organic Chemistry Laboratory II
Minor****	12-19
Advanced Writing and Communication Skills*****	0
Electives*****	27-11
Total Credit Hours	120

* The health science major may be used to fulfill this cognate area.

** Students may fulfill this requirement by taking BMB 401 or any BIL, BPH, or HCS course for at least 3 credits at the 200 level or above (except for BPH 202, HCS 202, and NUR 202).

*** CHM 201, CHM 202, CHM 205, CHM 206, and CHM 222 are recommended but not required for this track.

**** Students who complete the Traditional Chemistry or the Chemistry for the Biosciences sequences automatically fulfill the requirements for a minor in chemistry; no additional coursework would be required to complete this requirement.

***** Students must take at least five designated writing-intensive courses to complete this requirement; unless students choose to take additional credits to complete this requirement, it is highly recommended students select courses that are designated as writing-intensive and will double count toward this area and their other requirements.

***** The number of electives students take may vary due to differences in placement scores, transfer credits, course and cognate selections, etc.

This is only a sample. There are numerous ways students can create plans of study for the General Track. Students should feel empowered to use the information listed in the Academic Bulletin and the Student Handbook (http://www.miami.edu/sonhs/index.php/sonhs/current_students/student_handbooks) to take charge of their education, pursue their own academic interests, and create their own, unique plans of study.

The School of Nursing and Health Studies (SONHS) **recommends students create their own plan of study** that accounts for their ENG and MTH placement scores and incorporates their major, minor, and cognate interests. Once students draft their initial plan of study, they are encouraged to meet with an academic advisor in the Office of Student Services (OSS) (http://www.miami.edu/sonhs/index.php/sonhs/office_of_student_services) to review their plan, address any questions or concerns, discuss areas for improvement, and brainstorm ways to integrate research experiences, study abroad opportunities, global initiatives, graduate school requirements, and career preparation experiences.

The sample plan of study listed below is based on the following ENG and MTH placement information and major, minor, and cognate selections:

- **ENG placement:** ENG 105
- **MTH placement:** MTH 107
- **Major(s):** Health Science, General Track
- **Minor(s):** Chemistry
- **Cognates**
 - Art & Humanities: American Literature (RAU = English)
 - People & Society: Abnormal Psychology (RAU = Psychology)
 - Science, Technology, Engineering, and Mathematics (STEM): Health Science major (RAU = Nursing & Health Studies)

Sample Plan of Study

Course	Title	Credit Hours
Freshman Year		
Fall		
BIL 150 & BIL 151	General Biology and General Biology Laboratory	5
ENG 105	English Composition I	3
MTH 107	Precalculus Mathematics I	3
UMX 100	The University of Miami Experience	0
Elective		3
Elective		3
	Credit Hours	17
Spring		
BIL 160 & BIL 161	Evolution and Biodiversity and Evolution and Biodiversity Laboratory	5
ENG 106	English Composition II	3
MTH 108	Precalculus Mathematics II	3
PSY 110	Introduction to Psychology (counts for People & Society cognate)	3
Elective		3
	Credit Hours	17
Sophomore Year		
Fall		
BIL 250	Genetics	3
CHM 121 & CHM 113	Chemistry for the Biosciences I and Chemistry Laboratory I	5
MTH 161	Calculus I	4
PSY 240	Abnormal Psychology (counts for People & Society cognate)	3
	Credit Hours	15
Spring		
BIL 255	Cellular and Molecular Biology	3
CHM 221 & CHM 114	CHM211 Chemistry for the Biosciences II and Chemistry Laboratory II	5
ENG 214	American Literature II (W; counts for Arts & Humanities cognate)	3

HCS 202	Introductory Statistics in Health Care	3
	Credit Hours	14
Junior Year		
Fall		
BPH 306	Principles of Nutrition	3
CHM 222 & CHM 205	CHM212 Chemistry for the Biosciences III and Organic Chemistry Laboratory I	5
ENG 389	The Sixties: Literature, History, and Culture of the 1960s (W; counts for Arts & Humanities cognate)	3
PHY 101 & PHY 106	College Physics I and College Physics Laboratory I	5
	Credit Hours	16
Spring		
CHM 206	Organic Chemistry Laboratory II	1
PHY 102 & PHY 108	College Physics II and College Physics Laboratory II	5
PSY 260	Personality Psychology (counts for People & Society cognate)	3
Major Elective (*)		3
Elective		3
	Credit Hours	15
Senior Year		
Fall		
ENG 260	African-American Literature (W; counts for Arts & Humanities cognate)	3
HCS 212 & HCS 213	Human Anatomy and Human Anatomy Laboratory	4
Elective (W)		3
Elective		3
Elective		3
	Credit Hours	16
Spring		
CSC 115	Social and Ethical Issues in Computing	3
HCS 215	Principles of Systemic Physiology	3
Elective (W)		3
Elective		3
Elective		3
	Credit Hours	15
	Total Credit Hours	125

(W) = Course is designated as writing-intensive

(*) = Students may fulfill this requirement by taking BMB 401 or any BIL, BPH, or HCS course for at least 3 credits at the 200 level or above (except for BPH 202, HCS 202, and NUR 202)

BSHS - Health Management and Policy Track

Students enrolled in the Health Management and Policy Track must complete the coursework listed below to earn the BSHS degree through the School of Nursing and Health Studies (SONHS). Students should meet with an academic advisor in the Office of Student Services (OSS) (http://www.miami.edu/sonhs/index.php/sonhs/office_of_student_services) to discuss any questions related to their degree requirements.

Curriculum Requirements

Code	Title	Credit Hours
Areas of Proficiency		
English Composition		
ENG 105	English Composition I	3
ENG 106	English Composition II	3

Mathematics & Computer Science		
Calculus: MTH 141, MTH 161, or MTH 171		4
Computer Science: 1 CSC or BTE course		3
Statistics: MAS 201 or other approved statistics course		3
Areas of Knowledge		
Arts & Humanities		9
People & Society		9
Science, Technology, Engineering, and Mathematics (STEM)*		0
Major		
BIL 150 & BIL 151	General Biology and General Biology Laboratory	5
BIL 160 & BIL 161	Evolution and Biodiversity and Evolution and Biodiversity Laboratory	5
BIL 250	Genetics	3
BIL 255	Cellular and Molecular Biology	3
BPH 306	Principles of Nutrition	3
HCS 212 & HCS 213	Human Anatomy and Human Anatomy Laboratory	4
HCS 215	Principles of Systemic Physiology	3
HSM 270	Introduction to Health Sector Management and Policy	3
HSM 320 or HSM 350	Health Care Demand and Supply Production and Consumption of Health and Health Care	3
HSM 460	Health Care Law and Ethics	3
HSM Elective**		3
Elective***		3
Elective***		3
Elective***		3
Elective***		3
Choose one physics option below:		10-11
College Physics:		
PHY 101 & PHY 106	College Physics I and College Physics Laboratory I	
PHY 102 & PHY 108	College Physics II and College Physics Laboratory II	
University Physics for the Life Sciences:		
PHY 201 & PHY 106	University Physics I for the Sciences and College Physics Laboratory I	
PHY 202 & PHY 108	University Physics II for the Sciences and College Physics Laboratory II	
University Physics:		
PHY 205	University Physics I	
PHY 206 & PHY 208	University Physics II and University Physics II Lab	
PHY 207 & PHY 209	University Physics III and University Physics III Lab	
Choose one chemistry option below:		8-16
Chemistry for Life Sciences:		
CHM 103 & CHM 105	Chemistry for Life Sciences I (Lecture) and Chemistry for Life Sciences I (Laboratory)	
CHM 104 & CHM 106	Chemistry for Life Sciences II (Lecture) and Chemistry for Life Sciences II (Laboratory)	
Traditional Chemistry:****		
CHM 111 & CHM 113	Principles of Chemistry I and Chemistry Laboratory I	

CHM 112 & CHM 114	Principles of Chemistry II and Chemistry Laboratory II	
CHM 201 & CHM 205	Organic Chemistry I (Lecture) and Organic Chemistry Laboratory I	
CHM 202 & CHM 206	Organic Chemistry II (Lecture) and Organic Chemistry Laboratory II	
Chemistry for the Biosciences:****		
CHM 121 & CHM 113	Chemistry for the Biosciences I and Chemistry Laboratory I	
CHM 221 & CHM 114	CHM211 Chemistry for the Biosciences II and Chemistry Laboratory II	
CHM 222 & CHM 205	CHM212 Chemistry for the Biosciences III and Organic Chemistry Laboratory I	
CHM 206	Organic Chemistry Laboratory II	
Minor****		0
Advanced Writing and Communication Skills*****		0
Electives*****		18-9
Total Credit Hours		120

- * The health science major may be used to fulfill this cognate area.
- ** Students may fulfill this requirement by taking HSM 310, HSM 388, HSM 498, HSM 499, INS 570, INS 571, INS 572, INS 573, or SOC 321
- *** Students may fulfill this requirement by taking BMB 401 or any BIL, BPH, or HCS course for at least 3 credits at the 200 level or above (except for BPH 202, HCS 202, and NUR 202).
- **** CHM 201, CHM 202, CHM 205, CHM 206, and CHM 222 are recommended but not required for this track.
- ***** Students who complete the Health Management and Policy Track automatically complete a minor in Health Sector Management and Policy; no additional coursework is required to complete this requirement.
- ***** Students must take at least five designated writing-intensive courses to complete this requirement; unless students choose to take additional credits to complete this requirement, it is highly recommended students select courses that are designated as writing-intensive and will double count toward this area and their other requirements.
- ***** The number of electives students take may vary due to differences in placement scores, transfer credits, course and cognate selections, etc.

This is only a sample. There are numerous ways students can create plans of study for the Health Management and Policy Track. Students should feel empowered to use the information listed in the Academic Bulletin and the Student Handbook (http://www.miami.edu/sonhs/index.php/sonhs/current_students/student_handbooks) to take charge of their education, pursue their own academic interests, and create their own, unique plans of study.

The School of Nursing and Health Studies (SONHS) **recommends students create their own plan of study** that accounts for their ENG and MTH placement scores and incorporates their major, minor, and cognate interests. Once students draft their initial plan of study, they are encouraged to meet with an academic advisor in the Office of Student Services (OSS) (http://www.miami.edu/sonhs/index.php/sonhs/office_of_student_services) to review their plan, address any questions or concerns, discuss areas for improvement, and brainstorm ways to integrate research experiences, study abroad opportunities, global initiatives, graduate school requirements, and career preparation experiences.

The sample plan of study listed below is based on the following ENG and MTH placement information and major, minor, and cognate selections:

- **ENG placement:** ENG 105
- **MTH placement:** MTH 107
- **Major(s):** Health Science, Health Management and Policy Track
- **Minor(s):** Health Sector Management and Policy
- **Cognates**
 - Art & Humanities: American Literature (RAU = English)
 - People & Society: Abnormal Psychology (RAU = Psychology)
 - Science, Technology, Engineering, and Mathematics (STEM): Health Science major (RAU = Nursing & Health Studies)

Sample Plan of Study

Course	Title	Credit Hours
Freshman Year		
Fall		
BIL 150 & BIL 151	General Biology and General Biology Laboratory	5
ECO 211	Principles of Microeconomics	3
ENG 105	English Composition I	3
HSM 270	Introduction to Health Sector Management and Policy	3
MTH 107	Precalculus Mathematics I	3
UMX 100	The University of Miami Experience	0
	Credit Hours	17
Spring		
BIL 160 & BIL 161	Evolution and Biodiversity and Evolution and Biodiversity Laboratory	5
ECO 212	Principles of Macroeconomics	3
ENG 106	English Composition II	3
MTH 108	Precalculus Mathematics II	3
PSY 110	Introduction to Psychology (counts for People & Society cognate)	3
	Credit Hours	17
Sophomore Year		
Fall		
BIL 250	Genetics	3
CHM 103 & CHM 105	Chemistry for Life Sciences I (Lecture) and Chemistry for Life Sciences I (Laboratory)	4
MTH 161	Calculus I	4
PSY 240	Abnormal Psychology (counts for People & Society cognate)	3
Major Elective (*)		3
	Credit Hours	17
Spring		
BIL 255	Cellular and Molecular Biology	3
CHM 104 & CHM 106	Chemistry for Life Sciences II (Lecture) and Chemistry for Life Sciences II (Laboratory)	4
ENG 214	American Literature II (W; counts for Arts & Humanities cognate)	3
HCS 202	Introductory Statistics in Health Care	3
Major Elective (*)		3
	Credit Hours	16
Junior Year		
Fall		
BPH 306	Principles of Nutrition	3
ENG 389	The Sixties: Literature, History, and Culture of the 1960s (W; counts for Arts & Humanities cognate)	3
INS 570	Globalization and Health	3
PHY 101 & PHY 106	College Physics I and College Physics Laboratory I	5
	Credit Hours	14
Spring		
PHY 102 & PHY 108	College Physics II and College Physics Laboratory II	5
PSY 260	Personality Psychology (counts for People & Society cognate)	3
Major Elective (*)		3

Elective (W)		3
	Credit Hours	14
Senior Year		
Fall		
BSL 212	Introduction to Business Law	3
ENG 260	African-American Literature (W; counts for Arts & Humanities cognate)	3
HCS 212 & HCS 213	Human Anatomy and Human Anatomy Laboratory	4
HSM 320	Health Care Demand and Supply	3
Elective (W)		3
	Credit Hours	16
Spring		
CSC 115	Social and Ethical Issues in Computing	3
HCS 215	Principles of Systemic Physiology	3
HSM 460	Health Care Law and Ethics	3
Major Elective (*)		3
	Credit Hours	12
	Total Credit Hours	123

(W) = Course is designated as writing-intensive

(*) = Students may fulfill this requirement by taking BMB 401 or any BIL, BPH, or HCS course for at least 3 credits at the 200 level or above (except for BPH 202, HCS 202, and NUR 202)

BSHS - Pre-Medical Track

Students enrolled in the Pre-Medical Track must complete the coursework listed below to earn the BSHS degree through the School of Nursing and Health Studies (SONHS). Students should meet with an academic advisor in the Office of Student Services (OSS) (http://www.miami.edu/sonhs/index.php/sonhs/office_of_student_services) to discuss any questions related to their degree requirements.

Curriculum Requirements

Code	Title	Credit Hours
Areas of Proficiency		
English Composition		
ENG 105	English Composition I	3
ENG 106	English Composition II	3
Mathematics & Computer Science		
Calculus: MTH 141, MTH 161, or MTH 171		4
Computer Science: 1 CSC or BTE course		3
Statistics: HCS 202 or other approved statistics course		3
Areas of Knowledge		
Arts & Humanities		9
People & Society		9
Science, Technology, Engineering, and Mathematics (STEM)*		0
Major		
BIL 150 & BIL 151	General Biology and General Biology Laboratory	5
BIL 160 & BIL 161	Evolution and Biodiversity and Evolution and Biodiversity Laboratory	5
BIL 250	Genetics	3
BIL 255	Cellular and Molecular Biology	3
BMB 401	Biochemistry for the Biomedical Sciences	3
BPH 206	Introduction to Public Health	3
BPH 208	Introductory Epidemiology	3

BPH 306	Principles of Nutrition	3
HCS 212 & HCS 213	Human Anatomy and Human Anatomy Laboratory	4
HCS 215	Principles of Systemic Physiology	3
Complete 6 graded credits of ENG coursework**		0
Choose one physics option below:		10-11
College Physics:		
PHY 101 & PHY 106	College Physics I and College Physics Laboratory I	
PHY 102 & PHY 108	College Physics II and College Physics Laboratory II	
University Physics for the Life Sciences:		
PHY 201 & PHY 106	University Physics I for the Sciences and College Physics Laboratory I	
PHY 202 & PHY 108	University Physics II for the Sciences and College Physics Laboratory II	
University Physics:		
PHY 205	University Physics I	
PHY 206 & PHY 208	University Physics II and University Physics II Lab	
PHY 207 & PHY 209	University Physics III and University Physics III Lab	
Choose one chemistry option below:		16
Traditional Chemistry		
CHM 111 & CHM 113	Principles of Chemistry I and Chemistry Laboratory I	
CHM 112 & CHM 114	Principles of Chemistry II and Chemistry Laboratory II	
CHM 201 & CHM 205	Organic Chemistry I (Lecture) and Organic Chemistry Laboratory I	
CHM 202 & CHM 206	Organic Chemistry II (Lecture) and Organic Chemistry Laboratory II	
Chemistry for the Biosciences:		
CHM 121 & CHM 113	Chemistry for the Biosciences I and Chemistry Laboratory I	
CHM 221 & CHM 114	CHM211 Chemistry for the Biosciences II and Chemistry Laboratory II	
CHM 222 & CHM 205	CHM212 Chemistry for the Biosciences III and Organic Chemistry Laboratory I	
CHM 206	Organic Chemistry Laboratory II	
Minor***		0
Advanced Writing and Communication Skills****		0
Electives*****		25-24
Total Credit Hours		120

* The health science major may be used to fulfill this cognate area.

** Six graded credits of ENG courses (6 credits). Creative writing courses cannot count. ENG 105 and ENG 106 may count if a grade was received.

*** Students who complete the Traditional Chemistry or the Chemistry for the Biosciences sequences automatically fulfill the requirements for a minor in chemistry; no additional coursework would be required to complete this requirement.

**** Students must take at least five designated writing-intensive courses to complete this requirement; unless students choose to take additional credits to complete this requirement, it is highly recommended students select courses that are designated as writing-intensive and will double count toward this area and their other requirements.

***** The number of electives students take may vary due to differences in placement scores, transfer credits, course and cognate selections, etc.

This is only a sample. There are numerous ways students can create plans of study for the Pre-Medical Track. Students should feel empowered to use the information listed in the Academic Bulletin and the Student Handbook (http://www.miami.edu/sonhs/index.php/sonhs/current_students/student_handbooks) to take charge of their education, pursue their own academic interests, and create their own, unique plans of study.

The School of Nursing and Health Studies (SONHS) **recommends students create their own plan of study** that accounts for their ENG and MTH placement scores and incorporates their major, minor, and cognate interests. Once students draft their initial plan of study, they are encouraged to meet with an academic advisor in the Office of Student Services (OSS) (http://www.miami.edu/sonhs/index.php/sonhs/office_of_student_services) to review their plan, address any questions or concerns, discuss areas for improvement, and brainstorm ways to integrate research experiences, study abroad opportunities, global initiatives, graduate school requirements, and career preparation experiences.

The sample plan of study listed below is based on the following ENG and MTH placement information and major, minor, and cognate selections:

- **ENG placement:** ENG 105
- **MTH placement:** MTH 107
- **Major(s):** Health Science, Pre-Medical Track
- **Minor(s):** Chemistry
- **Cognates**
 - Art & Humanities: American Literature (RAU = English)
 - People & Society: Abnormal Psychology (RAU = Psychology)
 - Science, Technology, Engineering, and Mathematics (STEM): Health Science major (RAU = Nursing & Health Studies)

Sample Plan of Study

Course	Title	Credit Hours
Freshman Year		
Fall		
BIL 150 & BIL 151	General Biology and General Biology Laboratory	5
BPH 206	Introduction to Public Health	3
ENG 105	English Composition I	3
MTH 107	Precalculus Mathematics I	3
UMX 100	The University of Miami Experience	0
Elective		3
	Credit Hours	17
Spring		
BIL 160 & BIL 161	Evolution and Biodiversity and Evolution and Biodiversity Laboratory	5
ENG 106	English Composition II	3
MTH 108	Precalculus Mathematics II	3
PSY 110	Introduction to Psychology (counts for People & Society cognate)	3
Elective		3
	Credit Hours	17
Sophomore Year		
Fall		
BIL 250	Genetics	3
CHM 121 & CHM 113	Chemistry for the Biosciences I and Chemistry Laboratory I	5
MTH 161	Calculus I	4
PSY 240	Abnormal Psychology (counts for People & Society cognate)	3
	Credit Hours	15
Spring		
BIL 255	Cellular and Molecular Biology	3
CHM 221 & CHM 114	CHM211 Chemistry for the Biosciences II and Chemistry Laboratory II	5
ENG 214	American Literature II (W; counts for Arts & Humanities cognate)	3

HCS 202	Introductory Statistics in Health Care	3
	Credit Hours	14
Junior Year		
Fall		
BPH 306	Principles of Nutrition	3
CHM 222 & CHM 205	CHM212 Chemistry for the Biosciences III and Organic Chemistry Laboratory I	5
ENG 389	The Sixties: Literature, History, and Culture of the 1960s (W; counts for Arts & Humanities cognate)	3
PHY 101 & PHY 106	College Physics I and College Physics Laboratory I	5
	Credit Hours	16
Spring		
BMB 401	Biochemistry for the Biomedical Sciences	4
CHM 206	Organic Chemistry Laboratory II	1
PHY 102 & PHY 108	College Physics II and College Physics Laboratory II	5
PSY 260	Personality Psychology (counts for People & Society cognate)	3
Elective		3
	Credit Hours	16
Senior Year		
Fall		
BPH 208	Introductory Epidemiology	3
ENG 260	African-American Literature (W; counts for Arts & Humanities cognate)	3
HCS 212 & HCS 213	Human Anatomy and Human Anatomy Laboratory	4
Elective (W)		3
Elective		3
	Credit Hours	16
Spring		
CSC 115	Social and Ethical Issues in Computing	3
HCS 215	Principles of Systemic Physiology	3
Elective (W)		3
Elective		3
Elective		3
	Credit Hours	15
	Total Credit Hours	126

(W) = Course is designated as writing-intensive

BSHS - Pre-Occupational Therapy Track

Students enrolled in the Pre-Occupational Therapy Track must complete the coursework listed under curriculum requirements to earn the BSHS degree through the School of Nursing and Health Studies (SONHS). Students should meet with an academic advisor in the Office of Student Services (OSS) (http://www.miami.edu/sonhs/index.php/sonhs/office_of_student_services) to discuss any questions related to their degree requirements.

Curriculum Requirements

Code	Title	Credit Hours
Areas of Proficiency		
English Composition		
ENG 105	English Composition I	3
ENG 106	English Composition II	3
Mathematics & Computer Science		
Calculus: MTH 141, MTH 161, or MTH 171		
		4

Computer Science: 1 CSC or BTE course		3
Statistics: HCS 202 or other approved statistics course		3
Areas of Knowledge		
Arts & Humanities		9
People & Society		9
Science, Technology, Engineering, and Mathematics (STEM)*		0
Major		
BIL 150 & BIL 151	General Biology and General Biology Laboratory	5
BIL 160 & BIL 161	Evolution and Biodiversity and Evolution and Biodiversity Laboratory	5
BIL 250	Genetics	3
BIL 255	Cellular and Molecular Biology	3
BPH 206	Introduction to Public Health	3
BPH 208	Introductory Epidemiology	3
BPH 306	Principles of Nutrition	3
BPH 317 or PSY 230	Theories in Growth and Development Child and Adolescent Development	3
PSY 110	Introduction to Psychology	3
PSY 240	Abnormal Psychology	3
HCS 212 & HCS 213	Human Anatomy and Human Anatomy Laboratory	4
HCS 215 & HCS 216	Principles of Systemic Physiology and Principles of Systemic Physiology Laboratory	4
KIN 230 or HCS 217	Medical Terminology and Documentation Medical Terminology	1
Choose one physics option below:		10-11
College Physics:		
PHY 101 & PHY 106	College Physics I and College Physics Laboratory I	
PHY 102 & PHY 108	College Physics II and College Physics Laboratory II	
University Physics for the Life Sciences:		
PHY 201 & PHY 106	University Physics I for the Sciences and College Physics Laboratory I	
PHY 202 & PHY 108	University Physics II for the Sciences and College Physics Laboratory II	
University Physics:		
PHY 205	University Physics I	
PHY 206 & PHY 208	University Physics II and University Physics II Lab	
PHY 207 & PHY 209	University Physics III and University Physics III Lab	
Choose one chemistry option below:		8-16
Chemistry for Life Sciences:		
CHM 103 & CHM 105	Chemistry for Life Sciences I (Lecture) and Chemistry for Life Sciences I (Laboratory)	
CHM 104 & CHM 106	Chemistry for Life Sciences II (Lecture) and Chemistry for Life Sciences II (Laboratory)	
Traditional Chemistry:**		
CHM 111 & CHM 113	Principles of Chemistry I and Chemistry Laboratory I	
CHM 112 & CHM 114	Principles of Chemistry II and Chemistry Laboratory II	

CHM 201 & CHM 205	Organic Chemistry I (Lecture) and Organic Chemistry Laboratory I	
CHM 202 & CHM 206	Organic Chemistry II (Lecture) and Organic Chemistry Laboratory II	
Chemistry for the Biosciences:**		
CHM 121 & CHM 113	Chemistry for the Biosciences I and Chemistry Laboratory I	
CHM 221 & CHM 114	CHM211 Chemistry for the Biosciences II and Chemistry Laboratory II	
CHM 222 & CHM 205	CHM212 Chemistry for the Biosciences III and Organic Chemistry Laboratory I	
CHM 206	Organic Chemistry Laboratory II	
Minor***		12-19
Advanced Writing and Communication Skills****		0
Electives*****		13-0
Total Credit Hours		120-123

* The health science major may be used to fulfill this cognate area.

** CHM 201, CHM 202, CHM 205, CHM 206, and CHM 222 are recommended but not required for this track.

*** Students who complete the Traditional Chemistry or the Chemistry for the Biosciences sequences automatically fulfill the requirements for a minor in chemistry; no additional coursework would be required to complete this requirement.

**** Students must take at least five designated writing-intensive courses to complete this requirement; unless students choose to take additional credits to complete this requirement, it is highly recommended students select courses that are designated as writing-intensive and will double count toward this area and their other requirements.

***** The number of electives students take may vary due to differences in placement scores, transfer credits, course and cognate selections, etc.

This is only a sample. There are numerous ways students can create plans of study for the Pre-Occupational Therapy Track. Students should feel empowered to use the information listed in the Academic Bulletin and the Student Handbook (http://www.miami.edu/sonhs/index.php/sonhs/current_students/student_handbooks) to take charge of their education, pursue their own academic interests, and create their own, unique plans of study.

The School of Nursing and Health Studies (SONHS) **recommends students create their own plan of study** that accounts for their ENG and MTH placement scores and incorporates their major, minor, and cognate interests. Once students draft their initial plan of study, they are encouraged to meet with an academic advisor in the Office of Student Services (OSS) (http://www.miami.edu/sonhs/index.php/sonhs/office_of_student_services) to review their plan, address any questions or concerns, discuss areas for improvement, and brainstorm ways to integrate research experiences, study abroad opportunities, global initiatives, graduate school requirements, and career preparation experiences.

The sample plan of study listed below is based on the following ENG and MTH placement information and major, minor, and cognate selections:

- **ENG placement:** ENG 105
- **MTH placement:** MTH 107
- **Major(s):** Health Science, Pre-Occupational Therapy Track
- **Minor(s):** Chemistry
- **Cognates**
 - Art & Humanities: American Literature (RAU = English)
 - People & Society: Foundations of Behavior for Prehealth Professions (RAU = Anthropology)
 - Science, Technology, Engineering, and Mathematics (STEM): Health Science major (RAU = Nursing & Health Studies)

Sample Plan of Study

Course	Title	Credit Hours
Freshman Year		
Fall		
BIL 150 & BIL 151	General Biology and General Biology Laboratory	5
BPH 206	Introduction to Public Health	3
ENG 105	English Composition I	3
MTH 107	Precalculus Mathematics I	3

UMX 100	The University of Miami Experience	0
Elective		3
	Credit Hours	17
Spring		
BIL 160 & BIL 161	Evolution and Biodiversity and Evolution and Biodiversity Laboratory	5
BPH 208	Introductory Epidemiology	3
ENG 106	English Composition II	3
MTH 108	Precalculus Mathematics II	3
PSY 110	Introduction to Psychology	3
	Credit Hours	17
Sophomore Year		
Fall		
BIL 250	Genetics	3
CHM 121 & CHM 113	Chemistry for the Biosciences I and Chemistry Laboratory I	5
MTH 161	Calculus I	4
PSY 240	Abnormal Psychology	3
	Credit Hours	15
Spring		
BIL 255	Cellular and Molecular Biology	3
CHM 221 & CHM 114	CHM211 Chemistry for the Biosciences II and Chemistry Laboratory II	5
ENG 214	American Literature II (W; counts for Arts & Humanities cognate)	3
HCS 202	Introductory Statistics in Health Care	3
	Credit Hours	14
Junior Year		
Fall		
BPH 306	Principles of Nutrition	3
CHM 222 & CHM 205	CHM212 Chemistry for the Biosciences III and Organic Chemistry Laboratory I	5
ENG 389	The Sixties: Literature, History, and Culture of the 1960s (W; counts for Arts & Humanities cognate)	3
PHY 101 & PHY 106	College Physics I and College Physics Laboratory I	5
	Credit Hours	16
Spring		
APY 202	Principles of Cultural Anthropology (counts for People & Society cognate)	3
BPH 317	Theories in Growth and Development	3
CHM 206	Organic Chemistry Laboratory II	1
KIN 230	Medical Terminology and Documentation	1
PHY 102 & PHY 108	College Physics II and College Physics Laboratory II	5
	Credit Hours	13
Senior Year		
Fall		
APY 413	Medical Anthropology (counts for People & Society cognate)	3
ENG 260	African-American Literature (W; counts for Arts & Humanities cognate)	3
HCS 212 & HCS 213	Human Anatomy and Human Anatomy Laboratory	4
Elective (W)		3
Elective		3
	Credit Hours	16

Spring		
CSC 115	Social and Ethical Issues in Computing	3
HCS 215	Principles of Systemic Physiology	3
PSY 250	Cognitive Psychology (counts for People & Society cognate)	3
Elective (W)		3
Elective		3
	Credit Hours	15
	Total Credit Hours	123

(W) Course is designated as writing-intensive

BSHS - Pre-Pharmacy Track

Students enrolled in the Pre-Pharmacy Track must complete the coursework listed under curriculum requirements to earn the BSHS degree through the School of Nursing and Health Studies (SONHS). Students should meet with an academic advisor in the Office of Student Services (OSS) (http://www.miami.edu/sonhs/index.php/sonhs/office_of_student_services) to discuss any questions related to their degree requirements.

Curriculum Requirements

Code	Title	Credit Hours
Areas of Proficiency		
English Composition		
ENG 105	English Composition I	3
ENG 106	English Composition II	3
Mathematics & Computer Science		
Calculus: MTH 141, MTH 161, or MTH 171		4
Computer Science: 1 CSC or BTE course		3
Statistics: HCS 202 or other approved statistics course		3
Areas of Knowledge		
Arts & Humanities		9
People & Society		9
Science, Technology, Engineering, and Mathematics (STEM)*		0
Major		
BIL 150 & BIL 151	General Biology and General Biology Laboratory	5
BIL 160 & BIL 161	Evolution and Biodiversity and Evolution and Biodiversity Laboratory	5
BIL 250	Genetics	3
BIL 255	Cellular and Molecular Biology	3
BMB 401	Biochemistry for the Biomedical Sciences	4
BPH 306	Principles of Nutrition	3
COS 211	Public Speaking	3
HCS 212 & HCS 213	Human Anatomy and Human Anatomy Laboratory	4
HCS 215 & HCS 216	Principles of Systemic Physiology and Principles of Systemic Physiology Laboratory	4
ECO 211	Principles of Microeconomics	3
ECO 212	Principles of Macroeconomics	3
Elective**		3
Microbiology:		5
MIC 301 & MIC 304	Introduction to Microbes and the Immune System and Introduction to Microbes and the Immune System (Lab)	
Choose one physics option below:		10-11
College Physics:		

PHY 101 & PHY 106	College Physics I and College Physics Laboratory I	
PHY 102 & PHY 108	College Physics II and College Physics Laboratory II	
University Physics for the Life Sciences:		
PHY 201 & PHY 106	University Physics I for the Sciences and College Physics Laboratory I	
PHY 202 & PHY 108	University Physics II for the Sciences and College Physics Laboratory II	
University Physics:		
PHY 205	University Physics I	
PHY 206 & PHY 208	University Physics II and University Physics II Lab	
PHY 207 & PHY 209	University Physics III and University Physics III Lab	
Choose one chemistry option below:		16
Traditional Chemistry		
CHM 111 & CHM 113	Principles of Chemistry I and Chemistry Laboratory I	
CHM 112 & CHM 114	Principles of Chemistry II and Chemistry Laboratory II	
CHM 201 & CHM 205	Organic Chemistry I (Lecture) and Organic Chemistry Laboratory I	
CHM 202 & CHM 206	Organic Chemistry II (Lecture) and Organic Chemistry Laboratory II	
Chemistry for the Biosciences:		
CHM 121 & CHM 113	Chemistry for the Biosciences I and Chemistry Laboratory I	
CHM 221 & CHM 114	CHM211 Chemistry for the Biosciences II and Chemistry Laboratory II	
CHM 222 & CHM 205	CHM212 Chemistry for the Biosciences III and Organic Chemistry Laboratory I	
CHM 206	Organic Chemistry Laboratory II	
Minor***		0
Advanced Writing and Communication Skills****		0
Electives*****		13-12
Total Credit Hours		121

* The health science major may be used to fulfill this cognate area.

** Students may fulfill this requirement by taking any BIL, BPH, or HCS course for at least 3 credits at the 200 level or above (except for BPH 202, HCS 202, and NUR 202).

*** Students who complete the Traditional Chemistry or the Chemistry for the Biosciences sequences automatically fulfill the requirements for a minor in chemistry; no additional coursework would be required to complete this requirement.

**** Students must take at least five designated writing-intensive courses to complete this requirement; unless students choose to take additional credits to complete this requirement, it is highly recommended students select courses that are designated as writing-intensive and will double count toward this area and their other requirements.

***** The number of electives students take may vary due to differences in placement scores, transfer credits, course and cognate selections, etc.

This is only a sample. There are numerous ways students can create plans of study for the Pre-Pharmacy Track. Students should feel empowered to use the information listed in the Academic Bulletin and the Student Handbook (http://www.miami.edu/sonhs/index.php/sonhs/current_students/student_handbooks) to take charge of their education, pursue their own academic interests, and create their own, unique plans of study.

The School of Nursing and Health Studies (SONHS) **recommends students create their own plan of study** that accounts for their ENG and MTH placement scores and incorporates their major, minor, and cognate interests. Once students draft their initial plan of study, they are encouraged to meet with an academic advisor in the Office of Student Services (OSS) (http://www.miami.edu/sonhs/index.php/sonhs/office_of_student_services)

to review their plan, address any questions or concerns, discuss areas for improvement, and brainstorm ways to integrate research experiences, study abroad opportunities, global initiatives, graduate school requirements, and career preparation experiences.

The sample plan of study listed below is based on the following ENG and MTH placement information and major, minor, and cognate selections:

- **ENG placement:** ENG 105
- **MTH placement:** MTH 107
- **Major(s):** Health Science, Pre-Pharmacy Track
- **Minor(s):** Chemistry
- **Cognates**
 - Art & Humanities: American Literature (RAU = English)
 - People & Society: Abnormal Psychology (RAU = Psychology)
 - Science, Technology, Engineering, and Mathematics (STEM): Health Science major (RAU = Nursing & Health Studies)

Sample Plan of Study

Course	Title	Credit Hours
Freshman Year		
Fall		
BIL 150 & BIL 151	General Biology and General Biology Laboratory	5
ECO 211	Principles of Microeconomics	3
ENG 105	English Composition I	3
MTH 107	Precalculus Mathematics I	3
UMX 100	The University of Miami Experience	0
Elective		3
	Credit Hours	17
Spring		
BIL 160 & BIL 161	Evolution and Biodiversity and Evolution and Biodiversity Laboratory	5
ECO 212	Principles of Macroeconomics	3
ENG 106	English Composition II	3
MTH 108	Precalculus Mathematics II	3
PSY 110	Introduction to Psychology (counts for People & Society cognate)	3
	Credit Hours	17
Sophomore Year		
Fall		
BIL 250	Genetics	3
CHM 121 & CHM 113	Chemistry for the Biosciences I and Chemistry Laboratory I	5
MTH 161	Calculus I	4
PSY 240	Abnormal Psychology (counts for People & Society cognate)	3
	Credit Hours	15
Spring		
BIL 255	Cellular and Molecular Biology	3
CHM 221 & CHM 114	CHM211 Chemistry for the Biosciences II and Chemistry Laboratory II	5
ENG 214	American Literature II (W; counts for Arts & Humanities cognate)	3
HCS 202	Introductory Statistics in Health Care	3
	Credit Hours	14
Junior Year		
Fall		
BPH 306	Principles of Nutrition	3
CHM 222 & CHM 205	CHM212 Chemistry for the Biosciences III and Organic Chemistry Laboratory I	5

ENG 389	The Sixties: Literature, History, and Culture of the 1960s (W; counts for Arts & Humanities cognate)	3
PHY 101 & PHY 106	College Physics I and College Physics Laboratory I	5
	Credit Hours	16
Spring		
BMB 401	Biochemistry for the Biomedical Sciences	4
CHM 206	Organic Chemistry Laboratory II	1
PHY 102 & PHY 108	College Physics II and College Physics Laboratory II	5
PSY 260	Personality Psychology (counts for People & Society cognate)	3
Major Elective (*)		3
	Credit Hours	16
Senior Year		
Fall		
COS 211	Public Speaking	3
ENG 260	African-American Literature (W; counts for Arts & Humanities cognate)	3
HCS 212 & HCS 213	Human Anatomy and Human Anatomy Laboratory	4
Elective (W)		3
Elective		3
	Credit Hours	16
Spring		
CSC 115	Social and Ethical Issues in Computing	3
HCS 215 & HCS 216	Principles of Systemic Physiology and Principles of Systemic Physiology Laboratory	4
MIC 301	Introduction to Microbes and the Immune System	3
Elective (W)		3
	Credit Hours	13
	Total Credit Hours	124

W Course is designated as writing-intensive

* Students may fulfill this requirement by taking any BIL, BPH, or HCS course for at least 3 credits at the 200 level or above (except for BPH 202, HCS 202, and NUR 202)

BSHS - Pre-Physical Therapy Track

Students enrolled in the Pre-Physical Therapy Track must complete the coursework listed under curriculum requirements to earn the BSHS degree through the School of Nursing and Health Studies (SONHS). Students should meet with an academic advisor in the Office of Student Services (OSS) (http://www.miami.edu/sonhs/index.php/sonhs/office_of_student_services) to discuss any questions related to their degree requirements.

Curriculum Requirements

Code	Title	Credit Hours
Areas of Proficiency		
English Composition		
ENG 105	English Composition I	3
ENG 106	English Composition II	3
Mathematics & Computer Science		
Calculus: MTH 141, MTH 161, or MTH 171		
Computer Science: 1 CSC or BTE course		
Statistics: HCS 202 or other approved statistics course		
Areas of Knowledge		
Arts & Humanities		
People & Society		

Science, Technology, Engineering, and Mathematics (STEM)*		0
Major		
BIL 150 & BIL 151	General Biology and General Biology Laboratory	5
BIL 160 & BIL 161	Evolution and Biodiversity and Evolution and Biodiversity Laboratory	5
BIL 250	Genetics	3
BIL 255	Cellular and Molecular Biology	3
BPH 306	Principles of Nutrition	3
HCS 212 & HCS 213	Human Anatomy and Human Anatomy Laboratory	4
HCS 215 & HCS 216	Principles of Systemic Physiology and Principles of Systemic Physiology Laboratory (**)	4
PSY 230 or PSY 240	Child and Adolescent Development Abnormal Psychology	3
Elective***		3
Choose one physics option below:		10-11
College Physics:		
PHY 101 & PHY 106	College Physics I and College Physics Laboratory I	
PHY 102 & PHY 108	College Physics II and College Physics Laboratory II	
University Physics for the Life Sciences:		
PHY 201 & PHY 106	University Physics I for the Sciences and College Physics Laboratory I	
PHY 202 & PHY 108	University Physics II for the Sciences and College Physics Laboratory II	
University Physics:		
PHY 205	University Physics I	
PHY 206 & PHY 208	University Physics II and University Physics II Lab	
PHY 207 & PHY 209	University Physics III and University Physics III Lab	
Choose one chemistry option below:		8-16
Chemistry for Life Sciences:		
CHM 103 & CHM 105	Chemistry for Life Sciences I (Lecture) and Chemistry for Life Sciences I (Laboratory)	
CHM 104 & CHM 106	Chemistry for Life Sciences II (Lecture) and Chemistry for Life Sciences II (Laboratory)	
Traditional Chemistry:****		
CHM 111 & CHM 113	Principles of Chemistry I and Chemistry Laboratory I	
CHM 112 & CHM 114	Principles of Chemistry II and Chemistry Laboratory II	
CHM 201 & CHM 205	Organic Chemistry I (Lecture) and Organic Chemistry Laboratory I	
CHM 202 & CHM 206	Organic Chemistry II (Lecture) and Organic Chemistry Laboratory II	
Chemistry for the Biosciences:****		
CHM 121 & CHM 113	Chemistry for the Biosciences I and Chemistry Laboratory I	
CHM 221 & CHM 114	CHM211 Chemistry for the Biosciences II and Chemistry Laboratory II	
CHM 222 & CHM 205	CHM212 Chemistry for the Biosciences III and Organic Chemistry Laboratory I	

CHM 206	Organic Chemistry Laboratory II	
Minor*****		12-19
Advanced Writing and Communication Skills*****		0
Electives*****		23-7
Total Credit Hours		120

- * The health science major may be used to fulfill this cognate area.
- ** HCS 216 is not required but it is highly recommended.
- *** Students may fulfill this requirement by taking BMB 401 or any BIL, BPH, or HCS course for at least 3 credits at the 200 level or above (except for BPH 202, HCS 202, and NUR 202).
- **** CHM 201, CHM 202, CHM 205, CHM 206, and CHM 222 are recommended but not required for this track.
- ***** Students who complete the Traditional Chemistry or the Chemistry for the Bioscience sequences automatically fulfill the requirements for a minor in chemistry; no additional coursework would be required to complete this requirement.
- ***** Students must take at least five designated writing-intensive courses to complete this requirement; unless students choose to take additional credits to complete this requirement, it is highly recommended students select courses that are designated as writing-intensive and will double count toward this area and their other requirements.
- ***** The number of electives students take may vary due to differences in placement scores, transfer credits, course and cognate selections, etc.

This is only a sample. There are numerous ways students can create plans of study for the Pre-Physical Therapy Track. Students should feel empowered to use the information listed in the Academic Bulletin and the Student Handbook (http://www.miami.edu/sonhs/index.php/sonhs/current_students/student_handbooks) to take charge of their education, pursue their own academic interests, and create their own, unique plans of study.

The School of Nursing and Health Studies (SONHS) **recommends students create their own plan of study** that accounts for their ENG and MTH placement scores and incorporates their major, minor, and cognate interests. Once students draft their initial plan of study, they are encouraged to meet with an academic advisor in the Office of Student Services (OSS) (http://www.miami.edu/sonhs/index.php/sonhs/office_of_student_services) to review their plan, address any questions or concerns, discuss areas for improvement, and brainstorm ways to integrate research experiences, study abroad opportunities, global initiatives, graduate school requirements, and career preparation experiences.

The sample plan of study listed below is based on the following ENG and MTH placement information and major, minor, and cognate selections:

- **ENG placement:** ENG 105
- **MTH placement:** MTH 107
- **Major(s):** Health Science, Pre-Physical Therapy Track
- **Minor(s):** Chemistry
- **Cognates**
 - Art & Humanities: American Literature (RAU = English)
 - People & Society: Foundations of Behavior for Prehealth Professions (RAU = Anthropology)
 - Science, Technology, Engineering, and Mathematics (STEM): Health Science major (RAU = Nursing & Health Studies)

Sample Plan of Study

Course	Title	Credit Hours
Freshman Year		
Fall		
BIL 150 & BIL 151	General Biology and General Biology Laboratory	5
ENG 105	English Composition I	3
MTH 107	Precalculus Mathematics I	3
UMX 100	The University of Miami Experience	0
Elective		3
Elective		3
Credit Hours		17
Spring		
BIL 160 & BIL 161	Evolution and Biodiversity and Evolution and Biodiversity Laboratory	5
ENG 106	English Composition II	3
MTH 108	Precalculus Mathematics II	3

PSY 110	Introduction to Psychology	3
Elective		3
	Credit Hours	17
Sophomore Year		
Fall		
BIL 250	Genetics	3
CHM 121 & CHM 113	Chemistry for the Biosciences I and Chemistry Laboratory I	5
MTH 161	Calculus I	4
PSY 240	Abnormal Psychology	3
	Credit Hours	15
Spring		
BIL 255	Cellular and Molecular Biology	3
CHM 221 & CHM 114	CHM211 Chemistry for the Biosciences II and Chemistry Laboratory II	5
ENG 214	American Literature II (W; counts for Arts & Humanities cognate)	3
HCS 202	Introductory Statistics in Health Care	3
	Credit Hours	14
Junior Year		
Fall		
BPH 306	Principles of Nutrition	3
CHM 222 & CHM 205	CHM212 Chemistry for the Biosciences III and Organic Chemistry Laboratory I	5
ENG 389	The Sixties: Literature, History, and Culture of the 1960s (W; counts for Arts & Humanities cognate)	3
PHY 101 & PHY 106	College Physics I and College Physics Laboratory I	5
	Credit Hours	16
Spring		
APY 202	Principles of Cultural Anthropology (counts for People & Society cognate)	3
CHM 206	Organic Chemistry Laboratory II	1
PHY 102 & PHY 108	College Physics II and College Physics Laboratory II	5
Major Elective (*)		3
Elective		3
	Credit Hours	15
Senior Year		
Fall		
APY 413	Medical Anthropology (counts for People & Society cognate)	3
ENG 260	African-American Literature (W; counts for Arts & Humanities cognate)	3
HCS 212 & HCS 213	Human Anatomy and Human Anatomy Laboratory	4
Elective (W)		3
Elective		3
	Credit Hours	16
Spring		
CSC 115	Social and Ethical Issues in Computing	3
HCS 215 & HCS 216	Principles of Systemic Physiology and Principles of Systemic Physiology Laboratory (**)	4
PSY 250	Cognitive Psychology (counts for People & Society cognate)	3
Elective (W)		3

Elective	3
Credit Hours	16
Total Credit Hours	126

- W Course is designated as writing-intensive
- * Students may fulfill this requirement by taking BMB 401 or any BIL, BPH, or HCS course for at least 3 credits at the 200 level or above (except for BPH 202, HCS 202, and NUR 202.
- ** HCS 216 is not required but it is highly recommended.

Nursing

www.miami.edu/sonhs

Nursing Accreditation

The baccalaureate nursing program in the University of Miami's (UM's) School of Nursing and Health Studies (SONHS) is approved by the Florida Board of Nursing and accredited by the following:

Commission of Collegiate Nursing Education (CCNE)
 One DuPont Circle NW, Suite 530
 Washington, DC 20036
 (202) 887-6791

Academic Programs

Baccalaureate education is the primary foundation for professional nursing and is necessary for graduate study. The SONHS offers three baccalaureate options leading to the Bachelor of Science in Nursing (BSN) degree:

1. **Accelerated BSN:** For students who hold a baccalaureate degree in a field other than nursing and who seek a one year nursing degree
2. **RN-to-BSN:** For students who possess a diploma or Associate's degree in nursing, who have successfully completed the Registered Nurse (RN) licensure exam, and who wish to finish their baccalaureate education within three to five semesters
3. **Traditional BSN:** For students who may not have any previous higher education experience and who seek a traditional four-year nursing degree

Admission

Students who possess a baccalaureate degree from a regionally-accredited institution in a field other than nursing and who wish to pursue a career in nursing may apply to the **Accelerated BSN** program. Applicants must meet specific admission criteria and complete specific clinical prerequisites (<http://acceleratedbsn.sonhs.miami.edu/admissions>) before they may enter the Accelerated BSN program. Applications for the Accelerated BSN program are submitted through NursingCAS (<http://www.nursingcas.org>) and are reviewed by the SONHS.

The **RN-to-BSN** program is designed to provide licensed RNs who have an Associate's degree or a nursing diploma with an opportunity to complete the remaining coursework needed to earn a BSN degree. Students interested in the RN-to-BSN program must meet specific admission criteria (<http://rntobsn.sonhs.miami.edu/admissions>) and must apply through the Office of Undergraduate Admission (http://admissions.miami.edu/undergraduate/index.html?utm_source=Mailers&utm_medium=Print&utm_campaign=FromPrint). All applications are reviewed by the SONHS.

Admission as a new freshman to the **Traditional BSN** program is handled through the Office of Undergraduate Admission (http://admissions.miami.edu/undergraduate/index.html?utm_source=Mailers&utm_medium=Print&utm_campaign=FromPrint) and is open to applicants who meet the general requirements for admission to the UM. Students who wish to transfer into the Traditional BSN program must also meet general UM admission requirements. Additionally, students who wish to transfer directly into the clinical components of the Traditional BSN curriculum (i.e., the third year) must complete specific clinical prerequisites (<http://bsn.sonhs.miami.edu/admissions>) as outlined by the SONHS. These transfer applicants will be considered for direct entry into clinical coursework as space allows. All transfer applications are handled through the Office of Undergraduate Admission (http://admissions.miami.edu/undergraduate/index.html?utm_source=Mailers&utm_medium=Print&utm_campaign=FromPrint) and are reviewed by the SONHS. Only credits taken at regionally-accredited institutions are considered for transfer to the UM.

Applicants interested in any of the SONHS' baccalaureate programs are encouraged to speak with a representative from the SONHS' Office of Student Services (OSS) (<http://oss.sonhs.miami.edu>) and/or the UM's Office of Undergraduate Admission (http://admissions.miami.edu/undergraduate/index.html?utm_source=Mailers&utm_medium=Print&utm_campaign=FromPrint).

Academic Policies

Technical Standards

Nursing education requires that the accumulation of scientific knowledge be accompanied by the simultaneous acquisition of skills and professional attitudes and behaviors. The nursing degrees awarded by the UM SONHS at the completion of the educational process certifies that the individual has

acquired a base of knowledge and skills required for the practice of nursing at the respective undergraduate or graduate level. To this end, all courses in the curriculum must be completed successfully. In order to acquire the knowledge and skills to function in a variety of clinical situations and to render a wide spectrum of patient care, candidates for the undergraduate and graduate degrees in nursing must have abilities and skills in five areas:

1. Observation
2. Communication
3. Motor
4. Conceptual-Integrative
5. Behavioral-Social

Technological compensation can be made for some disabilities in certain of these areas, but a candidate should be able to perform in a reasonably independent manner and exercise independent judgment. Reasonable accommodations will be considered on a case by case basis for individuals who meet eligibility under applicable statutes. Any person expecting to need accommodations should request them prior to beginning the program, as some accommodations may not be considered reasonable and may impact an applicant's ability to complete all components of the program.

Observation

The candidate must be able to observe demonstrations and participate in didactic courses and simulated learning opportunities. A candidate must be able to observe a patient accurately at a distance and close at hand. Observation requires the use of common sense, as well as the functional use of the senses of vision, audition, olfaction, and palpation.

Communication

Candidates must communicate effectively using English in clinical and classroom settings. A candidate must be able to elicit information from patients, describe changes in mood, activity and posture, and perceive nonverbal communications. A candidate must be able to communicate effectively and sensitively with patients. Communication includes not only speech, but reading and writing. The candidate must be able to communicate effectively and efficiently with all members of the health care team in both immediate and recorded modes.

Motor

Candidates should have sufficient motor function to elicit information from patients by palpation, auscultation, percussion and other assessment techniques. A candidate should be able to perform nursing skills requiring the use of gross and fine motor skills (e.g. IV insertion, venous blood draw, urinary catheter insertion). A candidate should be able to execute motor movements reasonably required to provide nursing care and emergency response to patients. Examples of emergency responses reasonably required of nurses are cardiopulmonary resuscitation, medication administration, and application of pressure to stop bleeding. Candidates must perform actions which require the use of both gross and fine muscular movements, equilibrium, and functional use of the senses of touch and vision. Candidates should also be able to assist and/or participate in various lifting activities.

Conceptual-Integrative

These abilities include measurement, calculation, reasoning, analysis, synthesis, and retention of complex information. Critical thinking requires all of these intellectual abilities in order to provide optimal nursing care. In addition, the candidate should be able to comprehend three-dimensional relationships and to understand the spatial relationships of structures.

Behavioral-Social

Candidates must possess the emotional health required for the full use of their intellectual abilities, the exercise of good judgment, the prompt completion of all responsibilities attendant to the care of patients, and the development of mature, sensitive and effective relationships with patients. Candidates must be able to tolerate physically taxing workloads and to function effectively under stress in the classroom and clinical area. They must be able to adapt to changing environments, display flexibility and learn to function in the face of uncertainties inherent in the clinical environment. Compassion, integrity, concern for others, interpersonal skills, interest and motivation are all personal qualities that are assessed during the admissions and educational process.

Clinical Clearance

Before students can enter the clinical components of the undergraduate nursing curriculum, they must successfully complete a drug test and a background check. Students must have a background report without any infractions, regardless of how they were resolved or adjudicated. Accordingly, if a student's background report contains any infractions, regardless of how they were resolved or adjudicated, he/she may not be able to successfully complete the background check and he/she will be withdrawn from the nursing program.

Students must also provide current immunizations as outlined by the SONHS and obtain a Basic Life Support (BLS) for Healthcare Providers certification from the American Heart Association prior to entry into clinical coursework. The BLS certification must include content on Automated External Defibrillators (AEDs).

Refer to the Student Handbook (<http://www.sonhs.miami.edu/academics/student-handbooks>) or speak with a representative in the OSS (http://www.miami.edu/sonhs/index.php/sonhs/office_of_student_services) for more information.

Grades

Students should refer to the Student Handbook (<http://www.sonhs.miami.edu/academics/student-handbooks>) for more detailed information on the SONHS' policies related to grades, progression, and dismissal.

Undergraduate nursing students must earn a C or higher in each clinical prerequisite and each nursing course to progress.

A C- or below is considered a failure in a clinical prerequisite or a nursing course. Students are allowed to repeat only one failed clinical prerequisite and one failed nursing course. A student who fails only one clinical prerequisite and/or one nursing course, retakes the failed clinical prerequisite and/or failed nursing course, and receives a passing grade on the second attempt at a failed clinical prerequisite and/or a failed nursing course may progress through the program but the original failure is still counted as a failed course. Failure of two clinical prerequisites or two nursing courses with a grade of C- or below, or failure of the same clinical prerequisite or the same nursing course twice with a grade of C- or below, constitutes failure of two clinical prerequisites or two nursing courses, respectively, and the student will be dismissed from the nursing program.

When a nursing course must be repeated, progression in the nursing program will be altered in order for prerequisites to be met. Such alteration will lengthen the time required to complete the BSN program.

Students who repeat a clinical nursing course must repeat both the theoretical and clinical components of the course. Students are required to fulfill the course requirements in effect at the time of enrollment. No special courses will be created for students who repeat a course.

Grade Point Averages (GPAs)

Students should refer to the Student Handbook (<http://www.sonhs.miami.edu/academics/student-handbooks>) for more detailed information on the SONHS' policies related to GPAs, progression, and dismissal.

Requirements to Declare

Current UM students who wish to switch into the **Traditional BSN** program must possess a minimum 3.0 UM GPA and a minimum 2.75 clinical prerequisite GPA to be considered.

Incoming transfer students who plan to enter the **Traditional BSN** degree must possess a minimum 3.5 transfer GPA and a minimum 3.3 clinical prerequisite GPA to be considered for admission.

Requirements to Continue

Students who are enrolled in the **Traditional BSN** program and who are not yet enrolled in their clinical coursework (i.e., third or fourth year) are strongly encouraged not to continue with the nursing major if they have less than a 2.5 UM GPA and/or less than a 2.5 clinical prerequisite GPA after 15 credits in the clinical prerequisites and/or second year nursing courses.

Requirements to Progress into Clinical Coursework

Students who enter the **Accelerated BSN** program enter directly into clinical coursework. These students must possess a minimum 3.0 transfer GPA and a minimum 3.0 clinical prerequisite GPA to be considered for admission.

Current UM students enrolled in the **Traditional BSN** program must possess a minimum 3.0 UM GPA and a minimum 2.75 clinical prerequisite GPA to progress into their clinical coursework (i.e., third year). Students must also have completed a minimum of 60-63 total credits to be eligible to progress (Note: Only 57 credits are slated in the prescribed Plan of Study for students' clinical years. If students only have 60-62 completed credits at the time of progression, they will be required to complete additional elective credits during their last two years to reach the 120 credit requirement for the degree.).

Incoming transfer students who apply to transfer directly into the clinical components of the **Traditional BSN** degree (i.e., the third year) must possess a minimum 3.5 transfer GPA and a minimum 3.3 clinical prerequisite GPA to be considered for admission.

Requirements to Graduate

Students enrolled in the **Accelerated BSN**, **RN-to-BSN**, and **Traditional BSN** programs must complete their coursework with a minimum 2.0 UM GPA and a minimum 2.0 major GPA to graduate.

Prerequisites and Corequisites

Students must successfully complete all specified prerequisites with a C or higher before entering a nursing course or with a C- or higher before entering a health science or public health course. Students must also register for all required corequisites at the time of enrollment. If students enroll in a health science, nursing, or public health course without the proper prerequisite or corequisite, they may be dropped from the course at the discretion of the course instructor, OSS, Associate Dean, or Dean. Students should consult an academic advisor in the OSS (<http://oss.sonhs.miami.edu>) to discuss any questions related to course enrollment.

Residency Requirements

Undergraduate nursing students must adhere to the general UM residency rules. Once a student enrolls at the UM, all remaining clinical prerequisites must be completed at the UM unless special permission is obtained through an appeal to the Undergraduate Academic Standing and Admissions

Committee (UGASAC). Additionally, all courses in the nursing major must be completed at the UM. Students should speak with an academic advisor in the OSS (<http://oss.sonhs.miami.edu>) for more information on the residency requirements and on the UGASAC appeals process.

Transfer Credit

Students may transfer health science, nursing, or public health courses from other institutions to the UM with approval by the OSS (<http://oss.sonhs.miami.edu>). Detailed course descriptions or syllabi must be presented to the OSS (<http://oss.sonhs.miami.edu>) for transfer equivalency reviews.

Degree Requirements

Listed in this section are the degree requirements for the **Traditional BSN** program. The **Accelerated BSN** and **RN-to-BSN** requirements are listed under the "OVERVIEW" section of the "TRACKS IN BSN PROGRAMS" link for each of the respective programs.

The University of Miami's General Education Requirements (GERs) consist of the Areas of Proficiency, Areas of Knowledge, and Advanced Writing and Communication Skills requirements. Through the completion of the GERs, graduates acquire essential intellectual skills and engage a range of academic disciplines. The GERs provide students with the opportunity to study methodologies and achievements in all areas of human inquiry and creative endeavor, and to cultivate abilities essential for the acquisition of knowledge. The GERs also allow students to create an integrative map for their academic careers, providing a context for more focused studies.

All Areas of Proficiency, Areas of Knowledge, clinical prerequisites, and electives, except for the nursing major elective, must be completed prior to the clinical components of the **Traditional BSN** program (i.e., the third year). Students should meet with an academic advisor in the OSS (<http://oss.sonhs.miami.edu>) to discuss any questions related to degree, clinical prerequisite, or major requirements.

Areas of Proficiency

The Areas of Proficiency requirements ensure students either possess or develop the ability to express themselves effectively, to use mathematics with facility, and to reason cogently.

English Composition

Good writing facilitates clear thinking, and clear thinking is the foundation of effective communication. The expectation is that students become adept at using the English language as an effective communication tool. Effective writing skills are representative of an educated person because they are instruments to advance ideas efficiently and persuasively.

Requirements

Students complete this requirement by completing ENG 105 and ENG 106 (Note: SAT or ACT verbal scores can be used to waive the ENG 105 requirement; credit will not be awarded for the waiver. Students who enter UM with credits for ENG 105 or ENG 106 may take ENG 208 to finish this requirement).

Outcomes

By completing the English Composition requirement, students will be able to:

1. gather information, synthesize data, compare various points of view, and present results in writing
2. develop the ability to read texts critically and to use textual evidence to support a sophisticated written argument
3. consider audience, tone, organization, and standard conventions in relationship to specific rhetorical tasks

Mathematics

In a world increasingly influenced by science and technology, it is important for students to acquire the capacity to use and understand essential mathematical applications. The mathematics requirement helps students learn to use quantitative methods to solve problems by emphasizing the manipulation, interpretation, and application of quantitative data.

Requirements

Students complete this requirement by completing NUR 202.

Math placement criteria is established affected by the Department of Mathematics (<http://www.math.miami.edu/undergraduate/aleks-math-placement>). The following items may affect students' math placement at the UM: SAT and ACT scores, ALEKS math placement scores, and AP, IB, dual enrollment, and transfer credits. Students should review the information listed on the Department of Mathematics (<http://www.math.miami.edu/undergraduate/aleks-math-placement>) website and consult with an academic advisor in the OSS (<http://oss.sonhs.miami.edu>) if they have any questions.

Outcomes

By completing the Mathematics requirement, students will be able to:

1. select quantitative tools appropriate for solving problems
2. use quantitative tools appropriate for solving problems
3. interpret quantitative data in an appropriate manner for solving problems

Areas of Knowledge (Cognates)

The Areas of Knowledge requirement is designed to help students understand and appreciate intellectual achievements in major areas of human inquiry and creative endeavor. The courses offered in the Areas of Knowledge provide a broad array of intellectual and cultural exploration. In satisfying these requirements, students examine creative expression in the arts, literature, and philosophy; study human development and behavior; and explore the mathematical, scientific, and technological world.

Students fulfill the Areas of Knowledge requirement by completing a specific "cognate" in three distinct areas: Arts & Humanities, People & Society, and Science, Technology, Engineering, and Mathematics (STEM). Cognates are groups of "at least three related courses for at least 9 credits" focused on a specific topic. Majors and minors can be used to fulfill a cognate in its respective Area of Knowledge. Each cognate used to fulfill one of the Areas of Knowledge must have a different Responsible Academic Unit (RAU). Several cognates may include the same courses; however, one course cannot be used to complete multiple cognates. For more information on cognates, go to the "General Education Requirements" section of the Academic Bulletin or visit <http://www.miami.edu/cognates/>.

Arts & Humanities

Arts & Humanities cognates engage students in the study of the most enduring and influential works of art, imagination, and culture. Through study, creation, and performance, courses in this area enable students to understand the works of artists, musicians, novelists, philosophers, playwrights, poets, historians, and theologians. These courses cultivate the ability to interpret, critically evaluate, and experience the creative products of human culture and expression.

Requirements

Complete one Arts & Humanities cognate.

Outcomes

By completing the Arts & Humanities requirement, students will be able to:

1. critically evaluate and interpret the creative products of humanistic and artistic expression, applying appropriate vocabulary and concepts for their description and analysis
2. understand the creation and performance of art

People & Society

People & Society cognates help students understand and analyze the organization of society and the patterns of social change, in the past and in the contemporary world.

Requirements

Complete one People & Society cognate.

Outcomes

By completing the People & Society requirement, students will be able to:

1. analyze the organization of society
2. analyze patterns of social change

Science, Technology, Engineering, and Mathematics (STEM)

STEM cognates develop students' abilities to think critically about mathematical, scientific, and technological issues by understanding the processes and methods of scientific inquiry involved in experimentation, observation, and quantitative analysis. The STEM cognates nurture literacies that enable students to make informed decisions in an increasingly complex world.

Requirements

Complete one STEM cognate. The nursing major may be used to fulfill this cognate area.

Outcomes

By completing the STEM requirement, students will be able to:

1. understand the use of quantitative tools, experimentation, and observation to analyze and solve mathematical, scientific, environmental, and technological problems
2. interpret quantitative data and draw useful conclusions

Clinical Prerequisites

Refer to the "Clinical Prerequisite Requirements" section below for information on the clinical prerequisites required for the **Traditional BSN** program.

Major

Refer to the "Major Requirements" section below for information on the courses required for the **Traditional BSN** nursing major.

Advanced Writing and Communication Skills

The Advanced Writing and Communication Skills requirement empowers nursing students to develop their communication skills, both written and verbal, enabling them to better articulate information relating to health science, nursing, and public health. Several designated writing-intensive courses are built into the nursing major to satisfy this requirement.

Required Communication domains

Students must communicate effectively using English in clinical and classroom settings. A student must be able to elicit information from patients, describe changes in mood, activity, and posture, and perceive nonverbal communications. A student must be able to communicate effectively and sensitively with patients. Communication includes not only speech, but reading and writing. Students must be able to communicate effectively and efficiently with all members of the healthcare team in both immediate and recorded modes. Throughout the curriculum students are expected to achieve skills in the following communication domains:

Therapeutic Communication

Therapeutic communication between the nurse and patient is a cornerstone of effective nursing care. This communication style is goal-oriented and focused on learning and promoting growth.

Example content: principles of therapeutic use of self; therapeutic communication techniques; health education/teaching; reflective journals

Technical Communication

Technical communication encompasses the specific methods used by the nursing profession to communicate information necessary for nursing practice.

Example content: use of clinical information systems (e.g., electronic health record, physician order entry); application of standardized health care terminology; use of data and data systems

Inter- and Intra-Professional Communication

Effective communication among all members of the healthcare team is essential for delivering high quality, safe patient care.

Example content: teamwork/cooperative learning; scopes of practice; conflict resolution; group dynamics and evaluation

Scholarly Written Communication

Scholarly writing is a formal means of communication in which the writer communicates synthesized knowledge about a topic while also demonstrating original thought and unique perspectives.

Example content: scholarly papers; research critiques; application of APA publication style

Scholarly Verbal Communication

Scholarly verbal communication is a formal way of speaking with the intended audience to provide and/or elicit information in a systematic manner. Primary methods of scholarly verbal communication involve verbal presentations/lectures and formal data gathering processes such as interviews.

Example content: scholarly presentations; key informant interviews

Minimal writing proficiency standards

Writing proficiency is evaluated throughout the BSN plan of study. Three primary categories of writing are required:

1. scholarly papers (NUR 400/NUR 401, NUR 440, and NUR 453)
2. patient care documentation (NUR 304, NUR 308, NUR 318, NUR 320, NUR 411, NUR 448, and NUR 453)
3. reflective journals (NUR 306 and NUR 453)

Each writing component is evaluated as part of the grading rubric for the associated course. Feedback and revisions are required.

Plan for assessment

Content to meet the required communication domains and minimal writing proficiency standards is provided across the curriculum. The table below outlines the specific communication domains covered in each course as well as the assessment/outcome criteria used to measure them. In addition to demonstrating skills across the five required communication domains, students must complete ENG 105 and ENG 106 or their equivalents to provide the foundation for the development of more advanced writing and communication skills.

Course	Communication Domain	Assessment/Outcome (exemplars)
ENG 105 and ENG 106 or their equivalents	Serves as a prerequisite to other skills	Serves as a prerequisite to other skills
HCS 212 and HCS 213	Technical Communication	Examinations
HSC 215 and HSC 216	Technical Communication	Examinations
NUR 306	Technical Communication	Dietary journals
	Therapeutic Communication	Dietary Analysis System
		Reflective Paper
NUR 202	Technical Communication	Examinations

NUR 300	Inter/Intra Professional Communication	Simulation/Scholarly Papers
NUR 317	Therapeutic Communication	Reflective Journals
	Scholarly Verbal Communication	Scholarly Presentation
NUR 304	Technical Communication	Examinations
	Therapeutic Communication	Patient Care Documentation
	Inter- and Intra- Professional Communication	Clinical Evaluations
		Simulation
NUR 307	Technical Communication	Examinations
NUR 311	Therapeutic Communication	Scholarly Papers
	Inter- and Intra- Professional Communication	Scholarly Presentation
		Wiki Postings
	Scholarly Written Communication	
	Scholarly Verbal Communication	
NUR 314	Technical Communication	Examinations
	Therapeutic Communication	Simulation
NUR 315	Technical Communication	Examinations
NUR 308	Technical Communication	Examinations
	Therapeutic Communication	Patient Care Documentation
	Inter- and Intra- Professional Communication	Clinical Evaluations
		Simulation
NUR 318	Technical Communication	Examinations
	Therapeutic Communication	Patient Care Documentation
	Inter- and Intra-Professional Communication	Clinical Evaluations
		Health Teaching Project Simulation
NUR 320	Technical Communication	Examinations
	Therapeutic Communication	Patient Care Documentation
	Inter- and Intra-Professional Communication	Clinical Evaluations
		Health Teaching Project Simulation
NUR 411	Technical Communication	Examinations
	Therapeutic Communication	Patient Care Documentation
	Inter- and Intra-Professional Communication	Clinical Evaluations
	Scholarly Verbal Communication	Scholarly Presentation Simulation
NUR 440	Therapeutic Communication	Examinations
	Technical Communication	Clinical Evaluations
	Inter- and Intra-Professional Communication	Health Teaching Project
	Scholarly Written Communication	Key Informant Interviews
	Scholarly Verbal Communication	Surveillance Data
		Scholarly Paper
		Scholarly Presentation Simulation
NUR 441	Therapeutic Communication	Examinations
	Technical Communication	Clinical Evaluations
	Inter/Intra-Professional Communication	Health Teaching Project
	Scholarly Written Communication	Key Informant Interviews
	Scholarly Verbal Communication	Surveillance Data
NUR 448	Therapeutic Communication	Examinations
	Technical Communication	Patient Care Documentation
	Inter- and Intra-Professional Communication	Clinical Evaluations
NUR 400 and NUR 401	Scholarly Written Communication	Scholarly Paper
	Scholarly Verbal Communication	Scholarly Presentation
NUR 430	Therapeutic Communication	Examinations
	Inter- and Intra-Professional Communication	
NUR 453	Therapeutic Communication	Examinations

	Technical Communication	Patient Care Documentation
	Inter- and Intra-Professional Communication	Clinical Evaluations
	Scholarly Written Communication	Reflective Journals
		Scholarly Paper Simulation
Elective (BIL, BPH, HCS, HST, or NUR course at the 200 level or above)	Varies	Varies

Electives

Students must earn a minimum of 120 credits to complete the **Traditional BSN** degree. Students may need to take varying numbers of elective credits beyond the degree requirements listed above to reach the 120 credit threshold.

Clinical Prerequisite Requirements

Accelerated BSN

All clinical prerequisites must be completed prior to matriculation into the **Accelerated BSN** program and within the last 10 years. The clinical prerequisites include:

Code	Title	Credit Hours
CHM 103 & CHM 105	Chemistry for Life Sciences I (Lecture) and Chemistry for Life Sciences I (Laboratory)	4
HCS 212 & HCS 213	Human Anatomy and Human Anatomy Laboratory	4
HCS 215	Principles of Systemic Physiology	3
MIC 320	Introduction to Microbes and the Immune System for Nurses	3
NUR 202	Introductory Statistics in Health Care	3
NUR 306	Principles of Nutrition	3
NUR 317	Theories in Growth and Development	3
PSY 110	Introduction to Psychology	3

RN-to-BSN

Students must meet specific admission criteria (<http://rntobsn.sonhs.miami.edu/admissions>) to be considered for the **RN-to-BSN** program. If admitted, any required coursework must be completed prior to matriculation.

Traditional BSN

All clinical prerequisites must be completed prior to the clinical components of the **Traditional BSN** program (i.e., the third year) and within the last 10 years. The clinical requirements include:

Code	Title	Credit Hours
BIL 150 & BIL 151	General Biology and General Biology Laboratory	5
CHM**		4-5
HCS 212 & HCS 213	Human Anatomy and Human Anatomy Laboratory	4
HCS 215	Principles of Systemic Physiology	3
MIC 320	Introduction to Microbes and the Immune System for Nurses	3
MTH**		3
NUR 202	Introductory Statistics in Health Care	3
NUR 306	Principles of Nutrition	3
NUR 317	Theories in Growth and Development	3
PSY 110	Introduction to Psychology	3

(*) = Chemistry is satisfied by CHM 103/CHM 105, CHM 111/CHM 113, or CHM 121/CHM 113.

(**) = MTH 101, MTH 107, or mathematics placement higher than MTH 107. Note: MTH 107 is a pre- or co-requisite for BIL 150.

Students can transfer equivalent clinical prerequisites to the UM as long as they comply with the general UM and the SONHS residency rules (see "Residency Requirements" section above). Students must provide the documentation listed in the "Transfer Credit" section above to the OSS (<http://oss.sonhs.miami.edu>) for any health science, nursing, or public health transfer equivalency requests. For transfer equivalency reviews of any other clinical prerequisites, students must present any necessary documentation to the respective academic unit for their consideration.

Major Requirements

Nursing must be a student's first major. There is no additional major offered in nursing.

Visit the "TRACKS IN BSN PROGRAMS" link to learn more about the major requirements for the SONHS' BSN programs, which are listed under the "OVERVIEW" section for each BSN program.

Minor Requirements

BSN students are not required to complete a minor.

There is no minor available in nursing.

Classes Not Applicable Toward SONHS Degrees

The following courses do not count toward the 120 credits required of the BSN degree: DAN 101-104, ENG 103, and MTH 099. Based on their ENG or MTH placement scores, students may need to complete ENG 103 or MTH 099 before enrolling in higher-level requirements. Even though the courses listed above cannot count toward graduation, they can count toward the 12 credits required to be considered a full-time student.

Pre-immersion Course

Prior to enrollment in clinical nursing courses, students must complete a mandatory online pre-immersion course. The pre-immersion course is listed in students' first term of clinical enrollment but it does not affect students' GPAs. Failure to complete the pre-immersion course may delay entry into the clinical nursing courses. Information about the pre-immersion course will be provided to eligible students by the OSS.

Senior Assessments

In line with the SONHS' ongoing accreditation efforts, seniors with a major in the health science, nursing, and public health may be required to participate in general or major-specific senior assessments lasting up to several hours each. Scores on senior assessments will not affect students' GPAs or ability to graduate, but failure to complete required assessments may delay or prevent students' ability to graduate.

HESI Exams

Mandatory HESI exams are required throughout the undergraduate nursing programs. For further details, refer to the Student Handbook (<http://www.sonhs.miami.edu/academics/student-handbooks>).

RN Licensure Exam (NCLEX-RN)

Students who successfully complete the **Accelerated BSN** or **Traditional BSN** program at the SONHS are eligible to sit for the RN licensure exam referred to as the NCLEX-RN. For additional eligibility requirements, refer to the appropriate state board of nursing website.

Research Experience

Students may participate in research experiences through the SONHS (<http://www.miami.edu/sonhs/index.php/sonhs/research>) or the Office of Undergraduate Research and Community Outreach (http://www.miami.edu/index.php/undergraduate_research_and_community_outreach) during their time at the UM. Students should speak with the academic advisors located in the OSS (http://www.miami.edu/sonhs/index.php/sonhs/office_of_student_services) to learn more about the research opportunities available to them at the UM.

Required Coursework and Sample Plans of Study

Visit the "TRACKS IN BSN PROGRAMS" link to learn more about the academic requirements for the SONHS' BSN programs and to view sample graduation plans, which are listed under the "OVERVIEW" and "PLAN OF STUDY" sections, respectively, for each BSN program.

Major in Nursing

- Accelerated BSN (p. 901)
- RN-to-BSN (p. 903)
- Traditional BSN (p. 905)

Accelerated BSN

Students enrolled in the Accelerated BSN program must complete the following coursework as specified in the Plan of Study to earn the BSN degree through the School of Nursing and Health Studies (SONHS):

Curriculum Requirements

Code	Title	Credit Hours
NUR 300	Seminar in Inter-Professional Health Care	1
NUR 304	Adult Health I: Fundamentals of Nursing Practice (C)	6

NUR 307	Pharmacology	3
NUR 308	Adult Health II (C)	7
NUR 314	Health Assessment and Promotion (L)	3
NUR 315	Pathophysiology	3
NUR 318	Women's Health Nursing (C)	4
NUR 320	Child and Adolescent Health Nursing (C)	4
NUR 401	Evidence-Based Nursing Practice	3
NUR 411	Adult Health III (C)	5
NUR 412	Epidemiology for Population-Based Care	2
NUR 417	Pre-Immersion Course for Accelerated Option Students (*)	0
NUR 430	Leadership in Nursing	3
NUR 441	Public Health Nursing (C)	2
NUR 448	Psychiatric Mental Health Nursing (C)	4
NUR 453	Role Transition (C)	5
Total Credit Hours		55

(C) = Course includes a clinical component and meets the UM civic engagement criteria

(L) = Course includes a lab component

(*) = Course must be completed online via Blackboard after the point of admission and prior to full matriculation into the Accelerated BSN program; students officially register for the course in their first semester but the course does not affect the students' GPA

The Accelerated BSN is a lock-step program. All students enrolled in the Accelerated BSN program at the School of Nursing and Health Studies (SONHS) must follow the Plan of Study as outlined below.

Plan of Study

Course	Title	Credit Hours
Year One		
First Semester		
NUR 304	Adult Health I: Fundamentals of Nursing Practice (C)	6
NUR 307	Pharmacology	3
NUR 314	Health Assessment and Promotion (L)	3
NUR 315	Pathophysiology	3
NUR 417	Pre-Immersion Course for Accelerated Option Students (*)	0
Credit Hours		15
Second Semester		
NUR 300	Seminar in Inter-Professional Health Care	1
NUR 308	Adult Health II (C)	7
NUR 318	Women's Health Nursing (C)	4
NUR 320	Child and Adolescent Health Nursing (C)	4
NUR 401	Evidence-Based Nursing Practice	3
NUR 412	Epidemiology for Population-Based Care	2
Credit Hours		21
Third Semester		
NUR 411	Adult Health III (C)	5
NUR 430	Leadership in Nursing	3
NUR 441	Public Health Nursing (C)	2
NUR 448	Psychiatric Mental Health Nursing (C)	4
NUR 453	Role Transition (C)	5
Credit Hours		19
Total Credit Hours		55

(C) = Course includes a clinical component and meets the UM civic engagement criteria

(L) = Course includes a lab component

(*) = Course must be completed online via Blackboard after the point of admission and prior to full matriculation into the Accelerated BSN program; students officially register for the course in their first semester but the course does not affect the students' GPA

RN to BSN

Students enrolled in the RN-to-BSN program must complete the following coursework as specified in the Plan of Study to earn the BSN degree through the School of Nursing and Health Studies (SONHS):

Curriculum Requirements

Code	Title	Credit Hours
NUR 305	Issues in Health Disparities	3
NUR 311	Theories and Concepts of Nursing	2
NUR 314	Health Assessment and Promotion (L)	3
NUR 350	Pathophysiology/Pharmacology for RN-to-BSN	4
NUR 400	Theories, Research and Evidence-Based Practice	3
NUR 405	Professionalism and Career Pathways	3
NUR 406	Current Issues in Healthcare (Current Issues in Healthcare)	3
NUR 426	Leadership and Management in Nursing (C)	5
NUR 440	Population Focused Nursing (C)	4
Total Credit Hours		30

L Course includes a lab component

C Course includes a clinical component and meets the UM civic engagement criteria

Upon successful completion of the 30 core credits listed above, 30 additional credits are automatically awarded to RN-to-BSN students simply for possessing an RN license, bringing their overall credit total up to the 120 credits required for the BSN degree. These credits are added in the form of the following Advanced Placement courses at no additional tuition cost:

Code	Title	Credit Hours
NUR 390	Advanced Placement Practice I for RN-to-BSN Students	10
NUR 403	Advanced Placement Practice II for RN-to-BSN Students	10
NUR 414	Advanced Placement Practice III for RN-to-BSN Students	10
Total Credit Hours		30

The RN-to-BSN is a lock-step program. Students are admitted into a 3 semester or 5 semester track and are required to follow the appropriate Plan of Study outlined below.

Plan of Study - 3 semester track

Course	Title	Credit Hours
Junior Year		
First Semester		
NUR 311	Theories and Concepts of Nursing	2
NUR 314	Health Assessment and Promotion (L)	3
NUR 350	Pathophysiology/Pharmacology for RN-to-BSN	4
Credit Hours		9
Second Semester		
NUR 400	Theories, Research and Evidence-Based Practice	3
NUR 405	Professionalism and Career Pathways	3
NUR 440	Population Focused Nursing (C)	4
Credit Hours		10
Third Semester		
NUR 305	Issues in Health Disparities	3
NUR 406	Current Issues in Healthcare	3

NUR 426	Leadership and Management in Nursing (C)	5
	Credit Hours	11
Senior Year		
Advanced Placement		
NUR 390	Advanced Placement Practice I for RN-to-BSN Students (*)	10
NUR 403	Advanced Placement Practice II for RN-to-BSN Students (*)	10
NUR 414	Advanced Placement Practice III for RN-to-BSN Students (*)	10
	Credit Hours	30
	Total Credit Hours	60

C Course includes a clinical component and meets the UM civic engagement criteria.

L Course includes a lab component.

* Upon successful completion of the 30 junior year credits listed above, 30 additional credits are automatically awarded to RN-to-BSN students simply for possessing an RN license, bringing their overall credit total up to the 120 credits required for the BSN degree. These credits are added in the form of Advanced Placement courses at no additional tuition cost.

Plan of Study - 5 semester track

Course	Title	Credit Hours
Junior Year		
First Semester		
NUR 311	Theories and Concepts of Nursing	2
NUR 350	Pathophysiology/Pharmacology for RN-to-BSN	4
	Credit Hours	6
Second Semester		
NUR 314	Health Assessment and Promotion (L)	3
NUR 400	Theories, Research and Evidence-Based Practice	3
	Credit Hours	6
Third Semester		
NUR 405	Professionalism and Career Pathways	3
NUR 406	Current Issues in Healthcare	3
	Credit Hours	6
Fourth Semester		
NUR 305	Issues in Health Disparities	3
NUR 440	Population Focused Nursing (C)	4
	Credit Hours	7
Fifth Semester		
NUR 426	Leadership and Management in Nursing (C)	5
	Credit Hours	5
Senior Year		
Advanced Placement		
NUR 390	Advanced Placement Practice I for RN-to-BSN Students (*)	10
NUR 403	Advanced Placement Practice II for RN-to-BSN Students (*)	10
NUR 414	Advanced Placement Practice III for RN-to-BSN Students (*)	10
	Credit Hours	30
	Total Credit Hours	60

C Course includes a clinical component and meets the UM civic engagement criteria.

L Course includes a lab component.

* Upon successful completion of the 30 junior year credits listed above, 30 additional credits are automatically awarded to RN-to-BSN students simply for possessing an RN license, bringing their overall credit total up to the 120 credits required for the BSN degree. These credits are added in the form of Advanced Placement courses at no additional tuition cost.

Traditional BSN

Students enrolled in the Traditional BSN program must complete the coursework listed under curriculum to earn the BSN degree through the School of Nursing and Health Studies (SONHS). All Areas of Proficiency, Areas of Knowledge, clinical prerequisites, and electives, except for the nursing major elective, must be completed prior to the clinical components of the Traditional BSN program (i.e., the third year). Students should meet with an academic advisor in the Office of Student Services (OSS) (http://www.miami.edu/sonhs/index.php/sonhs/office_of_student_services) to discuss any questions related to degree, clinical prerequisite, or major requirements.

Curriculum Requirements

Code	Title	Credit Hours
Areas of Proficiency		
English Composition		
ENG 105	English Composition I	3
ENG 106	English Composition II	3
Mathematics		
NUR 202	Introductory Statistics in Health Care	3
Areas of Knowledge		
Arts & Humanities		
People & Society		
Science, Technology, Engineering, and Mathematics (STEM)*		
Clinical Prerequisites		
BIL 150 & BIL 151	General Biology and General Biology Laboratory	5
CHM**		4-5
HCS 212 & HCS 213	Human Anatomy and Human Anatomy Laboratory	4
HCS 215	Principles of Systemic Physiology	3
MIC 320	Introduction to Microbes and the Immune System for Nurses	3
MTH***		3
NUR 202	Introductory Statistics in Health Care	3
NUR 306	Principles of Nutrition	3
NUR 317	Theories in Growth and Development	3
PSY 110	Introduction to Psychology	3
Major****		
NUR 300	Seminar in Inter-Professional Health Care	1
NUR 304	Adult Health I: Fundamentals of Nursing Practice (C)	6
NUR 307	Pharmacology	3
NUR 308	Adult Health II (C)	7
NUR 311	Theories and Concepts of Nursing	2
NUR 314	Health Assessment and Promotion (L)	3
NUR 315	Pathophysiology	3
NUR 318	Women's Health Nursing (C)	4
NUR 320	Child and Adolescent Health Nursing (C)	4
NUR 400	Theories, Research and Evidence-Based Practice	3
NUR 411	Adult Health III (C)	5
NUR 412	Epidemiology for Population-Based Care	2
NUR 418	Pre-Immersion for Traditional Option Students (*****)	0
NUR 430	Leadership in Nursing	3
NUR 441	Public Health Nursing (C)	2
NUR 448	Psychiatric Mental Health Nursing (C)	4
NUR 453	Role Transition (C)	5
Elective*****		3
Advanced Writing and Communication Skills*****		

Electives*****	0
Total Credit Hours	121-122

- C Course includes a clinical component and meets the UM civic engagement criteria.
- L Course includes a lab component.
- * The nursing major may be used to fulfill this cognate area.
- ** Chemistry is satisfied by CHM 103/CHM 105, CHM 111/CHM 113, or CHM 121/CHM 113.
- *** MTH 101, MTH 107, or mathematics placement higher than MTH 107. Note: MTH 107 is a pre- or co-requisite for BIL 150.
- **** These NUR courses follow a lock-step sequence; these NUR courses must be taken in the semesters specified in the Plan of Study.
- ***** Course must be completed online via Blackboard prior to full matriculation into the clinical components of the Traditional BSN program (i.e., the third year); students officially register for the course in their first semester of their third year but the course does not affect the students' GPA.
- ***** This elective must be completed by taking at least 3 credits in a BIL, BPH, HCS, HST, or NUR course at or above the 200 level (except for BPH 202, HCS 202, and NUR 202).
- ***** These courses are factored into the Traditional BSN nursing coursework; students do not need to take extra courses to complete this requirement.
- ***** The number of electives students take may vary due to differences in placement scores, transfer credits, course and cognate selections, etc.

This is only a sample. There are numerous ways students can create plans of study for the Traditional BSN program. Students should feel empowered to use the information listed in the Academic Bulletin and the Student Handbook (http://www.miami.edu/sonhs/index.php/sonhs/current_students/student_handbooks) to take charge of their education, pursue their own academic interests, and create their own, unique plans of study.

The School of Nursing and Health Studies (SONHS) **recommends students create their own plan of study** that accounts for their ENG and MTH placement scores and incorporates their major, minor, and cognate interests. Once students draft their initial plan of study, they are encouraged to meet with an academic advisor in the Office of Student Services (OSS) (http://www.miami.edu/sonhs/index.php/sonhs/office_of_student_services) to review their plan, address any questions or concerns, discuss areas for improvement, and brainstorm ways to integrate research experiences, study abroad opportunities, global initiatives, graduate school requirements, and career preparation experiences.

The sample plan of study listed below is based on the following ENG and MTH placement information and major, minor, and cognate selections:

- **ENG placement:** ENG 105
- **MTH placement:** MTH 101
- **Major(s):** Nursing
- **Minor(s):** None
- **Cognates**
 - Art & Humanities: World of Music (RAU = Music)
 - People & Society: The Science of Human Development (RAU = Psychology)
 - Science, Technology, Engineering, and Mathematics (STEM): Nursing major (RAU = Nursing & Health Studies)

All Areas of Proficiency, Areas of Knowledge, clinical prerequisites, and electives, except for the nursing major elective, must be completed prior to the clinical components of the Traditional BSN program (i.e., the third year).

Sample Plan of Study

Course	Title	Credit Hours
Freshman Year		
Fall		
CHM 103 & CHM 105	Chemistry for Life Sciences I (Lecture) and Chemistry for Life Sciences I (Laboratory)	4
ENG 105	English Composition I	3
MCY 131	Understanding Music (counts for Arts & Humanities cognate)	3
MTH 101	Algebra for College Students	3
PSY 110	Introduction to Psychology (counts for People & Society cognate)	3
UMX 100	The University of Miami Experience	0
	Credit Hours	16
Spring		
BIL 150	General Biology	4

ENG 106	English Composition II	3
MCY 124	The Evolution of Jazz (counts for Arts & Humanities cognate)	3
MTH 107	Precalculus Mathematics I	3
NUR 317	Theories in Growth and Development (counts for People & Society cognate)	3
Credit Hours		16
Sophomore Year		
Fall		
BIL 151	General Biology Laboratory	1
HCS 212 & HCS 213	Human Anatomy and Human Anatomy Laboratory	4
NUR 202	Introductory Statistics in Health Care (counts for People & Society cognate)	3
NUR 300	Seminar in Inter-Professional Health Care (*)	1
NUR 306	Principles of Nutrition	3
NUR 311	Theories and Concepts of Nursing (*)	2
Elective		3
Credit Hours		17
Spring		
HCS 215	Principles of Systemic Physiology	3
MCY 313	Music of Latin America (counts for Arts & Humanities cognate)	3
MIC 320	Introduction to Microbes and the Immune System for Nurses	3
Elective		3
Elective		3
Credit Hours		15
Junior Year		
Fall		
NUR 304	Adult Health I: Fundamentals of Nursing Practice (*; C)	6
NUR 307	Pharmacology (*)	3
NUR 314	Health Assessment and Promotion (*; L)	3
NUR 315	Pathophysiology (*)	3
NUR 418	Pre-Immersion for Traditional Option Students (*; **)	0
Credit Hours		15
Spring		
NUR 308	Adult Health II (*; C)	7
NUR 318	Women's Health Nursing (*; C)	4
NUR 320	Child and Adolescent Health Nursing (*; C)	4
Credit Hours		15
Senior Year		
Fall		
NUR 400	Theories, Research and Evidence-Based Practice (*)	3
NUR 411	Adult Health III (*; C)	5
NUR 412	Epidemiology for Population-Based Care (*)	2
NUR 448	Psychiatric Mental Health Nursing (*; C)	4
Credit Hours		14
Spring		
NUR 430	Leadership in Nursing (*)	3
NUR 441	Public Health Nursing (*; C)	2
NUR 453	Role Transition (*; C)	5
Major Elective (*; ***)		3
Credit Hours		13
Total Credit Hours		121

- C Course includes a clinical component and meets the UM civic engagement criteria.
- L Course includes a lab component.
- * These NUR courses follow a lock-step sequence; these NUR courses must be taken in the semesters specified in this Plan of Study.
- ** Course must be completed online via Blackboard prior to full matriculation into the clinical components of the Traditional BSN program (i.e., the third year); students officially register for the course in their first semester of their third year but the course does not affect the students' GPA.
- *** This elective must be completed by taking at least 3 credits in a BIL, BPH, HCS, HST, or NUR course at or above the 200 level (except for BPH 202, HCS 202, and NUR 202).

Public Health

Academic Programs

The University of Miami (UM) School of Nursing and Health Studies (SONHS) offers courses leading to the degree of Bachelor of Science in Public Health (BSPH). Baccalaureate education provides the foundation for further education in public health and specialized health professional fields. The program is currently undergoing the accreditation process with the Council on Education for Public Health.

Admission

Admission as a new freshman or transfer student to the BSPH program is handled through the Office of Undergraduate Admission (http://admissions.miami.edu/undergraduate/index.html?utm_source=Mailers&utm_medium=Print&utm_campaign=FromPrint) and is open to applicants who meet the general requirements for admission to the UM.

Applicants interested in any of the SONHS' baccalaureate programs are encouraged to speak with a representative from the SONHS' Office of Student Services (OSS) (<http://oss.sonhs.miami.edu>) and/or the UM's Office of Undergraduate Admission (http://admissions.miami.edu/undergraduate/index.html?utm_source=Mailers&utm_medium=Print&utm_campaign=FromPrint).

Academic Policies

Grades

Students should refer to the Student Handbook (<http://www.sonhs.miami.edu/academics/student-handbooks>) for more detailed information on the SONHS' policies related to grades, progression, and dismissal.

Undergraduate BSPH students must earn a C- or higher in each course for the major to progress.

When a course must be repeated, progression in the BSPH program may be altered in order for prerequisites to be met. Such alteration may lengthen the time required to complete the BSPH program.

Grade Point Averages (GPAs)

Students should refer to the Student Handbook (<http://www.sonhs.miami.edu/academics/student-handbooks>) for more detailed information on the SONHS' policies related to GPAs, progression, and dismissal.

Requirements to Declare

Current UM students who wish to switch into the BSPH program must possess a minimum 2.8 UM GPA to be considered.

Incoming transfer students who plan to enter the BSPH program must possess a minimum 2.8 transfer GPA to be considered for admission.

Requirements to Continue

BSPH are strongly encouraged not to continue with the BSPH degree if they have less than a 2.5 UM GPA after 15 credits completed in the major.

Requirements to Graduate

Students enrolled in the BSPH program must complete their coursework with a minimum 2.0 UM GPA and a minimum 2.0 major GPA to graduate.

Prerequisites and Corequisites

Students must successfully complete all specified prerequisites with a C or higher before entering a nursing course or with a C- or higher before entering a health science or public health course. Students must also register for all required corequisites at the time of enrollment. If students enroll in a health science, nursing, or public health course without the proper prerequisite or corequisite, they may be dropped from the course at the discretion of the course instructor, OSS, Associate Dean, or Dean. Students should consult an academic advisor in the OSS (<http://oss.sonhs.miami.edu>) to discuss any questions related to course enrollment.

Residency Requirements

Undergraduate BSPH students must adhere to the general UM residency rules. At least half of the public health major and at least half of the public health minor must be taken in residence at the UM. Exceptions to the residency requirements may only be obtained through an appeal to the Undergraduate Academic Standing and Admissions Committee (UGASAC). Students should speak with an academic advisor in the OSS (<http://oss.sonhs.miami.edu>) for more information on the residency requirements and on the UGASAC appeals process.

Transfer Credit

Students may transfer health science, nursing, or public health courses from other institutions to the UM with approval by the OSS (<http://oss.sonhs.miami.edu>). Detailed course descriptions or syllabi must be presented to the OSS (<http://oss.sonhs.miami.edu>) for transfer equivalency reviews.

Degree Requirements

Listed in this section are the degree requirements for the BSPH program.

The University of Miami's General Education Requirements (GERs) consist of the Areas of Proficiency, Areas of Knowledge, and Advanced Writing and Communication Skills requirements. Through the completion of the GERs, graduates acquire essential intellectual skills and engage a range of academic disciplines. The GERs provide students with the opportunity to study methodologies and achievements in all areas of human inquiry and creative endeavor, and to cultivate abilities essential for the acquisition of knowledge. The GERs also allow students to create an integrative map for their academic careers, providing a context for more focused studies.

There are numerous ways students can create plans of study for the BSPH program. Students should feel empowered to use the information listed in the Academic Bulletin and the Student Handbook (<http://www.sonhs.miami.edu/academics/student-handbooks>) to take charge of their education, pursue their own academic interests, and create their own, unique plans of study. Students should meet with an academic advisor in the OSS (<http://oss.sonhs.miami.edu>) to discuss any questions related to degree requirements and plans of study.

Areas of Proficiency

The Areas of Proficiency requirements ensure students either possess or develop the ability to express themselves effectively, to use mathematics with facility, and to reason cogently.

English Composition

Good writing facilitates clear thinking, and clear thinking is the foundation of effective communication. The expectation is that students become adept at using the English language as an effective communication tool. Effective writing skills are representative of an educated person because they are instruments to advance ideas efficiently and persuasively.

Requirements

Students complete this requirement by completing ENG 105 and ENG 106 (Note: SAT or ACT verbal scores can be used to waive the ENG 105 requirement; credit will not be awarded for the waiver. Students who enter UM with credits for ENG 105 or ENG 106 may take ENG 208 to finish this requirement).

Outcomes

By completing the English Composition requirement, students will be able to:

1. gather information, synthesize data, compare various points of view, and present results in writing
2. develop the ability to read texts critically and to use textual evidence to support a sophisticated written argument
3. consider audience, tone, organization, and standard conventions in relationship to specific rhetorical tasks

Mathematics

In a world increasingly influenced by science and technology, it is important for students to acquire the capacity to use and understand essential mathematical applications. The mathematics requirement helps students learn to use quantitative methods to solve problems by emphasizing the manipulation, interpretation, and application of quantitative data.

Requirements

Students complete this requirement by completing a course in each of the following areas:

1. **Mathematics:** MTH 107 or higher
2. **Statistics:** BPH 202 or other approved statistics course

Math placement criteria is established affected by the Department of Mathematics (<http://www.math.miami.edu/undergraduate/aleks-math-placement>). The following items may affect students' math placement at the UM: SAT and ACT scores, ALEKS math placement scores, and AP, IB, dual enrollment, and transfer credits. Students should review the information listed on the Department of Mathematics (<http://www.math.miami.edu/undergraduate/aleks-math-placement>) website and consult with an academic advisor in the OSS (<http://oss.sonhs.miami.edu>) if they have any questions.

Outcomes

By completing the Mathematics requirement, students will be able to:

1. select quantitative tools appropriate for solving problems
2. use quantitative tools appropriate for solving problems
3. interpret quantitative data in an appropriate manner for solving problems

Social Science Requirements

Students complete this requirement by completing PSY 110 and an additional approved social science course for a total of 6 credits.

Modern Language Requirements

Students complete this requirement by completing one 3 credit Modern Language course at or above the 200 level.

Natural Science Requirements

Students complete this requirement by completing BIL 150 and BIL 151, as well as CHM 103 and CHM 105 or CHM 111 and CHM 113 or CHM 121 and CHM 113 for a total of 9-10 credits.

Areas of Knowledge (Cognates)

The Areas of Knowledge requirement is designed to help students understand and appreciate intellectual achievements in major areas of human inquiry and creative endeavor. The courses offered in the Areas of Knowledge provide a broad array of intellectual and cultural exploration. In satisfying these requirements, students examine creative expression in the arts, literature, and philosophy; study human development and behavior; and explore the mathematical, scientific, and technological world.

Students fulfill the Areas of Knowledge requirement by completing a specific "cognate" in three distinct areas: Arts & Humanities, People & Society, and Science, Technology, Engineering, and Mathematics (STEM). Cognates are groups of "at least three related courses for at least 9 credits" focused on a specific topic. Majors and minors can be used to fulfill a cognate in its respective Area of Knowledge. Each cognate used to fulfill one of the Areas of Knowledge must have a different Responsible Academic Unit (RAU). Several cognates may include the same courses; however, one course cannot be used to complete multiple cognates. For more information on cognates, go to the "General Education Requirements" section of the Academic Bulletin or visit <http://www.miami.edu/cognates/>.

Arts & Humanities

Arts & Humanities cognates engage students in the study of the most enduring and influential works of art, imagination, and culture. Through study, creation, and performance, courses in this area enable students to understand the works of artists, musicians, novelists, philosophers, playwrights, poets, historians, and theologians. These courses cultivate the ability to interpret, critically evaluate, and experience the creative products of human culture and expression.

Requirements

Complete one Arts & Humanities cognate.

Outcomes

By completing the Arts & Humanities requirement, students will be able to:

1. critically evaluate and interpret the creative products of humanistic and artistic expression, applying appropriate vocabulary and concepts for their description and analysis
2. understand the creation and performance of art

People & Society

People & Society cognates help students understand and analyze the organization of society and the patterns of social change, in the past and in the contemporary world.

Requirements

Complete one People & Society cognate. The public health major may be used to fulfill this cognate area.

Outcomes

By completing the People & Society requirement, students will be able to:

1. analyze the organization of society
2. analyze patterns of social change

Science, Technology, Engineering, and Mathematics (STEM)

STEM cognates develop students' abilities to think critically about mathematical, scientific, and technological issues by understanding the processes and methods of scientific inquiry involved in experimentation, observation, and quantitative analysis. The STEM cognates nurture literacies that enable students to make informed decisions in an increasingly complex world.

Requirements

Complete one STEM cognate.

Outcomes

By completing the STEM requirement, students will be able to:

1. understand the use of quantitative tools, experimentation, and observation to analyze and solve mathematical, scientific, environmental, and technological problems
2. interpret quantitative data and draw useful conclusions

Major

Refer to the "Major Requirements" section below for information on the courses required for the BSPH program.

Minor

BSPH students are not required to complete a minor.

Advanced Writing and Communication Skills

The Advanced Writing and Communication Skills requirement empowers public health students to develop their communication skills, both written and verbal, enabling them to better articulate information relating to health science, nursing, and public health.

Requirements

To fulfill this requirement, students must complete five designated writing-intensive courses. Several public health requirements and/or electives may qualify as writing-intensive.

Public health Courses that Require Formal Student Writing or Presentation

The following courses carry writing and presentation components and may count for the BSPH program:

Course	Writing Assignment	Student Presentations
BPH 301	Various papers	Various presentations
BPH 305	Three reflective papers	Final student presentation
BPH 309	Three reflective papers	Final student presentation
BPH 310	Four reflective papers	Final student presentation
BPH 321	Five reflective papers	Student presentations throughout class
BPH 490	Five journal entries, final paper	Final student presentation

Outcomes

By completing the Advanced Writing and Communication Skills requirement, students will be able to:

1. effectively communicate information related to public health in both speech and in writing, using appropriate information sources, presentation formats, and technologies
2. demonstrate the necessary written and verbal communication skills to effectively carry out a career in healthcare

Plan for assessment

Student Performance on Written Assignments and Presentations

In order to graduate from the BSPH program students must successfully pass two courses in English Composition (i.e., ENG 105 and ENG 106) as well as five writing-intensive courses with a grade greater than or equal to 70%. The majority of public health courses include written assignments and student presentations as part of the course grade. Grading of student written assignments and oral presentations are based on defined rubrics. These courses may be applied to the BSPH program as outlined in the major requirements.

Graduating Senior Survey (GSS) Responses for Questions Related to Written and Verbal Communication

Based on the results from the GSS, students believe their undergraduate coursework in the BSPH program significantly enhanced their written, oral, and formal presentation skills, which, in turn, allowed them to more effectively interact with various individuals and groups.

Electives

Students must earn a minimum of 120 credits to complete the BSPH degree. Students may need to take varying numbers of elective credits beyond the degree requirements listed above to reach the 120 credit threshold.

Major Requirements

Public health can be a primary major or an additional major.

Coursework in the BSPH program is based on recommendations made by the Association for Prevention Teaching and Research (2008) for undergraduate course work in public health. Students are required to complete 33 credit hours of public health coursework, which includes 27 credit hours of core required courses and 6 credit hours of approved public health electives.

Visit the "MAJORS" link to learn more about the major requirements for the SONHS' BSPH program, which are listed under the "OVERVIEW" section for the public health major.

Second Major Requirements

A second major in public health is available to all UM students. Students who pursue a second major in public health must complete the the following courses:

Code	Title	Credit Hours
BPH 206	Introduction to Public Health	3
BPH 208	Introductory Epidemiology	3
BPH 305	Issues in Health Disparities	3
BPH 309	Health and Environment	3
BPH 310	Global Health	3
BPH 321	Health Promotion and Disease Prevention	3
BPH 322	Introduction to Health Policy	3
BPH 352	Biological Principles of Public Health	3
BPH 465	Public Health Statistics and Data Management	3
BPH 490	Field Practicum in Community Health	3
Elective (*)		3
Total Credit Hours		33

(*) = Students may choose an elective from the following courses: APY 205, BPH 301, BPH 303, BPH 306, BPH 317, BPH 319, BPH 355, BPH 402, BPH 419, BPH 461, BPH 487, BTE 450, BSL 460, COS 324, COS 325, COS 426, COS 427, COS 472, GEG 231, GEG 241, GEG 334, GEG 336, GEG 341, GEG 343, GEG 345, GEG 346, GEG 348, GEG 366, GEG 412, INS 570, INS 571, INS 572, INS 573, INS 599, KIN 155, MGT 270, MKT 388, and SOC 480

Minor Requirements

The SONHS offers a minor in public health. The School also collaborated with the School of Communication to offer a minor health communication.

Visit the "MINORS" link to learn more about the minor requirements for the public health and health communication minors.

Classes Not Applicable Toward SONHS Degrees

The following courses do not count toward the 120 credits required of the BSPH degree: DAN 101-104, ENG 103, and MTH 099. Based on their ENG or MTH placement scores, students may need to complete ENG 103 or MTH 099 before enrolling in higher-level requirements. Even though the courses listed above cannot count toward graduation, they can count toward the 12 credits required to be considered a full-time student.

Senior Assessments

In line with the SONHS' ongoing accreditation efforts, seniors with a major in the health science, nursing, and public health may be required to participate in general or major-specific senior assessments lasting up to several hours each. Scores on senior assessments will not affect students' GPAs or ability to graduate, but failure to complete required assessments may delay or prevent students' ability to graduate.

Bachelor of Science in Public Health (BSPH) and Master of Public Health (MPH)/ Master of Science in Public Health (MSPH) 4+1 Program

The SONHS and the Graduate Programs in Public Health at the UM Miller School of Medicine have developed a Bachelor of Science in Public Health (BSPH) to a Master in Public Health (MPH) or Master of Science in Public Health (MSPH) 4 + 1 program.

Program Highlights

- Undergraduate students enrolled in the BSPH program in the SONHS who qualify academically may apply to the MPH or MSPH program in the fall of their junior year
- Accepted students are able to take 12 credit hours of Master's-level public health courses in their senior year
 - BSPH students taking Master's-level public health courses in their senior year must obtain a grade of B or better in these courses in order for them to count toward the graduate degree

- b. All Master's-level credit hours count toward their MPH or MSPH degree
- c. By completing 3-6 credit hours of Master's-level MPH or MSPH coursework in the summer following completion of their BSPH degree, students can complete the MPH or MSPH degree in only one additional academic year
3. Students accepted to the 4 +1 program continue to pay undergraduate tuition for the senior year
 - a. Upon graduation with the BSPH, students matriculate into the MPH or MSPH program and complete the remaining credit hours of MPH or MSPH coursework at UM graduate school tuition rates

Admission Criteria

1. BSPH students must have an overall undergraduate GPA of 3.0 or higher at the time of application to be considered; accepted students who do not maintain a 3.0 GPA for the remainder of their undergraduate coursework are subject to re-evaluation
2. GRE scores are not required for UM undergraduates who apply to the 4+1 program
3. Admissions decisions are made solely by the admissions committee for the Graduate Programs in Public Health at the UM Miller School of Medicine

Research Experience

Students may participate in research experiences through the SONHS (<http://www.miami.edu/sonhs/index.php/sonhs/research>) or the Office of Undergraduate Research and Community Outreach (http://www.miami.edu/index.php/undergraduate_research_and_community_outreach) during their time at the UM. Students should speak with the academic advisors located in the OSS (<http://oss.sonhs.miami.edu>) to learn more about the research opportunities available to them at the UM.

Required Coursework and Sample Plans of Study

Visit the "MAJORS" link to learn more about the academic requirements for the SONHS' BSPH program and to view a sample graduation plan, which are listed under the "OVERVIEW" and "PLAN OF STUDY" sections, respectively, for the BSPH program.

Major in Public Health

- BSPH, Public Health Major (p. 913)

Minors in Public Health

- Public Health Minor (p. 916)
- Health Communication Minor (p. 916)

BSPH - Public Health

Students enrolled in the public health major must complete the coursework listed under curriculum requirements to earn the BSPH degree through the School of Nursing and Health Studies (SONHS). Students should meet with an academic advisor in the Office of Student Services (OSS) (http://www.miami.edu/sonhs/index.php/sonhs/office_of_student_services) to discuss any questions related to their degree requirements.

Curriculum Requirements

Code	Title	Credit Hours
Areas of Proficiency		
English Composition		
ENG 105	English Composition I	3
ENG 106	English Composition II	3
Mathematics		
Mathematics: MTH 107 or higher		3
Statistics: BPH 202 or other approved statistics course		3
Social Science		
PSY 110	Introduction to Psychology	3
One additional approved social science elective		3
Modern Language		
One modern language course at or above the 200 level		3
Natural Science		
BIL 150 & BIL 151	General Biology and General Biology Laboratory	5
Choose one chemistry option below:		4-5

CHM 103 & CHM 105	Chemistry for Life Sciences I (Lecture) and Chemistry for Life Sciences I (Laboratory)	
CHM 111 & CHM 113	Principles of Chemistry I and Chemistry Laboratory I	
CHM 121 & CHM 113	Chemistry for the Biosciences I and Chemistry Laboratory I	
Areas of Knowledge		
Arts & Humanities		9
People & Society*		0
Science, Technology, Engineering, and Mathematics (STEM)		9
Major		
BPH 206	Introduction to Public Health	3
BPH 208	Introductory Epidemiology	3
BPH 305	Issues in Health Disparities	3
BPH 309	Health and Environment	3
BPH 310	Global Health	3
BPH 321	Health Promotion and Disease Prevention	3
BPH 322	Introduction to Health Policy	3
BPH 352	Biological Principles of Public Health	3
BPH 465	Public Health Statistics and Data Management	3
BPH 490	Field Practicum in Community Health	3
Major Elective**		3
Advanced Writing and Communication Skills***		0
Electives****		39-38
Total Credit Hours		120

* The public health major may be used to fulfill this cognate area.

** Students may choose an elective from the following courses: APY 205, BPH 301, BPH 303, BPH 306, BPH 317, BPH 319, BPH 355, BPH 402, BPH 419, BPH 461, BPH 487, BTE 450, BSL 460, COS 324, COS 325, COS 426, COS 427, COS 472, GEG 231, GEG 241, GEG 334, GEG 336, GEG 341, GEG 343, GEG 345, GEG 346, GEG 348, GEG 366, GEG 412, INS 570, INS 571, INS 572, INS 573, INS 599, KIN 155, MGT 270, MKT 388, and SOC 480

*** Students must take at least five designated writing-intensive courses to complete this requirement; unless students choose to take additional credits to complete this requirement, it is highly recommended students select courses that are designated as writing-intensive and will double count toward this area and their other requirements.

**** The number of electives students take may vary due to differences in placement scores, transfer credits, course and cognate selections, etc.

This is only a sample. There are numerous ways students can create plans of study for the public health major. Students should feel empowered to use the information listed in the Academic Bulletin and the Student Handbook (http://www.miami.edu/sonhs/index.php/sonhs/current_students/student_handbooks) to take charge of their education, pursue their own academic interests, and create their own, unique plans of study.

The School of Nursing and Health Studies (SONHS) **recommends students create their own plan of study** that accounts for their ENG, MTH, and modern language placements and incorporates their major, minor, and cognate interests. Once students draft their initial plan of study, they are encouraged to meet with an academic advisor in the Office of Student Services (OSS) (http://www.miami.edu/sonhs/index.php/sonhs/office_of_student_services) to review their plan, address any questions or concerns, discuss areas for improvement, and brainstorm ways to integrate research experiences, study abroad opportunities, global initiatives, graduate school requirements, and career preparation experiences.

The sample plan of study listed below is based on the following ENG, MTH, and modern language placement information and major, minor, and cognate selections:

- **ENG placement:** ENG 105
- **MTH placement:** MTH 101
- **Modern Language placement:** SPA 101
- **Major(s):** Public Health
- **Minor(s):** None
- **Cognates**
 - Art & Humanities: Popular Culture (RAU = English)
 - People & Society: Public Health major (RAU = Nursing & Health Studies)

- Science, Technology, Engineering, and Mathematics (STEM): Biology and Chemistry for Pre-Health Sciences (RAU = Chemistry)

Sample Plan of Study

Course	Title	Credit Hours
Freshman Year		
Fall		
BPH 206	Introduction to Public Health (W)	3
ENG 105	English Composition I	3
MTH 101	Algebra for College Students	3
PSY 110	Introduction to Psychology	3
SPA 101	Elementary Spanish I	3
	Credit Hours	15
Spring		
BPH 208	Introductory Epidemiology	3
ENG 106	English Composition II	3
MTH 107	Precalculus Mathematics I	3
SPA 102	Elementary Spanish II	3
Elective		3
	Credit Hours	15
Sophomore Year		
Fall		
BIL 150 & BIL 151	General Biology and General Biology Laboratory (counts for STEM cognate)	5
BPH 202	Introductory Statistics in Health Care (W)	3
SPA 201	Intermediate Spanish I	3
Major Elective (*)		3
Elective		3
	Credit Hours	17
Spring		
BPH 310	Global Health (W)	3
CHM 111 & CHM 113	Principles of Chemistry I and Chemistry Laboratory I (counts for STEM cognate)	4
ENG 383	The Literature of Science Fiction (W; counts for Arts & Humanities cognate)	3
PSY 240	Abnormal Psychology	3
Elective		3
	Credit Hours	16
Junior Year		
Fall		
AMS 322	Topics in American Studies: Literature (counts for Arts & Humanities cognate)	3
BPH 321	Health Promotion and Disease Prevention (W)	3
BPH 352	Biological Principles of Public Health	3
Elective		3
Elective		3
	Credit Hours	15
Spring		
BPH 309	Health and Environment (W)	3
BPH 322	Introduction to Health Policy	3
Elective		3
Elective		3
Elective		3
	Credit Hours	15

Senior Year		
Fall		
BPH 465	Public Health Statistics and Data Management (W)	3
WGS 210	Popular representations of Queer sexualities (counts for Arts & Humanities cognate)	3
Major Elective (*)		3
Elective		3
Elective		3
	Credit Hours	15
Spring		
BPH 305	Issues in Health Disparities	3
BPH 490	Field Practicum in Community Health (W)	3
Elective		3
Elective		3
Elective		3
	Credit Hours	15
	Total Credit Hours	123

(W) = Course is designated as writing-intensive

(*) = Students may choose an elective from the following courses: APY 205, BPH 301, BPH 303, BPH 306, BPH 317, BPH 319, BPH 355, BPH 402, BPH 419, BPH 461, BPH 487, BTE 450, BSL 460, COS 324, COS 325, COS 426, COS 427, COS 472, GEG 231, GEG 241, GEG 334, GEG 336, GEG 341, GEG 343, GEG 345, GEG 346, GEG 348, GEG 366, GEG 412, INS 570, INS 571, INS 572, INS 573, INS 599, KIN 155, MGT 270, MKT 388, and SOC 480

Health Communication Minor

The School of Communication (SoC) in collaboration with the School of Nursing and Health Studies (SONHS) offers a minor in health communication, which is available to all students. Students must have a minimum of a 2.0 UM GPA to declare the minor and they must earn a C or higher in each course for the minor for it to count; a grade of C- or lower is not acceptable for the health communication minor. Students should meet with an academic advisor in the Office of Student Services (OSS) (http://www.miami.edu/sonhs/index.php/sonhs/office_of_student_services) to discuss any questions related to their degree requirements.

Curriculum Requirements

Code	Title	Credit Hours
COS 324	Health Communication	3
BPH 206	Introduction to Public Health	3
Choose 2 communication studies electives:		6
COS 325	Communication in Health Organization	
COS 426	Patient-Provider Communication	
COS 427	Health Behavior and Risk	
COS 472	Persuasion	
Choose 1 public health elective:		3
BPH 305	Issues in Health Disparities	
BPH 310	Global Health	
BPH 321	Health Promotion and Disease Prevention	
BPH 322	Introduction to Health Policy	
Total Credit Hours		15

Public Health Minor

The School of Nursing and Health Studies (SONHS) offers a minor in public health, which is available to all students. The public health minor consists of two required courses and two electives as outlined below. Students must earn a grade of C- or higher in each course and an overall GPA of 2.0 to complete the public health minor. Any questions related to the public health minor requirements should be directed to an academic advisor in the Office of Student Services (OSS) (http://www.miami.edu/sonhs/index.php/sonhs/office_of_student_services).

Code	Title	Credit Hours
BPH 206	Introduction to Public Health	3
BPH 208	Introductory Epidemiology	3
Choose 2 electives:		6
APY 205	Medicine and Health Care in Society	
BPH 301	Human Sexuality and Vulnerable Populations	
BPH 303	HIV/AIDS and Health Maintenance for Health Care Providers	
BPH 305	Issues in Health Disparities	
BPH 306	Principles of Nutrition	
BPH 309	Health and Environment	
BPH 310	Global Health	
BPH 317	Theories in Growth and Development	
BPH 319	Contemporary Issues in Bioethics for Health Care	
BPH 321	Health Promotion and Disease Prevention	
BPH 322	Introduction to Health Policy	
BPH 352	Biological Principles of Public Health	
BPH 355	Global Nutrition	
BPH 402	Global Health Disparities Research	
BPH 419	Contemporary Health Issues in South Florida	
BPH 461	Practicum in Health Disparities Research	
BPH 465	Public Health Statistics and Data Management	
BPH 487	Global Health Practicum	
BTE 450	Introduction to Health Informatics	
BSL 460	Health Care Law and Ethics	
COS 324	Health Communication	
COS 325	Communication in Health Organization	
COS 426	Patient-Provider Communication	
COS 427	Health Behavior and Risk	
COS 472	Persuasion	
GEG 231	Environmental Geography and Planetary Health	
GEG 241	Health and Medical Geography	
GEG 334	Biogeography and Conservation	
GEG 336	Hazards and Disasters: The Nature-Society Interface	
GEG 341	Population, Health, and Environment	
GEG 343	Population, Sustainability, and the Media	
GEG 345	Drinking Water: Past, Present, and Future	
GEG 346	Immigrant and Refugee Health	
GEG 348	Climate Change and Public Health	
GEG 366	Cities in Time and Space	
GEG 412	GIS for Health and Environment	
INS 570	Globalization and Health	
INS 571	International Development and Human Welfare	
INS 572	Global Health Policy and Ethics	
INS 573	Disasters, Terrorism and Global Public Health	
INS 599	Special Topics	
KIN 155	Biological Bases for Physical Activity and Health	
MGT 270	Introduction to Health Sector Organization and Management	
MKT 388	Health Care Marketing	
SOC 480	Health Disparities in the U.S.	
Total Credit Hours		12

GRADUATE ACADEMIC PROGRAMS

Mission

The mission of the Graduate School is to promote graduate education, scholarship, and research; to support individuals, departments, and programs in the pursuit of excellence; to foster innovative, multidisciplinary, and interdisciplinary activities; and to maintain high ethical and academic standards in graduate studies.

The standards of study and conduct in the Graduate School are high. They are not set and maintained by the Graduate School but rather by the faculty who determine the standards for their individual program. The Graduate School through its Council sets no course requirements for a degree. It does set certain general residence, grade and examination standards. Fundamentally the Graduate School delegates responsibility to the student and his/her program. Within this broad responsibility the recommendation for the degree rests with the Committee.

Architecture

<http://www.arc.miami.edu>

Introduction

The School of Architecture at the University of Miami offers:

- Master of Architecture
- Master of Construction Management/Executive Master of Construction Management
- Master of Real Estate Development + Urbanism
- Master of Science in Architecture
- Master of Urban Design
- Dual degrees
- Certificates

The School of Architecture's location in Coral Gables within the Miami metropolitan area provides an outstanding laboratory for research and advanced study; the challenges of conservation and development are intense in one of the nation's fastest growing urban areas. These challenges result in an increasing demand for skilled professionals.

Students have the opportunity to work with the faculty in the exploration of theoretical issues as well as in the resolution of practical problems. The School of Architecture values and sustains a creative, open and supportive environment, emphasizing personalized instruction in small classes and studio courses.

Accreditation

In the United States, most registration boards require a degree from an accredited professional degree program as a prerequisite for licensure. The National Architectural Accrediting Board (NAAB), which is the sole agency authorized to accredit professional degree programs in architecture offered by institutions with U.S. regional accreditation, recognizes three types of degrees: the Bachelor of Architecture, the Master of Architecture, and the Doctor of Architecture. A program may be granted an eight-year, three-year, or two-year term of accreditation, depending on the extent of its conformance with established educational standards.

Master of Architecture degree programs may require a pre-professional undergraduate degree in architecture for admission. However, the pre-professional degree is not, by itself, recognized as an accredited degree.

The University of Miami School of Architecture offers the following NAAB-accredited degree programs:

- Bachelor of Architecture (171 undergraduate credits)
- Master of Architecture I (105 graduate credits)
- Master of Architecture II (60 graduate credits)

Admission Requirements

To ensure an orderly design studio sequence we accept applications for **Fall semester only**. Entry in other semesters may result in a delay of design studio attendance which effects the timely completion of the program. Applications completed by February 1st will be given the highest priority, the Graduate program is accepting applications until June 1st. Admission to the graduate program is subject to the rules, regulations and procedures of the Graduate School as stipulated in the University Graduate Bulletin. It is the responsibility of each student to understand these requirements and to ensure that they are met.

The minimum requirements for application (<https://grad.miami.edu/apply>) to the Master's Degree program are:

- **GPA 3.0** cumulative grade point average
- **GRE 300** (<https://www.ets.org/gre>) or **GMAT 550** (www.mba.com/us) - not required for Executive Master of Construction Management
- **TOEFL 80** (www.ets.org/toefl) or **IELTS 6.5** (www.ielts.org/en-us) (<https://www.ielts.org/en-us>)
- **Official transcripts** (need to be addressed to: School of Architecture, Graduate Program, 1223 Dickinson Drive, Coral Gables, FL 33146)
- **International transcripts and diplomas** need to be translated and evaluated ([see link here](#)) (<https://www.arc.miami.edu/admissions/admissions-and-portfolio-requirements/grad-requirements/international-admissions>) by an accredited Evaluation Agency.
- **Resume**
- **Portfolio** (not required for Master of Real Estate Development + Urbanism and Master/Executive of Construction Management)

Please visit the website of the School of Architecture at www.arc.miami.edu for more information.

Resources

- Jorge M. Perez Architecture Building (<https://www.arc.miami.edu/resources/facilities/perez-architecture-center>)
- The Marion Manley Historic Buildings (<https://www.arc.miami.edu/resources/facilities/marion-manley-buildings>)
- Thomas B. Murphy Design Studio (<https://www.arc.miami.edu/resources/facilities/thomas-p-murphy-design-studio>)
- B.E. & W.R. Miller Build Lab (<https://www.arc.miami.edu/resources/facilities/b-e-w-r-build-lab>)
- Paul Buisson Library (<https://www.arc.miami.edu/resources/libraries/paul-buisson-architecture-library>)
- Fabrication Lab (<https://www.arc.miami.edu/resources/labs/fabrication-lab>)
- RAD Lab (<https://www.arc.miami.edu/resources/labs/rad-lab>)
- Computer Lab (<https://www.arc.miami.edu/resources/labs/computer-lab>)
- Model Shop (<https://www.arc.miami.edu/resources/labs/model-shop>)
- Photo Lab (<https://www.arc.miami.edu/resources/labs/photo-lab>)

Dual Degrees

- Bachelor of Science in Architectural Engineering (B.S.A.E)/Master of Architecture I (M.ARCH)
- Master of Architecture (M.ARCH I and II) and Master of Real Estate Development + Urbanism: 105 credits + 21 credits
- Master of Architecture (M.ARCH I and II) and Master of Urban Design: 60 credits + 21 credits
- Master of Urban Design (M.U.D)/Master of Real Estate Development + Urbanism (MRED+U): 36 cr + 24 cr (min. 60 credits)
- Master of Real Estate Development + Urbanism (MRED+U) and Master of Construction Management (M.C.M.): 36 cr + 24 cr (min. 60 credits)

Certificates

- Historic Preservation Certificate
- Classical Architecture Certificate
- Sustainable and Resilient Design Certificate*
- Construction Management Certificate*
- Urban Design Certificate*
- Real Estate Development and Urbanism Certificate*
- Hospitality Design Certificate*
- Healthcare Design Certificate*

Certificates require 15 credits of one certificate related studio (6 cr) and related architecture electives (9 cr).

*pending approval

Master of Architecture

The Master of Architecture program promotes a creative, open and supportive environment emphasizing advanced and personalized instruction through small class and studio courses. The School's resources are enhanced by the interdisciplinary opportunities offered by the other schools and colleges at the University of Miami. Located in the southeastern U.S. in close proximity to the Caribbean and Latin America, the School also participates in an international network to enable students and faculty to develop an understanding of architecture and culture in an increasingly globalized world. In addition, the School of Architecture Rome Program offers graduate students an intensive experience in design, theory, and history of architecture with U-SoA faculty at the School's private Rome studios.

U-SoA faculty are joined each year by internationally recognized visiting scholars and fellows. The diversity of faculty interests and experience offers opportunities for students in the selection of studios and in the exploration of diverse areas of professional concentration. Students immerse in contemporary challenges to address a variety of social, cultural, technological and programmatic contexts. Students are encouraged to get involved in various research projects located within the School's various labs, and to pursue a certificate in an area of professional concentration.

The Master of Architecture (M.ARCH) program consists of the following two tracks:

Master of Architecture I

A 3 year program for students **with non-architecture degrees (completion of 105 credits is required)**.

Master of Architecture II

A 2 year program for students **with non-professional degrees in architecture or closely related field (completion of 60 credits is required)**.

Master of Construction Management/Executive Master of Construction Management

Gain the technical knowledge and managerial skills you need to set yourself apart in the construction industry. The Master of Construction Management (M.C.M.) is an one year (three semesters), 36 credit program. It is designed to broaden your educational and career options to solve challenges in the industry and become future leaders of design and construction related organizations worldwide. The Executive Master of Construction Management (E.M.C.M.) is a 30 credit program designed for accomplished professionals in the design and construction industry who are ready to take their career to the next level.

Master of Science in Architecture

The Master of Science in Architecture (M.Sc.Arch.) is a one year, three semester program (completion of 36 credits is required). The program offers a critical and professional environment to investigate design strategies and design challenges in relation to the most pressing issues of the 21st century: resilient design, tropical and subtropical architectures, identity in a globalized world, health care design, housing design, conservation of the built environment and the effect of embedded technologies on design. The Master of Science in Architecture program is designed to provide a skills and knowledge base for professional application as well as future advanced doctoral study.

The School of Architecture offers two tracks:

- Architectural Design
- Architectural Studies

Master of Urban Design

The Master of Urban Design (M.U.D.) is a three semester program (completion of 36 credits is required), with the possibility of an optional fourth semester for a Masters' Thesis (42 credits). This concentration consists of directed study to explore in-depth the existing state of suburbs and cities, study precedents and propose design solutions.

The Miami metropolitan area provides a laboratory for the identification of urban problems and for the exploration of design solutions. Each semester is comprised of a design studio and a seminar in parallel, studying both the real and ideal solutions for three aspects of town planning: new town design, housing and the redesign of existing situations. The School of Architecture faculty teaches the curriculum with field condition input from visiting faculty and other experts such as developers, marketing experts and bankers.

Master in Real Estate Development and Urbanism

The Master of Real Estate Development + Urbanism (MRED+U) is an intensive one-year (Fall, Spring, Summer), 36 credit graduate program for students with degrees and experience in business, architecture and related fields blending the fundamentals of real estate development (finance, law, market analysis, development process) with the School's strengths in livable community design.

Awards and Scholarships

All students admitted full time may be eligible for partial tuition based scholarship support. The School of Architecture provides merit-based tuition scholarships to graduate students. Applicants to the Graduate Programs will be considered each semester for a limited number of merit-based assistantships within the School. Assistantships are an honors award available to a limited number of students.

American Institute of Architects Henry Adams Medal is awarded by the American Institute of Architects to the highest ranking graduating student for scholarship and excellence in architecture. American Institute of Architects Henry Adams Certificate awarded to the second highest ranking graduating student for scholarship and excellence in architecture.

Other honors, distinctions, and awards are presented annually for excellent student performance.

Master's Degrees in Architecture

- Master of Architecture I

- Master of Architecture II
- Master of Construction Management (M.C.M.)/Executive Master of Construction Management (E.M.C.M.)
- Master of Real Estate Development + Urbanism (M.R.E.D.+U)
- Master of Science in Architecture - Architectural Design or Architectural Studies (M.Sc.Arch.)
- Master of Urban Design (M.U.D.)

Dual Masters Degrees in Architecture

- Master of Architecture I and II and Master of Real Estate Development + Urbanism
(105 cr + 21 cr or 60 + 21 cr)
- Master of Architecture I and II and Master of Urban Design
(105 cr + 21 cr or 60 + 21 cr)
- Master of Real Estate Development + Urbanism and Master of Urban Design
(36 cr + 24 cr, minimum of 60 cr)
- Master of Real Estate Development + Urbanism and Master of Construction Management
(36 cr + 30 cr, minimum of 60 cr)

Master of Architecture

Master of Architecture I (3 years)

For students with non-architecture degrees (completion of 105 credits is required)

Course	Title	Credit Hours
Fall Semester I		
ARC 604	Architecture Design and Theory I	6
ARC 611	Visual Representation	3
ARC 630	Building Technology I: Materials and Methods	3
ARC 667	History of Architecture I	3
	Credit Hours	15
Spring Semester II		
ARC 605	Architecture Design and Theory II	6
ARC 613	Advanced Visual Representation	3
ARC 631	Building Technology II: Structural Systems	3
ARC 668	History of Architecture II	3
	Credit Hours	15
Summer Semester III		
ARC 606	Architectural Design and Theory III (in our Rome/Italy Studio) Summer A	6
ARC 632	Building Structures I in Miami/Summer B	3
ARC 662	Environmental Building Systems I in Miami/Summer B	3
	Credit Hours	12
Fall Semester IV		
ARC 607	Architecture Design and Theory IV	6
ARC 620	Responsible Architecture	3
ARC 633	Building Structures II	3
ARC 663	Environmental Building Systems II	3
	Credit Hours	15
Spring Semester V		
ARC 608	Architecture Design (integrated studio)	6
	History of Architecture Elective	3
	Electives (2)	6
	Credit Hours	15

Fall Semester VI		
ARC 609	Architecture Design (vertical studio)	6
ARC 652	Management of Professional Practice	3
ARC 699	Directed Research	3
Elective		3
	Credit Hours	15
Spring Semester VII		
ARC 610	Architecture Design Degree Project (design thesis or research studio)	6
Professional Elective		3
Electives (3) *		9
	Credit Hours	18
	Total Credit Hours	105

¹ Curriculum notes: this program assumes that the student has completed college level mathematics and physics.

² Elective (s) may be taken in spring break or summer.

³ The summer studio will take place in our University of Miami - Rome/Italy studio.

Master of Architecture II (2 year advanced standing)

For students with non-professional degrees in architecture or closely related field (completion of 60 credits is required)

Course	Title	Credit Hours
Fall I		
ARC 607	Architecture Design and Theory IV	6
ARC 615	Advanced Visualization Techniques	3
ARC 620	Responsible Architecture	3
Elective (1)		3
	Credit Hours	15
Spring I		
ARC 608	Architecture Design (integrated studio)	6
History of Architecture Elective		3
Electives (2)		6
	Credit Hours	15
Fall II		
ARC 609	Architecture Design (vertical studio)	6
ARC 652	Management of Professional Practice	3
ARC 699	Directed Research	3
Elective (1)		3
	Credit Hours	15
Spring II		
ARC 610	Architecture Design Degree Project (design thesis or research studio)	6
Electives (3) *		9
	Credit Hours	15
	Total Credit Hours	60

¹ Elective (s) may be taken in spring break or summer.

² Architecture and professional courses completed in a non-professional bachelor's degree program will be evaluated to identify courses that may be waived in the Master of Architecture Professional Degree Program.

³ Requirements/Recommendations for additional coursework will be contingent on the evaluation of the student's prior work at the time of admission.

⁴ An additional summer semester may be added for students with less than 8 Design Studios from a Bachelor of Architecture degree (6 credits).

Master of Construction Management

*Tentative pending approval by the Southern Association of Colleges and Schools Commission on Colleges

The Master of Construction Management (M.C.M.) (<https://www.arc.miami.edu/academics/graduate/construction-management/master-of-construction-management>)* is an interdisciplinary **36 credit** program and open to graduates from Architecture, Engineering and Construction related programs. The curriculum will broaden educational and career options for students. Formal knowledge and experience in project and construction management are highly sought after by, architectural and engineering firms, construction companies and real estate developers. Combined with other educational opportunities currently offered or planned, at the U-SoA or other academic units, students can create their own future expanding their horizon in the job market. Students at U-SoA are able to enroll in a Master of Construction Management and our Master of Real Estate Development and Urbanism degrees completing a total of 60 credits combined.

Sample Plan of Study

Fall

CMA 601 Fundamentals of Construction Management	3 cr
(or RED 670 Construction and Project Management)	
BUS 610 Critical Thinking and Persuasion for Business	2 cr
CMA 630 Contract Documents	2 cr
LAW 257 Construction Law	3 cr
CMA 670 Construction Site Practicum	2 cr
	12 cr

Spring

CMA 620 Construction Project Controls	2 cr
AAC 670 Financial Reporting and Analysis	2 cr
CMA 694 Codes Standards and Regulations	1 cr
CMA 671 Construction Management Practicum	2 cr
CMA 676 Integrated Project Design	3 cr
Electives	2 cr
	12 cr

Summer

CMA 674 Capstone Project/Charrette (or RED 699)	3 cr
Electives	9 cr
	12 cr

Total	36 cr
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Note: Master of Construction Management students are required to participate in a minimum of one internship.

The Executive Master of Construction Management (E.M.C.M.) (<https://www.arc.miami.edu/academics/graduate/construction-management/executive-master-of-construction-management>)* is an interdisciplinary **30 credit** program and designed for accomplished professionals in the design and construction industry who are ready to take their career to the next level. Courses are offered in the evenings and on weekends, to meet the needs of working professionals. The program will focus on current issues and events in construction Management and address the needs of the industry by developing candidates for middle and upper management positions.

*pending approval

Sample Plan of Study

Fall I

CMA 701 Operating and Managing a Construction Organization	3 cr
ACC 670 Financial Reporting and Analysis	2 cr
Elective	1 cr
	6 cr

Spring I

CMA 708 Preconstruction Services	2 cr
Electives	4 cr
	6 cr

Summer I

MGT 620 Managing Through People	2 cr
CMA 702 Professional Leadership Program	1 cr
CMA 724 Current Issues in Construction	1 cr
Electives	2 cr
	6 cr

Fall II

CMA 722 Case Studies in Risk Management	2 cr
CMA 734 Prevention and Resolution of Contract Disputes	2 cr
Electives	2 cr
	6 cr

Spring II

CMA 799 Applied Research	2 cr
CMA 801 Executive Capstone Project	4 cr
	6 cr

Total	30 cr
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Construction Management Electives

CMA 632 Construction Risk Analysis and Control	2 cr
CMA 640 Virtual Design and Construction (VDC/BIM)	3 cr
CMA 642 Emerging Technologies in Design and Construction	2 cr
CMA 644 Sustainable Design and Construction (or CAE 660)	3 cr
CMA 680 Directed Studies	1 – 3 cr
CMA 681 Special Topics	1 – 3 cr
CMA 682 Special Topics	1 – 3 cr
CMA 690 Advanced Productivity and Lean Construction	2 cr
CMA 691 Quality Management and Performance	2 cr
CMA 720 Advanced Planning and Scheduling	2 cr

Master of Science in Architecture

The Master of Science in Architecture (M.Sc.Arch.) is a one year, three semester program (completion of 36 credits is required). The program offers a critical and professional environment to investigate design strategies and design challenges in relation to the most pressing issues of the 21st century: resilient design, tropical and subtropical architectures, identity in a globalized world, health care design, housing design, conservation of the built environment and the effect of embedded technologies on design. The Master of Science in Architecture program is designed to provide a skills and knowledge base for professional application as well as future advanced doctoral study.

Master of Science in Architectural Design

Concentrates on design by requiring two advanced Graduate Studios, Electives and a Master's Thesis in Design.

Course	Title	Credit Hours
Fall		
ARC 608	Architecture Design	6
ARC 629	Research in Design-Methods and Procedures	3
Elective (1)		3
	Credit Hours	12
Spring		
ARC 609	Architecture Design	6
ARC 699	Directed Research	3
Electives (2)		6
	Credit Hours	15
Summer		
ARC 610	Architecture Design Degree Project ^(design thesis)	6
Elective (1)		3
	Credit Hours	9
	Total Credit Hours	36

Master of Science in Architectural Studies

Offers a more theoretically oriented program with Research, History and Theory Electives, other Electives and a written Master's Thesis.

Course	Title	Credit Hours
Fall		
ARC 629	Research in Design-Methods and Procedures	3
History of Architecture Elective		3
Electives (2)		6
	Credit Hours	12
Spring		
ARC 699	Directed Research	3
History of Architecture Elective		3
Electives (2)		6
	Credit Hours	12
Summer		
ARC 610	Architecture Design Degree Project ^(Written Thesis)	6
Electives (2)		6
	Credit Hours	12
	Total Credit Hours	36

Master of Urban Design

The Master of Urban Design (M.U.D.) is a three semester program, with the possibility of an optional fourth semester for a Master's design thesis., and is for students with a professional degree in architecture.

Course	Title	Credit Hours
Summer		
Introductory Prep - for students with Landscape Architecture or Planning Degrees only (non-credit)		
	Credit Hours	0
Fall I		
ARC 601	Urban Design Studio I	6
ARC 621	Urban Design History and Theory	3
ARC 690	History of Cities	3
RED 601	Introduction to Real Estate Development and Urbanism	3
	Credit Hours	15
Spring I		
ARC 602	Urban Design Studio II	6
ARC 622	Housing and Infrastructure	3
RED 640	National Charrette Institute (NCI)	1
ARC 681	Special Problems (Hines Competition)	1
Elective (1)		3
	Credit Hours	14
Summer I		
ARC 603	Urban Design Studio III	6
RED 699	Capstone: Real Estate Development and Urbanism Charrette	1
	Credit Hours	7
	Total Credit Hours	36

Course	Title	Credit Hours
Fall II		
Optional Fourth Semester		
ARC 610	Architecture Design Degree Project	6
	Credit Hours	6
	Total Credit Hours	6

Master of Real Estate Development + Urbanism

The Master of Real Estate Development and Urbanism (MRED+U) program is an intensive one year, three semester program for students with degrees and experience in business, architecture and related fields blending the fundamentals of Real Estate Development (finance, law, market analysis, development process) with the School's strengths in livable community design.

Course	Title	Credit Hours
Fall		
RED 601	Introduction to Real Estate Development and Urbanism	3
RED 610	Financing Urban Real Estate Development	3
BSL 694	Real Estate Law	2
RED 630	Real Estate Market Analysis	3
Electives *		4
	Credit Hours	15
Spring		
FIN 644	Real Estate Investment and Appraisal ^(or RED 650)	2
RED 660	Urban Infill, Preservation, and Mixed Use Development	3
RED 670	Construction and Project Management	3
RED 680	Entrepreneurship in Real Estate Development	3
Electives *		4
	Credit Hours	15
Summer		
RED 690	Case Studies in Real Estate Development	3

RED 699	Capstone: Real Estate Development and Urbanism Charrette	3
	Credit Hours	6
	Total Credit Hours	36

- ¹ Elective credits can be fulfilled from one, two and three credit course offerings over the three semesters and during spring break.
- ² **Master of Real Estate Development and Urbanism students are required to participate in a minimum of one internship approved by Toppel Internship Program (TIP).**

Arts and Sciences

<http://www.as.miami.edu>

Departments

- Anthropology
- Art and Art History
- Biology
- Chemistry
- Computer Science
- Creative Writing
- English
- Geography and Regional Studies
- History
- International Administration
- International Studies
- Latin American Studies
- Liberal Studies
- Mathematics
- Modern Languages and Literatures
- Philosophy
- Physics
- Political Science
- Psychology
- Sociology

Admission Requirements

Please consult the general section of the Graduate Bulletin for the Graduate School admission requirements, and the specific program description for additional, department specific admission requirements.

Degree Programs

- Master of Arts
- Master of Fine Arts
- Master of Public Administration
- Master of Science
- Doctor of Philosophy

Degree Requirements

Please consult the specific department section for information related to degree requirements in addition to general degree requirements for the various degrees as listed by the Graduate School.

Other

The Max and Peggy Kriloff Fund is a fund that provides travel support for students earning degrees from the College of Arts and Sciences. The fund provides support for students to present papers, or posters at professional conferences worldwide. Students will need to fill out an application form available here (<http://www.as.miami.edu/academics/graduate-studies>) and submit it, along with the necessary supporting documentation to the Office of Graduate and Administrative Services.

Anthropology

The University of Miami offers a Professional Practice in Anthropology. The program will provide an academic foundation of best practices, current theory, grantsmanship, government regulations, and ethical standards of working with living peoples, dynamic cultural systems, and cultural heritage materials within the U.S. and abroad. It is designed to prepare graduates for careers in the private sector, government and nongovernmental organizations, nonprofit organizations, and education, including medical and research settings.

Students in these programs are expected to design their mandatory field/research experience in concert with a faculty advisor and external site supervisor as a means of acquiring practical experience in workplace setting. These students will present a professional paper, submit a grant proposal, and/or produce a manuscript for publication as part of the requirements for graduation. They may elect to pursue a degree with or without a written thesis. A total of 36 semester credit hours of graduate coursework (600-level or above) is required to complete the degree.

Master's Program in Anthropology

- Master of Arts in Anthropology (p. 929)

M.A. in Anthropology

<http://www.as.miami.edu/anthropology/>

Overview

The Department of Anthropology offers a Master of Arts degree in the Professional Practice of Anthropology. The program offers students the opportunity to specialize in one of three areas:

Applied archaeology

Cultural heritage management (cultural resource management), including museum management for archaeological collections, graduates will be in compliance with regulations and requirements from the U.S. Secretary of the Interior.

Applied biological anthropology

Analysis and identification of human remains; museum management of human skeletal/dental remains; applied primatology.

Applied cultural anthropology

Medical anthropology, anthropology in public health and allied fields, and applied ethnography for industrial/private/government sectors.

Degree Requirements

The aim of the curriculum is to give graduates the skill sets needed to design, conduct, and analyze anthropological fieldwork for their employers or as a component of independent research-driven careers. Graduate students have two degree options:

Option 1 - Thesis Option

The thesis option requires a minimum of 36 credits beyond the baccalaureate degree and a written thesis with an open defense guided by a thesis advisor and thesis committee of the student's choice. The committee for the thesis must include at least three faculty members, including one from outside anthropology. Additional credits for thesis research and writing may be added to the minimum of 36 if the student wishes. A minimum of 18 months in residency is also required for this option. Thesis requirements will conform to the University of Miami's standards and format.

This option is designed for individuals who wish to pursue career employment with increased potential for professional advancement based an emphasis on advanced analytical and writing skills used in management. With the thesis track, graduates would have the option of eventually pursuing admission to a doctoral program.

The thesis option may require an additional year in the program to accommodate thesis research and writing.

Option 2 - Non-Thesis Option

This option is for applicants whose ultimate career will be in employment for which practical application of bench skills and a master's degree are the gold standard. Non-thesis students require a minimum of 36 credits beyond the baccalaureate degree with a minimum of 18 months in residency.

This option is designed to prepare students to compete successfully for employment in mid-level careers immediately upon graduation.

Basic Coursework Requirements

1. Seminars in two of the four core graduate seminars in professional practice and theoretical foundations (see below) (3 credits; total of 6 credits);
2. One course or seminar in analytical skills for qualitative and/or quantitative data (3 credits); and
3. One course or seminar in professional writing (e.g., scientific writing for publication, federal compliance reporting, grants writing) (3 credits).

Additional Requirements for the Degree

1. One semester of hands-on field work or internship (usually over the summer), with the option of a second as thesis research; and
2. One paper for presentation at professional organization or one paper for publication in a journal/proceedings/book chapter or other professional venue. The presentation may be poster, podium or multimedia.

Professional Certification of Competency

Certificates of Proficiency (optional) – These may be gained in professional competency courses offered in conjunction with institutions in the student's area of professional specialization. Credit hours may be earned if the student completes the certification as an independent study, part of an internship program, or fieldwork course.

Academic Standing

Graduate students are expected to maintain an overall GPA of 3.0 in all coursework. Should the average fall below that mark in a semester, the student will be notified and work with his/her advisor to rectify the performance problems. If the student has a second consecutive semester with an average GPA below the 3.0 standard, he/she will be placed on academic probation. Three semesters of below average performance may result in suspension from the program at the discretion of the Chair and in discussion with the student and his/her departmental advisor in accordance with guidelines for the University's Graduate College.

For more information, see our web page.

Admission Requirements

All applicants will be selected for admission based on:

GRE Score

1. A GRE score of 1100 (or combined 297 on the revised General Test).
2. Applicants with lower scores may be considered for admission with supporting documentation from referees of active and successful involvement in research and/or transcripts showing an established record of scholarly achievement as an undergraduate.

Transcripts

1. Official copy of undergraduate transcripts showing the date the bachelor's degree was awarded.
2. Transcripts must show a 3.0 GPA in anthropology and no less than 3.0 for the overall GPA.
3. Students with lower averages may be admitted provisionally with higher than minimum GRE scores and supporting materials from referees on a case-by-case basis.

Personal Statement

1. A personal statement in which the applicant details reasons for pursuing an MA in our program specifically.
2. A cogent written statement will be used in evaluating the applicants' ability for written expression, as well as their fit with our strengths and offerings.

Part Time Admission

Returning students or practicing professional anthropologists who seek continuing education to better their skill set while enhancing their opportunities for advancement in the field may apply. Nondegree-seeking students and/or part time students will be considered by the Admissions Committee on a case-by-case basis.

Curriculum Requirements

Thesis Option

Code	Title	Credit Hours
Core Courses		
Complete 2 of the following:		6
APY 601	Advanced Seminar in Archaeology, Theory and Practice	
APY 602	Advanced Seminar in Cultural Anthropology	
APY 603	Advanced Seminar in Biological Anthropology	
APY 604	Advanced Seminar in Linguistic Anthropology	
APY 611	Methods of Anthropological Research	3-6
APY 702	Field Studies in Anthropology	3-6
APY 810	Master's Degree Thesis Preparation and Writing	1-9
Non APY Course Requirement ¹		9
Foreign Language Competency ²		
Thesis Defense ³		
Total Credit Hours		36

Non-Thesis Option

Code	Title	Credit Hours
Core Courses		
Complete 2 of the following:		6
APY 601	Advanced Seminar in Archaeology, Theory and Practice	
APY 602	Advanced Seminar in Cultural Anthropology	
APY 603	Advanced Seminar in Biological Anthropology	
APY 604	Advanced Seminar in Linguistic Anthropology	
APY 611	Methods of Anthropological Research	3-6
APY 702	Field Studies in Anthropology	3-6
APY Graduate Electives		9
Non APY Course Requirement ¹		9
Foreign Language Competency ²		
Total Credit Hours		36

- ¹ Nine graduate-level credits outside of Anthropology (mandatory) – These may be from a suggested list of electives and/or may be designed as a graduate cognate by the student with guidance from the advisor.
- ² Foreign language (mandatory) – demonstrated competency in the language of the country in which the applicant will work is expected. The language requirement may be met by analysis and translation of historical documents in a language other than English, or translation into English of three scientific articles from peer-reviewed journals pertaining to the professional practice of anthropology published originally in a foreign language.
- ³ A written thesis with an open defense is required. Students may choose their thesis committee which must include at least three faculty members, including one from outside anthropology. Additional credits for thesis research and writing may be added to the minimum of 36 if the student wishes. Thesis requirements will conform to the University of Miami's standards and format.

Art and Art History

<http://www.as.miami.edu/art>

Degree Programs

One program serves the needs of graduate students in Art and Art History.

- Master of Fine Arts program in the studio areas of
 - Painting
 - Sculpture
 - Ceramics/Glass
 - Printmaking
 - Photography/Digital Imaging
 - Illustration

Master of Fine Arts

M.F.A. IN STUDIO ART

The Department of Art and Art History offers a Master of Fine Arts degree in the professional practice of studio art. The 3-year program offers students the opportunity to specialize in five concentrations: 1 – Painting; 2 – Printmaking; 3 – Sculpture; 4 – Ceramics; 5 – Digital Imaging/Photography; 6 – Illustration.

Admission Requirements

Applicants for the program will be selected for admission based on submission of the following materials and standards:

1. Official copy of undergraduate transcripts showing the date the B.A. /B.S. /B.F.A. degree was awarded. [Transcripts must show no less than 3.0 for the overall G.P.A.]
2. A minimum TOEFL score of 80 for international students.
3. Three letters of recommendation.
4. A personal statement of interest in the program

5. A portfolio of digital images of personal artwork (not to exceed # digital images)
6. It is recommended that the applicant has advanced coursework in the area they wish to study and related professional and/or exhibition experience.

Academic Standing

Graduate students are expected to maintain an overall G.P.A. of 3.0 in all coursework. Should the average fall below that mark in a semester, the student will be notified and work with his/her adviser to rectify the performance problems. If the student has a second consecutive semester with an average G.P.A. below the 3.0 standard, he/she will be placed on academic probation. Three semesters of below average performance may result in suspension from the program at the discretion of the Chair and in discussion with the student and his/her adviser in accordance with guidelines for the University's Graduate College.

Masters Program in Art and Art History

- M.F.A. in Studio Art (p. 932)

M.F.A. in Studio Art

Curriculum Requirements

Code	Title	Credit Hours
Core Graduate Seminars		
ART 604	Seminar in Studio Art	3
ART 699	Exhibition Preparation	3
ARH 698	Seminar in Contemporary Art	3
Additional Requirements		
Choose 3 from the following:		9
ARH 605	Problems in Art History	
ARH 606	Problems in Art History	
ARH 607	Museum Studies Seminar	
ARH 610	Arts Administration Internship	
ARH 660	Seminar in Nineteenth and Twentieth Century Art	
Studio Concentration Courses		24
Studio/Other Electives		12
ART 810	Master's Thesis	6
Total Credit Hours		60

Studio Concentration Options

Painting

Code	Title	Credit Hours
ART 602	Advanced Painting ix	1-6
ART 641	Graduate Painting I	1-6
ART 642	Graduate Painting II	1-6
ART 643	Graduate Painting III	1-6
ART 644	Graduate Painting IV	1-6
ART 645	Graduate Painting V	1-6
ART 646	Advanced Painting VIII	1-6

Printmaking

Code	Title	Credit Hours
ART 651	Intaglio/Relief	1-6
ART 652	Lithography	1-6
ART 653	Silkscreen	1-6
ART 655	Topics in Printmaking	1-6

Sculpture

Code	Title	Credit Hours
ART 671	Graduate Sculpture I	1-6
ART 672	Graduate Sculpture II	1-6
ART 673	Graduate Sculpture III	1-6
ART 674	Graduate Sculpture IV	1-6
ART 675	Graduate Sculpture V	1-6
ART 676	Graduate Sculpture VI	1-6

Ceramics

Code	Title	Credit Hours
ART 682	Contemporary Ceramic Art I	1-6
ART 683	Contemporary Ceramic Art II	1-6
ART 684	Contemporary Ceramics Art III	1-6
ART 685	Contemporary Ceramics Art IV	1-6
ART 686	Contemporary Ceramic Art V	1-6
ART 687	Contemporary Ceramic Art VI	1-6
ART 688	Independent Study in Ceramics/Glass	1-6
ART 689	Directed Research and Projects in Ceramics/Glass	3

Digital Imaging/Photography

Code	Title	Credit Hours
ART 630	Graduate Digital Photography I	1-6
ART 631	Graduate Digital Photography II	1-6
ART 632	Graduate Independent Study in Photography	1-6
ART 633	Graduate Digital Photography III	1-6

Biology

<http://www.bio.miami.edu>

Dept. Code: BIL

Degree Programs

Application for Admission

Applications are due December 1.

In applying for admission, applicants must select either the *Master's* or the *Ph.D.* track.

Students with an appropriate B.S. degree may seek direct entry to either the M.S. track or the Ph.D. track.

Applicants who were admitted on the Master's track, but wish to change to a Ph.D. track without completing the Master's may apply for admission to the Ph.D. program before the end of their second semester. Letters of support from three UM Biology faculty, including a major advisor, should be added to the applicant's file. The file must be current. Such applicants will be judged by the same criteria that are applied to other Ph.D. applicants.

Applicants to the Ph.D. track who were admitted on the Master's track and wish to complete the M.S. degree, should follow the same procedures as all other applicants, but they must include letters of support from three UM Biology faculty. Such applicants will be judged by the same criteria that are applied to other Ph.D. applicants.

Applicants must:

1. Apply online (<https://www.applyweb.com/miamigrd>) at the UM Graduate School. Application fee of \$85.
2. Send hardcopies of the following to the Coordinator of Graduate Studies in Biology, Department of Biology, 1301 Memorial Drive, Coral Gables, FL 33146 USA.
 - a. Originals of all undergraduate and graduate official transcripts (photocopies are not accepted)

- b. Official scores from recent Graduate Record Examinations (within five years), including the aptitude portion; (photocopies of scores are not accepted)
 - c. International applicants whose native language is not English must additionally submit the TOEFL (Test of English as a Foreign Language) official scores (photocopies of scores are not accepted)
3. Send digital copies of the following to the Coordinator of Graduate Studies in Biology (bio.gradcoord@miami.edu)
 - a. A cover letter that identifies interests, suggests possible research projects, states career goals and identifies a UM Biology faculty sponsor
 - b. Copies of any research papers (e.g., publications, manuscripts, senior reports, etc.)
4. Letters of recommendation from **three** science instructors/ supervisors that address: nature and duration of relationship to applicant; motivation; ability to conceptualize and deal quantitatively with biological problems, and research potential should be sent by email to the Coordinator of Graduate Studies in Biology at bio.gradcoord@miami.edu
5. Request UM Biology faculty sponsor submit a memo of support by email to the Coordinator of Graduate Studies in Biology (bio.gradcoord@miami.edu). Applicants **MUST** secure the sponsorship of a faculty member as a condition for admission; the research interests of the applicant and the faculty sponsor should be well-matched; the sponsor will be the major advisor

A limited number of applicants to the Ph.D. program may be invited to interview at departmental expense in early January of the year of admission.

Materials submitted in support of an application cannot be released for other purposes or returned to the applicant.

Degree Requirements

All students are required to satisfy **the general requirements** for the appropriate degree that are listed in the **Graduate Studies Bulletin**, whether or not they are listed among the Biology requirements.

Implementation

All Graduate students will be reviewed each spring semester by GAAC.

1. The advisor will review the student's progress to date.
2. The student will provide updates for a student progress database every February.
3. The student will provide written evidence that the advisor and committee have reviewed her/his progress and plans.
4. Each student will receive a letter summarizing the results of the discussion concerning his/her progress.
5. All graduate students shall have the right to respond to GAAC, and, if necessary, the graduate faculty in matters pertaining to the review.
6. Possible outcomes of the review:
 - a. Student making satisfactory progress
 - b. Student not making satisfactory progress; recommendations for improvement
 - c. Student not making satisfactory progress; his/her tenure terminated.

Financial Support

1. The Department intends to support all doctoral students in good standing for up to 10 semesters. Support beyond 10 semesters is contingent upon GAAC approval.
2. Master's degree students usually are not eligible for departmental stipends or tuition remission.
3. Students who do not provide annual updates for the student progress database will not be eligible for continued funding. Students who will be off-campus are still responsible for making sure that GAAC receives the data. Students who choose not to present at the annual departmental graduate student symposium may be considered as not in good standing.
4. Students holding full fellowships or research assistantships will not normally be given teaching assignments, nor will students be permitted to hold fellowships and research assistantships simultaneously. Exceptions require GAAC approval.

Masters Programs in Biology

- M.S. in Biology with Thesis (Three Year Program) (p. 934)
- M.S. in Biology without Thesis (Two Year Program) (p. 936)

Doctoral Program in Biology

- Ph.D. in Biology (p. 936)

M.S. in Biology with Thesis (Three Year Program)

1. Credit hours: a total of 30 credit hours are required:
 - 24 course credit hours, including the two semester departmental core courses for graduate students and at least one graduate course in statistics. Students are encouraged to take courses from more than one conceptual area; they are encouraged to select courses and

independent studies that will prepare them for research, as listed under the Ph.D. requirements. No more than 9 credit hours from the independent study series may be used to fulfill the 24 course credit hours.:

Code	Title	Credit Hours
BIL 675	Advanced Study in Plant or Animal Sciences	1-6
BIL 678	Current Topics in Biological Research - DVP	1

At times these course numbers are used by professors to teach a new course or a special topics course, in which case the corresponding credit hours can be counted as a non-independent study credit hour. Course selection requires committee approval.

- 6 research credit hours (BIL 810); no more than 6 M.S. research credit hours are allowed.
 - The minimum acceptable grade average in all coursework towards the degree is a "B (3.0)" and no grade may be below a "C."
2. Research Proposal: public presentation and successful defense to the committee of a written research proposal. The public presentation must be given during regular sessions of the Fall or Spring semesters, not during summer sessions, intersessions, reading days or finals weeks.
 3. Thesis: A well-written and successfully defended thesis of publishable quality; a defense is successful if all members of the committee sign the grad school form and the signature page of the dissertation.
 4. Other requirements described under "The Master's Degree," including but not limited to:
 - a total of at least 30 credit hours (course credit hours plus research credit hours). The Graduate School and the Department concur in requiring at least 24 course credit hours and exactly 6 research credit hours (BIL 810) for a thesis M.S.
 - once a student has completed all required credit hours, she/he must enroll in "Research in Residence" (BIL 820) status until the degree is granted. This course carries 0 credit hours, but is considered full-time enrollment. Even though no credit is earned, a tuition charge equivalent to 1 course credit hour normally applies to this course.
 5. About the committee:
 - A single committee will combine the responsibilities of the supervisory and thesis committees.
 - The supervisory committee will be determined by the student in consultation with his or her advisor. The committee will consist of a minimum of three faculty, one of whom must be from outside the department, and one of whom must be a member of the graduate faculty. There is no sub-disciplinary representation requirement.
 - The thesis committee is formed officially when the student is admitted to candidacy. It may comprise the same individuals as the supervisory committee, or it may be formed anew. The student in consultation with the advisor suggests the membership of the committee to the graduate school. The committee will consist of a minimum of three faculty, one of whom must be from outside the department, and one of whom must be a member of the graduate faculty. There is no sub-disciplinary representation requirement.
 - The thesis committee is nominated by the department, but it must be approved and appointed by the Dean of the Graduate School. There is a special form that must be filed with the graduate school.
 - Committee meetings are required at least once a year (recommended at least once a semester); the student is responsible for arranging meetings; the student should consult with the committee about major changes in research goals and about problems. Memos summarizing each meeting should be in the student's file and emailed to the Graduate Director (graddirector@bio.miami.edu).
 6. About the time table:
 - A **written thesis proposal** is due no later than the **middle of the second semester. Please take note of this deadline. The scope of the M.S. thesis should be in line with the timetable.**
 - Analysis of data and a **polished draft of the thesis** should be completed and in the hands of the committee by the **middle of the sixth semester. Please take note of this deadline. The scope of the M.S. thesis should be in line with the timetable.**
 - **Defense of the thesis and its submission to the Graduate School** must meet or precede the deadline for graduation immediately **following the sixth semester** unless an extension has been approved by the Graduate Admissions and Advisement Committee (GAAC) upon recommendation of the thesis committee. Notice of the defense must be submitted on a special form to the graduate school in advance of the defense and must be posted publicly in the department.
 - The oral defense of the thesis **must** be given during regular sessions of the Fall or Spring semesters, not during summer sessions, intersessions, reading days or finals weeks.
 - **No student may receive the degree in the same semester in which she/he is admitted to candidacy.**
 - The indicated dates form **firm deadlines**. A student's committee, however, may submit a written petition to GAAC for an extension of time detailing reasons for the request. **An extension will be granted only under extraordinary circumstances and will be effective upon written approval by GAAC.**
 - Proposals to change the schedule for any reason should be preceded by a study of the **graduate bulletin** sections on **leaves of absence, full time student status** and **recency of credit hour** and explicitly address how the proposed change of schedule relates to these matters. The memo requesting the change also should address the **proposed financial support**.
 7. Completed SACS evaluation forms are required at two points during the course of study. One following the research proposal defense and the final following defense of the thesis. The student is responsible for providing blank forms to the committee at each milestone. The graduate advisor is responsible for forwarding completed forms to the Graduate Director. The student is responsible for ensuring the Graduate Director receives these forms.

M.S. in Biology without Thesis (Two Year Program)

1. Credit hours:

- A total of 30 course credit hours are required by the Biology Department, including the two semester departmental core courses for graduate students and at least one graduate course in statistics. Students are encouraged to take courses from more than one conceptual area, listed under the Ph.D. requirements. No more than 9 credit hours from the independent study series may be used to fulfill the 30 course credit hours.:

Code	Title	Credit Hours
BIL 675	Advanced Study in Plant or Animal Sciences	1-6
BIL 678	Current Topics in Biological Research - DVP	1

At times these course numbers are used by professors to teach a new course or a special topics course, in which case the corresponding credit hours can be counted as a non-independent study credit hour. Course selection requires committee approval.

- The minimum acceptable grade average in all coursework towards the degree is a "B (3.0)" and no grade may be below a "C."
- ### 2. Passing a written comprehensive exam given by the committee.
- ### 3. About the committee:
- A single committee will combine the responsibilities of the initial supervisory and the comprehensive examination committees. The committee will be determined by the student in consultation with her/his advisor. The committee will consist of a minimum of three faculty, one of whom must be from outside the department, and one of whom must be a member of the graduate faculty. There is no sub-disciplinary representation requirement.
 - The examination committee is formed officially when the student is admitted to candidacy. It may comprise the same individuals as the supervisory committee, or it may be formed anew. The student in consultation with the advisor suggests the membership of the committee to the graduate school. The committee will consist of a minimum of three faculty including the student's advisor, one of whom must be from outside the department, and one of whom must be a member of the graduate faculty. There is no sub-disciplinary representation requirement.
 - The examination committee is nominated by the department, but it must be approved and appointed by the Dean of the Graduate School. There is a special form that must be filed with the graduate school.
 - Committee meetings are required at least once a year (recommended at least once a semester); the student is responsible for arranging meetings; the student should keep the committee advised of major changes in the graduate program plan; memos summarizing each meeting should be in the student's file.
- ### 4. About the time table:
- The **comprehensive exam** must be passed by the **end of the fourth semester**.
 - No student may receive the degree in the same semester in which she/he is admitted to candidacy.**
 - The indicated dates form **firm deadlines**. A student's committee, however, may submit a written petition to GAAC for an extension of time detailing reasons for the request. **An extension will be granted only under extraordinary circumstances and will be effective upon written approval by GAAC.**
 - Proposals to change the schedule for any reason should be preceded by a study of the **graduate bulletin** sections on **leaves of absence, full time student status** and **recency of credit hour** and explicitly address how the proposed change of schedule relates to these matters. The memo requesting the change also should address the **proposed financial support**.
- ### 5. Completed SACS evaluation forms are required following the comprehensive exam.
- The student is responsible for providing blank forms to the committee. The graduate advisor is responsible for forwarding completed forms to the Graduate Director. The student is responsible for ensuring the Graduate Director receives these forms.

Ph.D. in Biology

1. Credit hours: a total of 60 credit hours (including both course and research credit hours) beyond the Bachelor's degree are required:

- At least 18 course credit hours that are not from the independent study series, including the two semester departmental core courses for graduate students and at least one graduate course in statistics. The independent study series is:

Code	Title	Credit Hours
BIL 675	Advanced Study in Plant or Animal Sciences	1-6
BIL 678	Current Topics in Biological Research - DVP	1

At times these course numbers are used by professors to teach a new course or a special topics course, however, in which case the corresponding credit hours can be counted as a non-independent study credit hour. Course selection requires committee approval.

- At least 12 research credit hours (BIL 830 and/or BIL 840). Once the overall number of required credit hours (see below #8) has been reached, there is no need to take additional research credit hours.
- An additional 30 credit hours from any combination of graduate courses (600 level regular courses and independent study courses) and research credit hours (800 level) to bring the total number of credit hours beyond the Bachelor's Degree to 60 credit hours. (One example: 18 required course credit hours + 12 required research credit hours + 15 **additional** course credit hours + 15 **additional** research credit hours = 60 total; another example would be 18 **additional** course credit hours and only 12 **additional** dissertation credit hours, etc.)

- Students who already have a Master's Degree in the same field may not need as many course credit hours (consult Graduate School rules on transfer credit hours), but at least 24 credit hours must be taken in residence at UM.
- The committee may decide that students with previous graduate level courses may be exempt from some of the course requirements.
- The minimum acceptable grade average in all coursework towards the degree is a "B (3.0)" and no grade may be below a "C."
- **CONCEPTUAL AREAS:** Students are encouraged to take courses and independent studies from at least 3 main conceptual areas, and are urged to take courses and independent studies that will prepare them for research and for the comprehensive qualifying exam. Students also are encouraged to participate in seminars and study groups and to take special courses in other departments of UM, at our Coalition for Excellence in Tropical Biology partner institutions, from the Organization for Tropical Studies, or other special interdisciplinary courses. Such courses should be appropriate to their course of study and research area as determined by their committee. Conceptual areas offered in our department include: EVOLUTION (graduate level evolution courses are in the 620's series); ECOLOGY (graduate level ecology courses are in the 630's series), BEHAVIOR (graduate level behavior courses are in the 640's series); GENETICS AND MOLECULAR BIOLOGY (graduate level genetics and molecular biology courses are in the 650's series); and PHYSIOLOGY AND CELL BIOLOGY (graduate level physiology courses are in the 660's series). Special concentrations in our department and/or in collaboration with other departments include: Tropical Biology, Mathematical Ecology, Neuroscience, and Behavior.

2. Comprehensive qualifying exam should be passed by the end of the third semester.

The qualifying examination has two components:

(I) *Comprehensive Component*

(II) *Specialty Component*

The Graduate Core will serve as the comprehensive component of the qualifying exam. The minimum acceptable grade in each of Graduate Core I and Graduate Core II is a "B" (3.0). Students who fail to achieve a B average across the two Graduate Core classes will be considered to have failed the comprehensive component of the qualifying exam. Students who earn As (4.0) in both Graduate Core I and Graduate Core II will pass with distinction, students whose grade average across the two classes is <4 but ≥ 3 will earn a passing grade, while students with a grade average across the two classes of <3 will fail the comprehensive component of the qualifying exam. In addition to assigning letter grades, faculty will complete the graduate school rubric for evaluating student performance on qualifying exams for each student.

Final letter grades will use the University of Miami standard quality points:

A+	4.0
A	4.0
A-	3.7
B+	3.3
B	3.0
B-	2.7
C+	2.3
C	2.0
C-	1.7
D+	1.3
D	1.0
F	0.0

In the event that a student fails the comprehensive component of the qualifying exam, the student will be given the opportunity in the following academic year to retake any Graduate Core class in which they failed to achieve the minimum grade of a B. It is only necessary to retake a class if a student earned less than a B in that class (*i.e.* if students earn less than a B in only one of the two classes, it is not necessary for them to retake both classes in the sequence). All students retaking classes must have completed their retakes by the end of their fourth semester. Each retake grade will replace a student's original grade for that part of the Graduate Core. Following the retakes, students who earn As (4.0) in both Graduate Core I and Graduate Core II will pass with distinction, students whose grade average across the two classes is <4 but ≥ 3 will earn a passing grade, while students with a grade average across the two classes of <3 will fail the comprehensive component of the qualifying exam. A student who earns less than a B in a retake, will fail the comprehensive component of the qualifying exam for a second time and be terminated from the program. In addition to assigning letter grades, faculty will complete the graduate school rubric for evaluating student performance on qualifying exams for each student.

(II) *Specialty Component*

The specialty component of the qualifying exam will be administered by the initial committee (see § "The committee") who will test the student in subject areas related to the student's field of study. As early as the middle of the first semester and before the end of the second semester the student should meet with their initial committee to define the scope of their specialty exam. The specialty component should focus two specific areas of biology that the student intends to incorporate into their dissertation research. These areas can be discussed with the committee,

and may be defined by a specific group of reviews, papers, books and book chapters, and even mathematical or computational skill sets to master. The student should be actively engaging their committee to explore and define these areas over their first year of study. The student is responsible for working with their committee to develop a clear understanding of what individual faculty expect of them with respect to preparing for the specialty component of the qualifying exam.

Traditional Specialty Component: The specialty component of the qualifying exam will be administered in the third semester. The committee will designate a chair other than the student's advisor to administer the examination. The written part of the exam will be closed-book and will be administered on campus in a single four-hour period by the examination chair. Two committee members will provide questions for the four-hour specialty exam. Each of the two committee members will provide questions expected to occupy the student for half of the four-hour exam. Exams can be hand-written or completed on a wireless disabled laptop with autocorrect and prompts disabled. All members of the committee will read the exam, the committee members who provided the questions will grade the exam questions they provided. One week after the committee has read the written answers (about one week after the written exam), an oral exam will be administered by the **whole committee** for the purpose of further exploring the student's grasp of **both the specialty component subject matter and any material covered by Graduate Core I and II**.

Alternative Specialty Component: With committee approval, an alternative to the traditional specialty component of the qualifying exam is to present to the committee a first-authored, publishable, full-length article manuscript concerning research conducted since matriculation at UM. The purpose of the alternate exam is to immediately focus students and their graduate advisors on developing the research, analysis and writing skills that are necessary for a successful career. Before the end of the third semester, the manuscript must be submitted to a journal approved by the committee. One week after the committee has read the manuscript, there will be an oral exam for the purpose of further exploring the student's grasp of both the specialty component subject matter and any material covered by Graduate Core I and II.

The specific requirements for the alternative specialty component are:

1. The research *must have been conducted since matriculation at UM*, under the guidance of the Ph.D. advisor. Research conducted prior to matriculation at UM cannot be the basis for the article. However, a student's supervisory committee may at its discretion approve work that considerably extends previous research (e.g. a M.S. project) and that contains substantial new data generated since matriculation.
2. The student *must be the first author* of the article, and *must play the principal role* in data analysis, writing, submission, and seeing the manuscript through to publication.
3. The target journal should have an impact factor above the median (i.e., top 50%) for journals in its subject area.
4. The publication *must be a full article*: No form of short note (e.g., primer, technical or natural history note), short communication or brief commentary is acceptable. Substance rather than paper length will be the major consideration: e.g., articles in *Science* and *Nature* would be short but perfectly acceptable! The exam committee will assess the paper's acceptability.
5. Prior to submission for publication, all members of the supervisory committee must have agreed upon journal selection, served as collegial reviewers of the manuscript, and agreed that the manuscript is suitable for submission. The student is also expected to orally present and defend the research described in the manuscript.
6. Satisfactory completion of this alternate qualifying exam will require *submission* of the manuscript *before the end of the third semester* of graduate study. As is the case for a standard written qualifying exam, satisfactory completion will also require a vote of the supervisory/ examination committee.
7. A memorandum to GAAC by the supervisory/examination committee chair reporting passing the alternate qualifying exam should be accompanied by a copy of the journal's acknowledgment of submission.
8. If the approved manuscript has not been submitted before the end of the third semester, the graduate student must prepare to sit the regular specialty component of the qualifying exam before the end of the fourth semester. Students have up to the Monday of the second last week of classes in the fourth semester to submit their manuscript. If the manuscript is not submitted by the end of the second last week of classes in the fourth semester, the student must sit the regular specialty component of the qualifying exam before the end of the fourth semester.
9. The student is encouraged to present the work on which the manuscript is based at the department's annual graduate student symposium.
 - Each committee member will decide on a pass/fail grade based on the total performance (written plus oral). Conditional passes may not be awarded. For the student to pass the examination, 3 of the 4 examiners must vote a grade of pass. An oral and written summary of the committee's evaluation must be prepared by the chair of the examination committee and given to the student and to GAAC. If the student does not pass the examination, there will be a chance to retake it the following semester. In the case of failure a second time, the student will be terminated from the program.
 - At time of completion of the oral examination the examination committee must provide the Graduate Director with a completed SACS evaluation form, the student is responsible for ensuring the Graduate Director receives this form.

3. Research proposal: public presentation of a research proposal and defense of a written research proposal to the **complete research committee** (see below) should be completed by the middle of the fourth semester. Students are encouraged to follow the format of a grant proposal to a major funding agency. At the proposal defense, the student will receive either a pass or a fail. A grade of pass will be recorded if no more than one member of the **complete research committee** (see below) votes to fail the student. If the student fails the proposal defense, she/he will be given a **second chance** to defend no later than the **sixth week of the fifth semester**. If the defense is failed a second time, the student will

be terminated from the program. At time of completion of the proposal defense the complete research committee must provide the Graduate Director with a completed SACS evaluation form, the student is responsible for ensuring the Graduate Director receives this form.

4. Admission to candidacy: (application is made on a form available in the grad school and in the department). This normally will occur at the end of the fourth semester. Requirements are to pass the comprehensive examination and to successfully defend a written research proposal and to have complete SACS evaluation forms from both the qualifying exam and the proposal defense on file.

5. Teaching: All students on the Ph.D. track in Biology are required to serve satisfactorily at least one semester as a teaching assistant in one of the courses offered as part of the Department's training program.

6. Grants: Submission of a grant proposal to a major funding agency (e.g., NSF, NIH, National Geographic, World Wildlife Fund, etc.) is required. All students are required to seek outside funding for their research. This must be a research project proposal. Application for an NSF pre-doctoral fellowship does not meet this requirement, but application for an NSF dissertation improvement grant does qualify.

7. Ph.D. Dissertation: A well-written and successfully defended dissertation containing an original contribution to the field and of quality appropriate for publication in a scientific journal; a defense is successful if all members of the committee sign the graduate school form and the signature page of the dissertation. A final, acceptable typescript of the dissertation *must* be in the hands of the committee a minimum of two weeks prior to the defense. If this deadline is not met, the defense must be rescheduled. A public dissertation seminar also is presented at the time of the defense. Following the defense the committee is required to provide the Graduate Director with a completed SACS evaluation form.

8. Other requirements described under "Doctor of Philosophy," including but not limited to:

- a total of at least 60 credit hours (course credit hours plus research credit hours).
- once a student has completed all required credit hours, she/he must enroll in "Research in Residence" (BIL 850) status until the degree is granted. This course carries 0 credit hours, but is considered full-time enrollment. Even though no credit is earned, a tuition charge equivalent to 1 course credit hours normally applies to this course.

9. Committee: A single committee will advise the student on both comprehensive and research training. The committee will be responsible for ensuring breadth, significant background and depth in at least 3 conceptual areas (examples include but are not limited to the areas listed above). The research function of the committee is to advise the student on research, including preparation, training, project choice, project design, implementation and evaluation of the research. The committee will go through several phases and its membership will be determined by the advisor and student together, contingent upon approval of GAAC and/or the Graduate School, as appropriate at each phase:

- The **initial committee** will consist of at least **4 faculty**, 2 appointed to ensure breadth of training (from two areas outside the research area) and 2 from the research area. It will be formed to help the student choose courses during the first few weeks of the first semester. This committee will decide whether students having a M.S. in biology (botany, zoology, etc.) from another institution can substitute a graduate level course taken elsewhere for a departmental course requirement; it also will decide which additional courses should be taken for both research and breadth. The choice of areas briefly will be outlined in a memo to GAAC.
- The **initial committee of at least 4 faculty** will be responsible for preparing and administering the comprehensive examination.
- The **complete committee of at least 4 faculty** including one from outside the department, should be formed by the end of the third semester; all four members should participate in the proposal evaluation which will take place in the fourth semester. The committee will consist of a minimum of four faculty, which includes the committee chair, who must be a member of the Graduate Faculty. Of the remaining members, it is also required that two shall be from the Graduate Faculty.
- The **dissertation committee (of four)** is formed officially when the student is admitted to candidacy. It usually will comprise the same individuals as the complete research committee, or it may be formed anew. The student and advisor consult on the membership of the committee, and the department nominates the committee to the graduate school. The committee will consist of a minimum of four faculty, which includes the committee chair who is the advisor, who must be a member of the Graduate Faculty. Of the remaining members, it also is required that two shall be from the Graduate Faculty and one from outside the department of concentration. The dissertation committee is nominated by the department, but it must be approved and appointed by the Dean of the Graduate School. There is a special form that must be filed with the graduate school.
- Committee meetings are **required at least once a year** (recommended at least once a semester in the early phases). The student is responsible for arranging meetings; the student should consult with the committee about any major changes in research goals and any problems; memos summarizing each meeting should be in the student's file.

10. About the time table:

- The written **comprehensive qualifying examination** must be passed by the **end of the third semester**.
- A **polished, written dissertation proposal** must be **defended to the committee in the fourth semester** together with a **public presentation of the proposal**. This must take place by mid-April of the spring semester or mid-November of the fall semester.
- **Admission to candidacy** normally occurs **after the comprehensive qualifying exam and proposal defense are passed upon the recommendation of the committee and the approval of the Graduate School**. Application for admission to candidacy is made to the graduate school on a special form.

- Analysis of data and a **polished draft of the dissertation** should be completed and in the hands of the dissertation committee **no later than the middle of the tenth semester**.
- **Defense of the dissertation and its submission to the Graduate School** must meet or precede the deadline for graduation immediately following the **tenth semester** unless an extension has been approved by GAAC upon recommendation of the dissertation committee. Notice of the defense and of the public seminar must be submitted on a special form to the graduate school in advance of the defense and must be posted publicly in the department.
- The oral **defense of the dissertation** must be given during **regular sessions** of the Fall or Spring semesters, **not during** summer sessions, intersessions, reading days or finals weeks.
- **No student may receive the degree in the same semester in which she/he is admitted to candidacy.**
- The indicated dates form **firm deadlines**. A student's committee, however, may submit a written petition to GAAC for an extension of time detailing reasons for the request. **An extension will be granted only under extraordinary circumstances and will be effective upon written approval by GAAC.**
- Proposals to change the schedule for any reason should be preceded by a study of the **graduate bulletin** sections on **leaves of absence, full time student status** and **recency of credit hour**, and explicitly should address how the proposed change of schedule relates to these matters. The memo requesting the change also should address the **proposed financial support** of the student beyond the 10 semesters of normal departmental support.

11. **Public presentations must be during regular semesters.** The public presentation associated with the defense of the proposal and the public seminar associated with the defense of the dissertation must be given during regular sessions of Fall or Spring semesters, not during summer sessions, inter-sessions, reading days, or finals weeks.

12. Completed SACS evaluation forms are required at three points during the course of study. One following the qualifying exam, one following the proposal defense and the final following defense of the dissertation. The student is responsible for providing blank forms to the committee at each milestone. The graduate advisor is responsible for forwarding completed forms to the Graduate Director. The student is responsible for ensuring the Graduate Director receives these forms.

Chemistry

<http://www.as.miami.edu/chemistry>

Dept. Code: CHM

Degree Programs

Prospective graduate students are expected to have completed, during their undergraduate training:

The candidate must hold a B.S./B.A. degree from an accredited institution. Consideration is given to applicants who have successfully completed general chemistry (two semesters), organic chemistry (two semesters), physical chemistry (two semesters), and the related laboratories. A course in advanced inorganic chemistry is strongly recommended, and remedial work in this area may be required of students who have not taken such a course. The mathematics and physics courses that are normally included in a B.S. program in chemistry are also required.

Undergraduate deficiencies are treated as such and must be overcome during the first year of graduate study.

Masters Program in Chemistry

- M.S. in Chemistry (p. 940)

Doctoral Program in Chemistry

- Ph.D. in Chemistry (p. 941)

M.S. in Chemistry

Curriculum Requirements

Code	Title	Credit Hours
CHM 600 level or Higher		18
CHM 779	Chemistry Seminar	2
CHM 785	Introduction to Research	2
CHM 810	Master's Thesis	8
Total Credit Hours		30

Students must take 18 credits of formal lecture courses by the end of the spring semester of their first year. Of the 18 credit hours, 4 core courses totaling 12 credit hours should be taken by all graduate students.

- The required number of credit hours in the *chemistry seminars* (CHM 779) and *Introduction to Research* (CHM 785) must be taken in the first and second year.
- The required number of credit hours in *research* (CHM 810) must be taken in the second year.
- A *dissertation* based on research of a quality acceptable for publication in a recognized scientific journal must be completed before the end of the second year.

The M.S. degree may be earned with or without a thesis.

In order to complete a MS degree without thesis, an advanced comprehensive exam must be passed.

The exam is administered at the end of the second year in the program.

Ph.D. in Chemistry

The general requirements for the **doctorate** in Chemistry are set forth in this *Bulletin* under the heading Doctor of Philosophy. The Department of Chemistry has the following specific requirements:

The PhD degree requires a minimum of 60 credit hours. The department will cover tuition costs up to 60 credit hours for students on assistantships and fellowships.

Code	Title	Credit Hours
CHM 600 level or Higher		18
CHM 779	Chemistry Seminar	4
CHM 780	Chemistry Seminar	1
CHM 785	Introduction to Research	2
CHM 788	Problems in Research Planning	2
CHM 830	Doctoral Dissertation	26
CHM 840	Post-candidacy Dissertation	6
CHM 880	Doctoral Dissertation Seminar	1
Total Credit Hours		60

Students must take 18 credits of formal lecture courses by the end of the spring semester of their first year. Of the 18 credit hours, 4 core courses totaling 12 credit hours should be taken by all graduate students.

Suggested Plan of Study

Course	Title	Credit Hours
Year One		
Fall		
CHM courses 600 level		9
CHM 779	Chemistry Seminar	1
CHM 785	Introduction to Research	2
	Credit Hours	12
Spring		
CHM 600 level courses		9
CHM 779	Chemistry Seminar	1
	Credit Hours	10
Year Two		
Fall		
CHM 779	Chemistry Seminar	1
CHM 830	Doctoral Dissertation	6
	Credit Hours	7
Spring		
CHM 779	Chemistry Seminar	1

CHM 830	Doctoral Dissertation	4
	Credit Hours	5
Year Three		
Fall		
CHM 780	Chemistry Seminar	1
CHM 830	Doctoral Dissertation	6
	Credit Hours	7
Spring		
CHM 788	Problems in Research Planning	2
CHM 830	Doctoral Dissertation	4
	Credit Hours	6
Year Four		
Fall		
CHM 830	Doctoral Dissertation	6
	Credit Hours	6
Spring		
CHM 840	Post-candidacy Dissertation	6
CHM 880	Doctoral Dissertation Seminar	1
	Credit Hours	7
	Total Credit Hours	60

- The required number of credit hours in the *chemistry seminar* (CHM 779) must be taken in the first and second year.
- The required number of credit hours in Introduction to Research (CHM 785) must be taken in the first year.
- The required number of credit hours in the *chemistry seminar* (CHM 780) must be taken in the fall semester of the third year.
- The required number of credit hours in *Pre-candidacy Doctoral Dissertation* (CHM 830) must be taken in the first, second, third and fourth year.
- The required number of credit hours credits in *Post-candidacy Doctoral Dissertation* (CHM 840) must be taken in the fourth year.
- An *Oral Comprehensive Exam* must be passed before the end of the spring semester of the second year.
- An original *research proposal in Problems in Research Planning* (CHM 788) must be presented and defended before the end of the spring semester of the third year.
- A *Doctoral Dissertation* (CHM 880) based on research of a quality acceptable for publication in a recognized scientific journal must be completed before the end of the fifth year.

Computer Science

<http://www.cs.miami.edu>

Dept. Code: CSC

Introduction

The Department of Computer Science offers undergraduate and graduate education in Computer Science, and performs research in various areas of Computer Science. The Department has faculty with strong accomplishments in the fields of algorithm engineering, automated reasoning, bioinformatics, computational complexity, computational geometry & computer graphics, cryptography & network security, data mining, data science, molecular computation, multimedia systems, music information retrieval, robotics, scientific computing, scientific visualization, semantic web, and wireless & mobile computing.

Degree Programs

The Department of Computer Science offers

- a Master of Science (MS) in Computer Science
- a Doctor of Philosophy (PhD) in Computer Science

Note

All Computer Science graduate TAs and RAs must complete RCR training during their first semester in the department. All other Computer Science graduate students must complete Responsible Conduct of Research (RCR) training before starting research work. Information about RCR training can be found from UM ethics programs, here (<http://www.miami.edu/index.php/ethics/projects/rcr>).

Masters Programs in Computer Science

- M.S. in Computer Science (p. 943)
- Five-Year B.S. and M.S. in Computer Science (p. 943)

Doctoral Program in Computer Science

- Ph.D. in Computer Science (p. 944)

B.S./M.S. in Computer Science Five-Year

This program is open only to currently enrolled Computer Science undergraduates.

The 5-year Bachelor of Science + Master of Science program in Computer Science provides research training for students who wish to work in a computing research lab, or possibly continue to PhD studies.

Students must complete the requirements for a Bachelor of Science in Computer Science (p. 178), and the requirements for a 30 credit hour Master of Science in Computer Science with thesis (p. 943). No credits may be counted towards both requirements.

Students enter the "MS-phase" of the program when they have met the following requirements:

- They have achieved senior status, i.e., earned 89 credit hours towards their Bachelor of Science in Computer Science.
- Within the requirements for a Bachelor of Science in Computer Science, they have completed the prerequisites for entry into the regular Master of Science program, i.e.:

Code	Title	Credit Hours
CSC 120	Computer Programming I	4
CSC 220	Computer Programming II	4
CSC 314	Computer Organization and Architecture	3
CSC 317	Data Structures and Algorithm Analysis	3
CSC 427	Theory of Computing	3
MTH 161	Calculus I	4
MTH 224	Introduction to Probability and Statistics	3
MTH 309	Discrete Mathematics I	3
Total Credit Hours		27

- They have completed 3 credit hours of CSC 410 and/or CSC 411 in a research-oriented project.
- They have an overall GPA of at least 3.0.
- They have a GPA of at least 3.3 in the CSC courses taken towards their BS in Computer Science.
- They have advised the Director of Graduate Studies of their eligibility for the MS-phase.
- Students in the MS-phase must complete 3 further credit hours of CSC 410 and/or CSC 411 in a research-oriented project, as part of their Bachelor of Science in Computer Science (this project will normally be the starting point for the Master of Science research). Students in the MS-phase may take up to 12 credits of courses that count towards completing the requirements for the Master of Science in Computer Science. When students have completed the requirements for a Bachelor of Science in Computer Science they will be awarded that degree, and when they have completed the requirements for the Master of Science in Computer Science they will be awarded that degree.
- Incoming students can be admitted to the program if their mathematics placement is MTH 108 or higher. Existing Bachelor of Science in Computer Science students can switch into the program when they have met the requirements for entering the MS-phase of the program. Students can be removed from the program if they have not met the prerequisites for admission to the MS-phase by the time they have achieved senior status. If a student is removed or decides to withdraw from the program, any CSC6XX level courses taken may be used to fulfill the requirements for a Bachelor of Science in Computer Science.

M.S. in Computer Science

The Master of Science program in Computer Science is overseen by the Computer Science Graduate Committee (CSGC). The basic guidelines for approval of a student's program are recommendations appearing in the Communications of the Association for Computing Machinery (ACM), the professional society in Computer Science.

Prerequisites for Admission

Completion of the following courses, or their equivalents, is prerequisite to entry into the program:

Code	Title	Credit Hours
CSC 120	Computer Programming I	4
CSC 220	Computer Programming II	4
CSC 314	Computer Organization and Architecture	3
CSC 317	Data Structures and Algorithm Analysis	3
CSC 427	Theory of Computing	3
MTH 161	Calculus I	4
MTH 224	Introduction to Probability and Statistics	3
MTH 309	Discrete Mathematics I	3
Total Credit Hours		27

Students may be admitted with deficiencies, normally a maximum of 6 credits. These must be completed in addition to the degree requirements.

Curriculum Requirements

Students must complete the Graduate School requirements, and the Departmental requirements described here.

Code	Title	Credit Hours
Select either the Thesis Option or the Coursework Option ¹		24-30
Thesis Option		
CSC 810	Master's Thesis	6
24 credits from approved courses, including at least 9 credits from CSC7XX courses.		
Coursework Option		
30 credits from approved courses, including at least 18 credits from CSC7XX courses.		
Total Credit Hours		30-36

¹ For both options, at least 18 credit hours must be from CSC 6XX and CSC 7XX courses, and may not include more than 6 credit hours from CSC 670.

Each program must include both theoretical and experimental topics. By graduation students will have knowledge in the areas of Programming Languages, Algorithm Design and Analysis, Theory of Computing, Operating Systems, Computer Networks, and Software Engineering. Each program is approved by the CSGC and the Department Chairman or designate. Programs may be individually tailored to meet varied backgrounds and objectives. It is recognized that there are individuals with undergraduate degrees in other fields wishing to pursue graduate work in Computer Science, and individuals with work experience in the field wishing to advance their formal training in Computer Science.

Ph.D. in Computer Science

The Doctor of Philosophy program in Computer Science is overseen by the Computer Science Graduate Committee (CSGC). The basic guidelines for approval of a student's program are recommendations appearing in the Communications of the Association for Computing Machinery (ACM), the professional society in Computer Science.

Prerequisites for Admission

Completion of the following courses, or their equivalents, is prerequisite to entry into the program:

Code	Title	Credit Hours
CSC 120	Computer Programming I	4
CSC 220	Computer Programming II	4
CSC 314	Computer Organization and Architecture	3
CSC 317	Data Structures and Algorithm Analysis	3
CSC 427	Theory of Computing	3
MTH 161	Calculus I	4
MTH 224	Introduction to Probability and Statistics	3
MTH 309	Discrete Mathematics I	3
Total Credit Hours		27

Students may be admitted with deficiencies, normally a maximum of 6 credits. These must be completed in addition to the degree requirements.

Requirements for Graduation

Students must complete the Graduate School requirements (p. 80), and the Departmental requirements described here.

Credits

For graduation students must complete at least 60 credits (as required by the Graduate School), including at least 24 classroom course credits (see below), at least 9 pre-candidacy credits (CSC830), and at least 9 post-candidacy credits (CSC840).

Written Qualifying Exam

The student must pass a three-hour written exam of general knowledge of Computer Science at the end of the first year. Upon failure, the student may petition the CSGC to allow a second attempt at the end of the second year. The exam will be administered once a year in the early weeks of the summer session. It will cover expected knowledge of all first-year graduate students. Included in this material are a fundamental understanding of algorithm analysis and design, advanced skills in programming, basic knowledge of computer architecture, and a general understanding of computer systems.

Classroom Courses

In the first two years, the student must take eight CSGC-approved classroom courses, for a total of 24 credit hours. At least four of these courses (12 credit hours) must be CSC 7XX courses. The eight courses must include two courses from each of the areas of Analysis, Applications, and Systems. The student must work with the Director of Graduate Studies to select a cohesive set of courses as approved by the CSGC. The CSGC will have sole authority in designating the areas to which each course belongs. In the case that a course is designated in more than one area, a student may apply the course to only one area. The designation of current CSGC-approved courses appears at the end of this description.

Selecting an Advisor

By the end of the second semester, the student must find a research supervisor. By the end of the third semester, the student must have made significant progress on a research project under the supervision of a faculty member. The student must write a detailed progress report that will become a public document and shall be kept on file by the Department. The student must present the report to a quorum of the CSGC at a time to be approved by the chairman of the Department. The supervisor and CSGC must approve the project as applicable toward candidacy for a Ph.D.

Annual Presentations

After passing the written comprehensive exam, the student must make a public oral presentation to the Department at least once per year. These presentations include the thesis proposal and the thesis defense. The goals are to develop the student's oral and presentation skills, to provide a means for the Department to check the research and progress of the student, and to present the opportunity for feedback to improve the student's research.

Teaching Experience

Each student must teach a lab-based course for a minimum of one semester. Lab-based courses typically require the student to present material in a relaxed lecture format, re-emphasizing material learned in the general lecture as well as introducing new material to the students.

Approved Courses for Doctor of Philosophy

Code	Title	Credit Hours
Approved Graduate Courses		
CSC 507	Data Security and Cryptography	3
MTH 520	Numerical Linear Algebra	3
MTH 521	Numerical Methods in Differential Equations	3
MTH 524	Introduction to Probability	3
MTH 525	Introduction to Mathematical Statistics	3
CSC 540	Algorithm Design and Analysis	3
CSC 555	Multimedia Systems	3
CSC 595	Topics in Computer Science	1-3
CSC 596	Topics in Computer Science	1-3
CSC 597	Topics in Computer Science	1-3
CSC 598	Topics in Computer Science	1-3
CSC 599	Topics in Computer Science	1-3
CSC 609	Data Security and Cryptography	3
CSC 618	Interpreters and Compiler Theory	3
MTH 621	Numerical Methods in Differential Equations	3
CSC 623	Theory of Relational Databases	3

CSC 629	Introduction to Computer Graphics	3
CSC 632	Introduction to Parallel Computing	3
CSC 640	Algorithm Design and Analysis	3
CSC 645	Introduction to Artificial Intelligence	3
CSC 647	Computational Geometry	3
CSC 649	Bioinformatics Algorithms	3
CSC 670	Directed Reading	2-4
CSC 685	Topics in Computer Science	1-3
CSC 686	Topics in Computer Science	1-3
CSC 687	Topics in Computer Science	1-3
CSC 688	Topics in Computer Science	1-3
CSC 689	Topics in Computer Science	1-3
CSC 690	Seminar for Graduate Students I	1-3
CSC 692	Seminar for Graduate Students II	1-2
CSC 707	Logic Programming	3
CSC 711	Theory of Computation	3
CSC 712	Complexity Theory	3
CSC 724	Mobile Wireless Systems	3
CSC 746	Neural Networks and Deep Learning	3
CSC 749	Automated Reasoning	3
CSC 751	Semantic Web	3
CSC 752	Autonomous Robotic Systems	3
CSC 756	Advanced Multimedia Systems	3
CSC 785	Advanced Topics in Computer Science	1-3
CSC 786	Advanced Topics in Computer Science	1-3
CSC 787	Advanced Topics in Computer Science	1-3
CSC 788	Advanced Topics in Computer Science	1-3
CSC 789	Advanced Topics in Computer Science	1-3

Criminology

<http://www.as.miami.edu/sociology>

The Department of Sociology offers a Master's of Science degree in Criminology and Criminal Justice. The program provides training in fundamentals of the criminal justice system and criminological theory, as well as foundational training in research methods and statistics. Students may tailor their programs to best fit their goals through their selected electives, curricula tracks, and choice of one of three completion options. At present, curricula tracks (comprised of six credit hours) include such areas as leaderships and management, criminal law, research methods and statistics, and geographic information systems (GIS). Students have the program completion options of preparing for and taking a comprehensive examination, completing an internship and accompanying paper, or completing a Master's thesis.

For more information, please see our website: : <http://www.as.miami.edu/sociology/graduate-programs/mscriminology/>.

Admission Requirements

Students are evaluated for admission based on a holistic assessment of the following requirements. Students must submit:

1. A statement of purpose.
 - a. In this personal statement applicants detail their reasons for pursuing the degree, both in general and in our program specifically. The statement will help evaluate applicants' writing abilities as well as fit with our program.
2. Transcripts from all academic institutions attended.
 - a. Official transcripts from all academic institutions attended must be submitted. Transcripts should show that students attained a minimum of 3.0 in the last 60 credits of upper division undergraduate coursework and/or 3.0 in graduate coursework. Applicants with lower averages may be admitted to the Certificate program.
3. Letters of recommendation.
 - a. At least three letters of recommendation must be submitted. These should be positive and strongly indicate that the applicant has the aptitude and stamina necessary to successfully complete a graduate degree.
4. GRE scores.

- a. A minimum GRE score of 950 (or a combined 294 on the revised Test) is necessary for admission to the M.S. program. Applicants with lower scores may be admitted to the Certificate program. The GRE requirement may be waived for applicants based on a) Five or more years of relevant professional experience or b) Prior degree in related field/area

Academic Standing

Graduate students are expected to maintain a minimum of a 3.0 overall GPA in all coursework. Should the average fall below that minimum in a semester, the student will be notified and will work with his/her advisor to rectify the performance issues. If the student has a second consecutive semester with an average overall GPA below 3.0, he/she will be placed on academic probation. Three semesters of below average performance may result in suspension from the program in accordance with guidelines for the University's Graduate School.

Masters Program in Criminology and Criminal Justice

M.S. in Criminology and Criminal Justice (p. 948)

Certificate in Criminology and Criminal Justice

Certificate in Criminology and Criminal Justice (p. 947)

Certificate in Criminology and Criminal Justice

The Department of Sociology offers a Graduate Certificate in Criminology and Criminal Justice. The program provides training in fundamentals of the criminal justice system and criminological theory, as well as foundational training in research methods and statistics. The Certificate is designed for students who wish to augment their training in criminology and criminal justice as well as for those students seeking to enter the M.S. program in Criminology and Criminal Justice but who may not meet all program requirements. Students earn the Certificate by successfully completing the five required courses.

Please see our website for more information: <http://www.as.miami.edu/sociology/graduate-programs/mscriminology/>.

Admission Requirements

Students are evaluated for admission based on a holistic assessment of the following requirements. Students must submit:

1. A statement of purpose
 - a. In this personal statement, applicants detail their reasons for pursuing the degree, both in general and in our program specifically. The statement will help evaluate applicants' writing abilities as well as fit with our program.
2. Transcripts from all academic institutions attended
 - a. Official transcripts from all academic institutions attended must be submitted. Transcripts should show that students attained a minimum of 3.0 in the last 60 credits of upper division undergraduate coursework and/or 3.0 in graduate coursework. Applicants with lower averages may be admitted.
3. Letters of recommendation from at least three references familiar with the individual's scholastic and/or work performance
 - a. At least three letters of recommendation must be submitted. These should be positive and strongly indicate that the applicant has the aptitude and stamina necessary to successfully complete a graduate degree.
4. GRE scores
 - a. A minimum GRE score of 950 (or a combined 294 on the revised Test) is necessary for admission to the M.S. program. Applicants with lower scores may be admitted to the Certificate program. The GRE requirement may be waived for applicants based on a) Five or more years of relevant professional experience or b) Prior degree in related field/area.

Academic Standing

Graduate students are expected to maintain a minimum of a 3.0 overall GPA in all coursework. Should the average fall below that minimum in a semester, the student will be notified and will work with his/her advisor to rectify the performance issues. If the student has a second consecutive semester with an average overall GPA below 3.0, he/she will be placed on academic probation. Three semesters of below average performance may result in suspension from the program in accordance with guidelines for the University's Graduate School.

Curriculum Requirements

Code	Title	Credit Hours
SOC 609	Social Statistics	3
SOC 610	Advanced Research Methods	3
SOC 670	Theories in Criminology and Criminal Justice	3
SOC 673	The Criminal Justice System	3

SOC 677	Criminology and Public Policy	3
Total Credit Hours		15

M.S. in Criminology and Criminal Justice

The Department of Sociology offers a Master's of Science degree in Criminology and Criminal Justice. The program provides training in fundamentals of the criminal justice system and criminological theory, as well as foundational training in research methods and statistics. Students may tailor their programs to best fit their goals through their selected electives, curricula tracks, and choice of one of three completion options. At present, curricula tracks (comprised of six credit hours) include such areas as leadership and management, criminal law, research methods and statistics, and geographic information systems (GIS). Students have the program completion options of preparing for and taking a comprehensive examination, completing an internship and accompanying paper, or completing a Master's thesis.

For more information, please see our website: <http://www.as.miami.edu/sociology/graduate-programs/mscriminology/>.

Admission Requirements

Students are evaluated for admission based on a holistic assessment of the following requirements. Students must submit :

1. A statement of purpose.
 - a. In this personal statement applicants detail their reasons for pursuing the degree, both in general and in our program specifically. The statement will help evaluate applicants' writing abilities as well as fit with our program.
2. Transcripts from all academic institutions attended.
 - a. Official transcripts from all academic institutions attended must be submitted. Transcripts should show that students attained a minimum of 3.0 in the last 60 credits of upper division undergraduate coursework and/or 3.0 in graduate coursework. Applicants with lower averages may be admitted to the Certificate program.
3. Letters of recommendation.
 - a. At least three letters of recommendation must be submitted. These should be positive and strongly indicate that the applicant has the aptitude and stamina necessary to successfully complete a graduate degree.
4. GRE scores.
 - a. A minimum GRE score of 950 (or a combined 294 on the revised Test) is necessary for admission to the M.S. program. Applicants with lower scores may be admitted to the Certificate program. The GRE requirement may be waived for applicants based on a) Five or more years of relevant professional experience or b) Prior degree in related field/area.

Academic Standing

Graduate students are expected to maintain a minimum of a 3.0 overall GPA in all coursework. Should the average fall below that minimum in a semester, the student will be notified and will work with his/her advisor to rectify the performance issues. If the student has a second consecutive semester with an average overall GPA below 3.0, he/she will be placed on academic probation. Three semesters of below average performance may result in suspension from the program in accordance with guidelines for the University's Graduate School.

Curriculum Requirements

Code	Title	Credit Hours
Core Requirements		
SOC 609	Social Statistics	
SOC 610	Advanced Research Methods	
SOC 670	Theories in Criminology and Criminal Justice	
SOC 673	The Criminal Justice System	
SOC 677	Criminology and Public Policy	
Electives		
One course from within Sociology		3
Specialization Track		6
Choose 6 credits from one of the following specialization tracks:		6
Research Methods and Statistics		
EPS 625	Program Evaluation	
EPS 674	Lifestyle and Career Counseling	
PSY 633	Structural Equation Modeling	
SOC 611	Advanced Sociological Statistical Analysis I	
SOC 613	Qualitative Research Methods	
Geographic Information Systems		

GEG 691	Geographic Information Systems I	
GEG 693	Geographic Information Systems II	
Legal Issues in Criminal Justice		
LAW 320	Substantive Criminal Law	
LAW 332	Criminal Procedure Adjudication	
Public Administration		
POL 622	Introduction to Graduate Public Administration	
POL 646	Public Policy Process and Implementation	
POL 647	Human Resource Management in Public Service	
MGT 620	Managing Through People	
Completion Track		6
Choose one of the following tracks:		
SOC 690	Directed Studies (Comprehensive Exam)	
SOC 791	Graduate Internship and Paper	
SOC 810	Master's Thesis	
Total Credit Hours		30

M.F.A. in Creative Writing

<http://www.as.miami.edu/english/creativewriting/>

Master of Fine Arts in Fiction and Poetry

The University of Miami's MFA Program offers a fully funded, two-year course of study in the writing of poetry, fiction, or cross-genre literature while providing substantial training in the teaching of creative writing and composition. Our program features an optional third year of funding during which graduate students focus on professional development and publication as they continue to teach undergraduate writing courses. The program features a broad multilingual focus in a vibrant, multicultural city unlike any other. Enrollment is kept deliberately small to maximize student-teacher interaction, and faculty at UM are supportive of the linguistic and cultural differences that writers bring to their art.

Full Funding

The James Michener Fellowships and Teaching Assistantships support all our graduate students. Awards include a full tuition waiver and annual stipend of \$15,965. MFA candidates teach one section of Introduction to Creative Writing per semester during their second year in the program or one section each of Creative Writing and Composition.

The Optional Third Year

Students who choose the third-year option teach two sections of Composition per semester while receiving faculty mentorship towards professional development.

Graduates of the MFA in Creative Writing have gone on to publish award winning novels, books of poetry, and creative nonfiction; have been awarded Stegner Fellowships and other residencies; and have gone on to find employment in teaching and publishing.

Curriculum Requirements

Code	Title	Credit Hours
Workshop Requirement		
Students must take 12 credits of workshop in the genre they were admitted to.		12
ENG 601	Creative Writing: Fiction III	
ENG 602	Creative Writing: Poetry II	
Form Requirement		
Students must take 12 credits of forms in the genre they were admitted to.		12
ENG 604	Form in Poetry	
ENG 605	Form in Fiction	
Thesis Requirement		
ENG 810	Master's Thesis	6
Required Electives ²		6
Total Credit Hours		36

- ¹ **Third Year Option:**
ENG 820 is required for third year students. Students make take up to 6 credits in electives during their third year.
- ² Required electives must be literature or forms courses, or other graduate courses at the university.

Sample Plan of Study

Course	Title	Credit Hours
Year One		
First Semester		
ENG 601 or 602	Creative Writing: Fiction III or Creative Writing: Poetry II	3
ENG 604 or 605	Form in Poetry or Form in Fiction	3
Elective		3
ENG 691	Graduate Practicum I: Teaching College Writing (TAs Only)	0
	Credit Hours	9
Second Semester		
ENG 601 or 602	Creative Writing: Fiction III or Creative Writing: Poetry II	3
ENG 604 or 605	Form in Poetry or Form in Fiction	3
Elective		3
ENG 209	Creative Writing (TAs Only)	
	Credit Hours	9
Year Two		
First Semester		
ENG 601 or 602	Creative Writing: Fiction III or Creative Writing: Poetry II	3
ENG 604 or 605	Form in Poetry or Form in Fiction	3
ENG 810	Master's Thesis	3
ENG 105	English Composition I (TAs Only)	
	Credit Hours	9
Second Semester		
ENG 601 or 602	Creative Writing: Fiction III or Creative Writing: Poetry II	3
ENG 604 or 605	Form in Poetry or Form in Fiction	3
ENG 810	Master's Thesis	3
ENG 209	Creative Writing (TAs Only)	
	Credit Hours	9
	Total Credit Hours	36

English

<http://www.as.miami.edu/english>

Dept. Code: ENG

Degree Programs

The Ph.D. program in English (p. 951) is an innovative scholarly course of study offering substantial work in literatures in English, including British, American, Caribbean, Irish, and other Anglophone literature, with some opportunities for advanced work in comparative literature.

The M.F.A. program in Creative Writing (p. 949) located in the English Department offers an intensive two year study with a third year option in the reading, writing and teaching of creative writing.

Master of Fine Arts

- M.F.A. in Creative Writing (p. 949)

Doctoral Program in English

- Ph.D. in English (p. 951)

Ph.D. in English

<http://www.as.miami.edu/english>

1. Courses

Ph.D. students must complete 54 credit hours (if entering with a B.A.) or 36 credit hours (if entering with an M.A.) of 600-level courses in literature and literary theory.

2. Language Requirements

A basic reading knowledge of two foreign languages or an advanced reading knowledge of one foreign language is required.

3. Qualifying Examination

All Ph.D. students are required to pass a qualifying examination.

Students may not take the qualifying examination until they have:

- completed the required Ph.D. coursework,
- satisfied the foreign language requirement
- enrolled for ENG 697.

4. Dissertation

Students may proceed with the dissertation after the dissertation committee has been appointed and the dissertation proposal has been accepted by the committee and approved by the department.

The dissertation itself must be an investigation of a substantial critical or scholarly topic. A final oral defense of the dissertation is required.

Further information on the department's graduate programs is contained in the Guide to Graduate Study available from the Department of English and posted on the department Web site in the Graduate section.

Students must complete their work within one year of the schedule set out in the Guide to Graduate Study.

Geography

<http://www.as.miami.edu/geography>

Dept. Code: GEG

Geographers have an instinctual love of maps, of places, and pay attention to the tangible worlds while posing a strong innate curiosity about the world.

Introduction

The Department of Geography and Regional Studies, has a long and distinguished history of excellent scholarship, is proud to continue its mission of education, research, and service to the community and the world about the importance of geographic knowledge. Our vibrant and diverse department is organized around three major core areas of specialization: Urbanization, Cities and Sustainability; Space, Conservation and Environment; and Public Health, Illness, and Disease. The program builds upon our strengths in urban geography, environmental studies, and medical geography along with gaining skills in methodology, including GIS, remote sensing, and statistics. For the past five years, the Department of Geography's urban studies program has consistently ranked as one of the nation's top 5% urban programs for its quality of research and instruction, based on data from Academic Analytics.

Degree Programs

The Department of Geography and Regional Studies at UM is home to one Geography graduate program: Master's (MA), and a Graduate Certificate in Geospatial Technology. Each graduate student selects one of the department's core program areas as a concentration for research and fieldwork, and works closely with a particular faculty adviser.

Areas of Specialization

Urbanization, Cities and Sustainability

This program examines the dramatic growth in the size, number, and population of global cities. Areas of emphasis include: Smart Cities; Global Urbanization and Infrastructure; Sustainable Development; African Urbanism; Urban Spatial Restructuring, Development Geography, Urban Health and Well-Being; Social Justice, and Ethnicity.

Conservation and Environment

This program builds upon the foundations of human geography as an integrated social science to examine the interplay of socio-spatial processes involved in shaping the complex interrelationships between societies and nature and the built environment. Areas of emphasis include: Climate Change, Biogeography, and Systematic Conservation Planning.

Public Health, Illness, and Disease

This program examines and responds to both challenges and opportunities to improve population health within and across populations and cities and metropolitan areas. Areas of emphasis include Health Disparities, Spatial Epidemiology, Community and Culturally Responsive Research and Mathematical Modeling for Disease Transmission.

Application Procedure & Financial Assistance

Applicants must submit a completed application form, at least two letters of reference, official transcripts from each undergraduate and/or graduate school attended, and an official GRE (Verbal/Quantitative/ Analytical) record. The Graduate Admissions Committee evaluates the student's academic accomplishments and promise as well as the match between the applicant's professional goals and core faculty expertise. For information about the department in general, as well as the professional activities of individual faculty members, see the Department website. The application procedure may be found on the Applications page.

Transfer of Credit

The university has specific and stringent requirements concerning the transfer of credit. Please see the Graduate College website for Transfer of Credit requirements.

Financial Assistance

Please visit the Financial Support page for details.

Admission requirements and deadlines can be found on the Geography Department's web page at <http://www.as.miami.edu/geography/graduate/> and for the Certificate Program at the Certificate Program webpage at <http://www.as.miami.edu/gisc/>.

Questions may be directed to the email below or by mail at:

Graduate Admissions

University of Miami

Department of Geography and Regional Studies

1300 Campo Sano Ave, Rm 115

Coral Gables, FL 33124

moise@miami.edu

Certificate Program Admissions

University of Miami

Department of Geography and Regional Studies

1300 Campo Sano Ave, Rm 115

Coral Gables, FL 33124

terghazar@miami.edu

Major

- MA in Geography (p. 953)

Certificate in Geospatial Technology

- Graduate Certificate in Geospatial Technology (p. 952)

Certificate in Geospatial Technology

The Certificate Program in Geospatial Technology (GT) is designed to benefit students who seek to enhance their skills in geospatial technology, especially Geographic Information Systems (GIS) and satellite remote sensing. The Certificate requires a minimum of 15 credit hours, including three core courses and two or more electives. Students may receive credit toward the Certificate for past coursework completed at UM or other

accredited schools. All fifteen credits may be double counted toward the M.A. degree, making it possible for a student to complete both the M.A. and the Certificate in two years.

Curriculum Requirements

Code	Title	Credit Hours
GIS Certificate Program Core Courses		
GEG 691	Geographic Information Systems I	3
GEG 692	Remote Sensing of the Environment	3
GEG 693	Geographic Information Systems II	3
GIS Certificate Program Electives		
Select 6 credit hours from the following:		6
GEG 625	Advanced Independent Study in Geography I	
GEG 635	Internship in Geography	
GEG 645	Advanced Independent Study in Geography II	
GEG 680	Spatial Data Analysis I	
GEG 681	Spatial Data Analysis II	
GEG 685	Digital Cartography	
GEG 695	Web GIS	
Other approved electives		
Total Credit Hours		15

* Note that all courses from the Certificate Program can be double counted toward the MA in Geography Degree.

** Students are encouraged to find a suitable internship experience with the Career Planning and Placement Center or with the GIS Program Director. Upon approval by the GIS Program Director, 3 credit hours may be earned with an internship (GEG 635)

*** For more information e-mail terghazar@miami.edu to make an appointment.

M.A. in Geography

Curriculum Requirements

Code	Title	Credit Hours
Core Courses		
GEG 602	Geographic Thought and Analysis	3
GEG 603	Research Design in Geography	3
GEG 680	Spatial Data Analysis I	3
GEG 691	Geographic Information Systems I	3
Select one of the following:		3
GEG 610	Survey Research Methods	
GEG 681	Spatial Data Analysis II	
GEG 692	Remote Sensing of the Environment	
Select one of the following options:		2-12
Master's Thesis		
GEG 810	Master's Thesis	
GEG 820	Research in Residence	
Advanced Independent Study		
GEG 625	Advanced Independent Study in Geography I	
GEG 645	Advanced Independent Study in Geography II	
Electives		6
Total Credit Hours		30

Course	Title	Credit Hours
Year One		
Fall		
GEG 602	Geographic Thought and Analysis	3

GEG 680	Spatial Data Analysis I	3
GEG 691	Geographic Information Systems I	3
	Credit Hours	9
Spring		
GEG 603	Research Design in Geography	3
Select one of the following:		
GEG 610	Survey Research Methods	
GEG 681	Spatial Data Analysis II	
GEG 692	Remote Sensing of the Environment	
Elective		
	Credit Hours	3
Year Two		
Fall		
GEG 625 or 810	Advanced Independent Study in Geography I or Master's Thesis	6
Elective		
	Credit Hours	3
Spring		
GEG 645 or 820	Advanced Independent Study in Geography II or Research in Residence	6
Elective		
	Credit Hours	3
	Credit Hours	9
	Total Credit Hours	36

* Students completing the Graduate Geospatial Certificate Program concurrently with the MA degree must complete GEG 692 and use one of the electives for a course that satisfies the Certificate Program requirements.

** Students completing the two-paper option take GEG 625 and GEG 645; Students completing the Thesis Option take GEG 810 and GEG 820.

History

<http://www.as.miami.edu/history>

Dept. Code: HIS

Our Department is committed to pursuing excellence in historical and interdisciplinary scholarship, teaching, and service to the profession, the University, and the wider community.

Our fine faculty of some twenty-four professors does research and teaches in many historical areas, often crossing chronological, geographic, and disciplinary boundaries.

Our courses combine innovative subjects and methods with more traditional subjects and presentations. In their classes, students have the opportunity to experience the latest and best historical research and writing, to explore special topics in depth, and to receive rigorous training in researching, analyzing, and writing history from nationally and internationally recognized scholars.

Master of Arts Program in History

- M.A. in History (p. 954)

Doctoral Program in History

- Ph.D. in History (p. 956)

M.A. in History

We are looking for applicants with a record of outstanding achievement and evidence of potential success in graduate studies, attributes which can be measured in various ways such as grades, recommendations, written work, and test scores. Students with a master's degree from an accredited institution may apply for admission to the doctoral program. Students with a bachelor's degree only and with very strong credentials may be admitted into the doctoral program. Applicants must meet the admissions requirements set by both the graduate school, which are listed in its materials, and the department of history.

Because one of the strengths of our program is a close working relationship between faculty members and students, we cannot always accept qualified applicants when no one in the department can provide the guidance they need in their area of interest. Applicants should explore the listing of faculty on our website and contact the DGS or relevant faculty members if they have any questions.

Application Requirements

1. A completed application form.
2. A completed financial aid application, if seeking aid.
3. Three letters of recommendation, preferably from applicant's former professors.
4. Recent Graduate Record Examination scores on the General Test.
5. TOEFL scores (for international students).
6. Official transcripts.
7. A detailed statement from the student indicating:
 - a. the student's background and education;
 - b. the student's interests (field, topic, etc.);
 - c. why the student wants to pursue a graduate degree in history at the University of Miami;
 - d. what the student plans to do with the degree upon completion. This statement constitutes a very important part of the application review process and should indicate the student's understanding of the professional nature of the training that the student is about to begin.
8. A representative writing sample.

Deadlines

January 5: Applications for admission and aid for Fall semester.

Curriculum Requirements

Code	Title	Credit Hours
HIS 600 level or higher		12
HIS 700 level or higher		18
HIS 721	Historiography ¹	
Comprehensive Exam ²		
Foreign Language ³		
M.A. Thesis (Optional) ⁴		
Total Credit Hours ⁵		30

¹ This course is normally given in the fall semester. All students are required to take the Historiography course in their first year. This course counts for 3 of the 30 credits.

² The comprehensive examination for the M.A. degree in history is an oral examination in two fields that will normally not exceed two hours. Although the exam is in two fields, all members of the advisory committee will participate. Students selecting the thesis examination should expect questioning on the thesis as well as their fields during the examination. For such students the comprehensive exam also will act as a thesis defense. For a list of fields, see below.

³ Students must demonstrate a reading knowledge in at least one foreign language. Reading knowledge in additional languages may be required by the major advisor. See under Ph.D. requirements for more information on fulfilling language requirements.

⁴ Students may, if they wish, write an M.A. thesis. Students who elect this option should consult with their advisor. Any student writing a thesis should register for 6 credit hours of HIS 810, which count toward the 30 required credit hours.

⁵ Students must apply for graduation in their penultimate semester (i.e. fall semester for spring semester graduation).

Committee

Upon admission to the master's program in history, the student is assigned a provisional major advisor. An advisory committee of three, including the major advisor and a faculty member representing the student's secondary field, must be formed no later than the student's second semester in the program. There are then two options for completing the masters. One requires 30 credit hours of coursework and an exam. The other requires 24 credit hours of coursework, a master's thesis (6 thesis credit hours), and an exam. In the case of both options, one member of the committee may be from a cognate discipline, but this is not required. It is the responsibility of the student and the advisor to form the committee and to notify the DGS of its composition. The major advisor chairs the advisory committee and oversees the student's course of study and progress in the program. The advisory committee also administers the oral comprehensive exam that is given in the case of either option. In the case of the second (thesis) option, the advisory committee and the thesis committee are usually, but not necessarily, composed of the same faculty members.

Ph.D. in History

With a program and faculty that are recognized regionally, nationally, and internationally, the history department at the University of Miami is dedicated to producing Ph.D.s of the highest quality. Our selective program offers close, individualized training for the next generation of teachers and researchers who will shape and lead the historical profession. While we have particular strengths in the histories of Latin America and the Caribbean, Europe, and the United States, our faculty shares interests that cut across geographies: gender and sexuality; religion; race and ethnicity; law; and economy, among others. Additionally, we have a strong commitment to interdisciplinarity, as we actively maintain bridges to other departments, programs, and centers at the University of Miami. Our graduate students are encouraged to take advantage of these dynamic scholarly connections as they cultivate their own intellectual pursuits.

Admissions

We are looking for applicants with a record of outstanding academic achievement and evidence of potential success in graduate studies, attributes which can be measured in various ways such as grades, recommendations, written work, and test scores. Students with a master's from an accredited institution may apply for admission to the doctoral program. Students with a bachelor's degree only and with very strong credentials may be admitted into the doctoral program. Applicants must meet the admissions requirements set by both the graduate school, which are listed in its materials, and the department of history.

Because one of the strengths of our program is a close working relationship between faculty members and students, we cannot always accept qualified applicants when no one in the department can provide the guidance they need in their area of interest. Applicants should explore the listing of faculty on our website and contact the DGS or relevant faculty members if they have any questions.

The complete application contains:

1. A completed application form.
2. A completed financial aid application, if seeking aid.
3. Three letters of recommendation, preferably from the applicant's former professors.
4. Recent Graduate Record Examination scores.
5. For international students, TOEFL scores.
6. Official transcripts.
7. A detailed statement from the student indicating:
 - a. the student's background and education;
 - b. the student's interests (field, topic, etc.);
 - c. why the student wants to pursue a graduate degree in history at the University of Miami; and
 - d. what the student plans to do with the degree upon completion.

This statement constitutes a very important part of the application review process and should indicate the student's understanding of the professional nature of the training that the student is about to begin.
8. A representative writing sample.

Admission from M.A. to Ph.D. Status

Students admitted at the master's level who are performing well in their studies are encouraged to proceed to Ph.D. status. Advisors who believe that a student should be admitted to the Ph.D. program, and have the consent of the student, inform the DGS of this desire early in the spring semester and at least before the annual departmental meeting reviewing graduate students' progress. The request is then reviewed by the department at its annual meeting for recommendation to the graduate committee. Students who move from the M.A. to the Ph.D. program are eligible for the same number of years' aid as students entering the Ph.D. program directly from the B.A., minus the years of aid they have already received. For course requirements, see below.

Deadlines

January 5: Applications for admissions and aid for Fall semester.

Curriculum Requirements

Code	Title	Credit Hours
Graduate Course Work ⁶		
	45 credit hours (5 semesters) of graduate coursework at the University of Miami for students entering the Ph.D. program with a B.A.	45
	Minimum of 27 credit hours (3 semesters) of graduate coursework at the University of Miami for students entering the Ph.D. program with an M.A. from another university.	
	Minimum of 27 additional credit hours (3 semesters) of graduate coursework at the University of Miami for students entering the Ph.D. program with an M.A. from another program at the University of Miami.	

Minimum of 24 additional credit hours of graduate coursework at the University of Miami for students entering the Ph.D. program with an M.A. from the History Department at the University of Miami.	
HIS 721	Historiography ⁷
HIS 701 & HIS 702	Research Seminar Part 1 and Research Seminar Part 2 ⁸
HIS 722	Dissertation Prospectus Seminar ⁹
Foreign Language ¹⁰	
Comprehensive Exam ¹¹	
Dissertation Research Credit Hours ¹²	15
HIS 830	Doctoral Dissertation
HIS 840	Post-Candidacy Doctoral Dissertation
Dissertation ¹³	
Total Credit Hours ¹⁴	60

- ⁶ The required credit hours of coursework are only the formal minimum. Although course work is necessary preparation for the comprehensive examination, students are examined on the mastery of fields of knowledge rather than courses. The number of courses taken depends on the student’s background, choice of fields, nature of related work, language skills, etc. Courses should be selected only after consultation with the Major Advisor.
- ⁷ This course is normally given in the fall semester. All students are required to take the Historiography course in their first year. The credit hours from this course are included in the total required.
- ⁸ Typically, students take HIS 701 and HIS 702 in their 2nd and 3rd semesters in the program. The credit hours from these courses are included in the total required.
- ⁹ Typically, students take HIS 722 in their 5th semester in the program. The credit hours from this course are included in the total required.
- ¹⁰ Students must demonstrate a reading knowledge in at least one foreign language. Reading knowledge in additional languages may be required by the major advisor. For more information on fulfilling language requirements, see below.
- ¹¹ The comprehensive examination for Ph.D. candidates consists of written and oral examinations in three fields. All doctoral students are expected to take their comprehensive exams no later than their 6th semester in the program. For more information about the comprehensive examination and a listing of fields, see below.
- ¹² Following the completion of course credit hours, students will need to take sufficient dissertation research credit hours (HIS 830 if before the comprehensive examination has been passed; HIS 840 after passage of the comprehensive examination) to reach a total of 60 credit hours beyond the B.A. in order to receive the doctorate. Graduate School rules require that students take a minimum of 12 dissertation credit hours. Students who enter the Ph.D. program with an M.A. from another university or from another program at the University of Miami receive 30 credit hours towards the 60 credit hour requirement.
- ¹³ For requirements relating to the dissertation, see below.
- ¹⁴ As indicated, the number of required course credit hours varies depending on the student’s previous graduate work, but all students must reach a total of 60 credit hours beyond the B.A.

Committee

Upon admission to the program, the student is assigned a provisional major advisor. As noted above, students should then concur or select a different advisor by the beginning of the second semester in the program. An advisory committee of four or five, including the major advisor and faculty members representing the second and third fields, must be formed no later than the student’s third semester in the program. It is the responsibility of the student and the advisor to form this committee and notify the DGS of its composition. The major advisor chairs the advisory committee and oversees the student’s course of study and progress in the program. The advisory committee will also administer the oral and written comprehensive examinations. Students may change advisor and other committee members throughout the program provided that the faculty member(s) selected agree(s).

Incompletes

All incompletes from the fall semester must be made up by the official end of the following spring semester. All incompletes from the spring semester must be made up before the official start of the subsequent fall semester. No student will be allowed to proceed to exams until all incompletes have been made up.

Languages Requirement

Reading knowledge of at least one foreign language is required. More than one foreign language may be required if the major advisor deems it necessary.

Comprehensive Examinations

It is the responsibility of the student and major advisor to organize the comprehensive examinations. Students may take them at any time of the year that classes are in session. Arrangements for the exams, including selection of their dates and a final list of committee members, should be made by the end of the first month of the semester in question, with notification to the Department Chair and DGS.

The student takes the written part of the examinations in three history fields, which are normally administered over a period of two successive weeks. The portion for each field is four hours in duration. Only after the advisory committee deems that the student has successfully passed the written portions for each field is the student permitted to take the oral part of the examination.

The oral section covers the three history fields and is approximately two hours in duration. The prospectus may form part of the discussion, but the examination will focus on coverage of the fields. The committee consists of at least three faculty members.

The student advances to candidate status after passing the comprehensive examinations and submitting an acceptable dissertation prospectus.

Students who have not already received a master's degree from the University of Miami will be awarded an M.A. upon successful completion of their doctoral comprehensive exams.

Dissertation

After passing the examinations, students form a dissertation committee. This may be the original advisory committee, but it may also be revised to meet the needs of the dissertation work. The students, in consultation with the Major Advisor, put forward the names of individuals suggested to serve on the dissertation committee. The committee must be comprised of at least three members within the department and one outside the department. The committee is then approved and appointed by the dean of the graduate school.

The dissertation must make a significant contribution to the candidate's field of specialization. It must meet the highest standards of research, substance, and form, and demonstrate an ability to conduct and report independent and original scholarly investigation.

The student must apply for graduation in his or her penultimate semester (i.e. fall for spring semester).

Upon completion of the dissertation and its tentative approval by the dissertation committee, the student takes a final oral examination that is a "defense" of the dissertation and that lasts for approximately two hours. It is open to the university community. Following the defense of the dissertation, the dissertation committee will render its decision to accept or reject the dissertation. Approval of the dissertation must be indicated by the signature of all members of the dissertation committee.

Fields

Chronological/Geographical fields:

- Medieval Europe
- Early Modern Europe
- Modern Europe
- Early American History
- Modern U.S. History
- Colonial Latin America
- Modern Latin America
- East Asia
- Russia
- Africa
- Caribbean

Topical Fields. These must cover either two of the geographic or two of the temporal fields listed above.:

- African Diaspora
- Race and Ethnicity
- Gender and Sexuality
- History of Religion
- History of Science and Medicine
- History of Crime and Law
- Political History
- Diplomatic History
- Urban and Environmental History

- Economic History
- Business History
- Labor History
- History of Sport
- Military History
- Cultural and Intellectual History
- Public History
- Atlantic World
- Renaissance
- Mediterranean World
- Empires and Nations

Customized Fields:

Students may create their own fields in consultation with their advisory committee. The student opting for this approach must file a plan of study listing relevant courses, the faculty member(s) involved, and the rationale. To pursue the individualized concentration, the student must obtain written approval of the plan by the major advisor, DGS, and the Department Chair.

The plan and signed approvals are placed in the student's file. With rare exceptions, a customized field may not be the major field of study.

International Administration

<http://www.miami.edu/maia>

The University of Miami's Master of Arts in International Administration Program is a thirty (30) credit graduate degree designed to prepare students for careers in the administration of public and private organizations. Our Program assists students in the identification, analysis and management of the complex problems that confront modern organizations. It combines considerations of politics and culture with business, finance and management to provide students with the skills necessary to pursue a range of career objectives in both domestic and international contexts. Our graduates have pursued careers in the realm of non-profits and non-governmental organizations, in the fields of public health, emergency management and national security, as well as in the financial and business sectors. Concentration options include International Business, Public Health, Strategic Communications, Geographical Information Systems, Security Management, as well as a Human Rights/General Track. The degree is awarded by the College of Arts and Sciences.

For additional program information and a complete list of MAIA faculty and staff, please visit us at www.as.miami.edu/maia (<http://www.miami.edu/maia>).

Dual Degree Program: MAIA/MPH

The Master of Arts in International Administration/Master of Public Health (M.A.I.A./M.P.H.) degree is offered jointly by the University of Miami College of Arts and Sciences and University of Miami Miller School of Medicine's Department of Public Health Sciences. The MAIA degree, with a second master's degree in public health, is designed for students who seek knowledge of public health with a broader emphasis in globalization and health, international health, international health policy and international development. Students enrolled in this joint program can expect to complete both degree requirements within two and a half (2.5) years.

Masters Program in International Administration

- M.A. in International Administration (p. 959)

M.A. in International Administration

Curriculum Requirements

Code	Title	Credit Hours
Core Courses *		
IGS 611	International Organizations	3
IGS 612	International Administration	3
IGS 613	Global Cultures: Religion, Communication, and Security	3
IGS 614	World Affairs	3
IGS 615	International Economics for MAIA	3
IGS 616	Administration of Organizations	3
Capstone** (Select One)		
IGS 617	Practicum in International Administration ¹	3

IGS 820	MAIA Masters Project ²	3
Additional Requirements		
Electives ³		9

* The core courses are taught in an integrated fashion, designed to give students the maximum learning experience.

In the core courses, students will

1. develop skills in writing, speaking, and quantitative and historical analyses
2. enhance methods of collecting, interpreting and reporting social, political, and economic data
3. increase skills in methods of research and communications
4. engage strategic and tactical thinking and negotiation
5. build practical and theoretical knowledge in international relations, international economics, intercultural communication and administration in an international context

¹ The purpose of the practicum is to give students the opportunity to apply academic theory and acquired skills in international administration under real world conditions. Students will be expected to complete the practicum with a minimum time commitment of at least two-hundred (200) hours. A final report is required as part of successful completion of the practicum. A more complete guide to the practicum and its requirements is provided to students by the MAIA Office.

² The purpose of the research project is to allow students to pursue an area of academic interest with their concentration. A final directed research paper is required as part of successful completion of the program. The MAIA Office will provide students with the guidelines and requirements.

³ MAIA students must complete their degree with three (3) graduate level elective courses or nine (9) elective credit hours outside of the program. The electives must be approved by a MAIA advisor and students are encouraged to use the electives to further their area of concentration.

International Studies

<http://www.as.miami.edu/international-studies/>

Dept. Code: INS

Degree Programs

The Department of International Studies offers interdisciplinary social science programs leading to the Ph.D. and MA degrees. Ph.D. and MA programs offer advanced students the opportunity to study issues such as globalization, democratic governance, comparative and international political economy, post-Cold War conflicts and security threats, and new forms of civil society mobilization in world politics. To organize the study of these debates in the social sciences, the Department offers three fields of specialization:

- **International Relations:** international relations theory; globalization; social movements beyond the nation-state; security studies; peace and conflict studies; international law and organization; international political economy; foreign policy analysis, global public health, and related fields.
- **Comparative Politics:** theory and methods of comparative analysis; authoritarian and democratic political regimes; democratic governance and citizenship, comparative political economy; contentious politics and social movements; civil-military relations; and appropriate courses on selected regions, such as the European Union, Latin America, or the Post-Soviet countries.
- **International and Comparative Political Economy:** the politics and institutions regulating the global trade, investment, and financial regimes; comparative international development; the politics and economics of international environmental regimes; democracy, partisan politics, and global governance, the domestic and international distributive impacts of globalization; and international economic theory.

Masters Program in International Studies

- M.A. in International Studies (p. 960)

Doctoral Program in International Studies

- Ph.D. in International Studies (p. 962)

M.A. in International Studies

The Master of Arts Degree in International Studies

The MA in International Studies is a 30-credit degree program that is designed for students who seek practical training in social science perspectives and methods that address emerging problems of globalization, international conflicts and humanitarian crises, global environmental change, and international development. The program emphasizes professional preparation through the acquisition of qualitative and quantitative research skills that will enhance students' career opportunities and/or prepare them for advanced study in doctoral programs. The program faculty consists of experts in international relations, comparative politics and political economy, geographical sciences, ethnographic inquiry, public health, and social

inquiry and change. The program can typically be completed within two years, although students may receive credit toward the degree if they have completed equivalent courses elsewhere. Students seeking the degree on a part-time basis are welcome.

Students must complete three core courses and are free to design their program of study on any topic within the broad sphere of international studies under the guidance of a faculty mentor. Major themes covered in International Studies elective courses range from international conflicts, refugee movements and migration, international trade and investment, climate change mitigation and adaptation, poverty alleviation, humanitarian crises, and emerging public health threats.

1. Core courses:

1.1 Thematic core courses (one required):

INS 601 International Relations (fall) Introduction to the theory of international relations; globalization; social movements beyond the nation#state; security studies; peace and conflict studies; international law and organization; international political economy; foreign policy analysis, global public health, and related fields.

Or

INS 630 Comparative Politics (fall): Introduction to theory and methods of comparative analysis; authoritarian and democratic political regimes; democratic governance and citizenship, comparative political economy; contentious politics and social movements; civil-military relations; and appropriate courses on selected regions, such as the European Union, Latin America, or the Post-Soviet countries.

Or

INS 637 International and Comparative Political Economy (fall): Introduction to the politics and institutions regulating the global trade, investment, and financial regimes; comparative international development; the politics and economics of international environmental regimes; democracy, partisan politics, and global governance, the domestic and international distributive impacts of globalization; and international economic theory.

1.2 Methodological core courses (two required):

POL 695A Introductory Statistical Methods in Political Science (fall) Introduction to the core concepts of descriptive and inferential statistics; probability theory; graphical presentation of data; descriptive measures of central tendency and dispersion; hypothesis testing, contingency tables and linear regression.

POL 695T Advanced Statistical Methods in Political Science (spring) Introduction to general linear models within a likelihood framework, including models for discrete data –binary, multinomial, ordered and count outcomes. In addition, the course provides an introduction to the R programming environment, a powerful and versatile open-source statistics suite.

Or

Students may substitute any graduate-level *mixed-methods* course such as **INS 611 (International Relations Methodology II)**, any *qualitative methods* courses (e.g., survey methods, ethnographic methods) such as **INS 612 (Qualitative Methods)**, or information technology course such as **GEG 691 (Introduction to Geographic Information Systems for Graduate Students)** and **APY 611** for POL 695T. In addition, a variety of other statistics courses are available in other social science departments that may be used as substitutes for POL 695T.

2. Foreign Language Requirement: All students must demonstrate competency (reading and basic comprehension) in at least one foreign language. Students are expected to pass a foreign language examination by the end of their first year to determine if they meet this essential requirement or may require additional foreign language training. A variety of options is available for practical language training including courses offered by the Department of Modern Languages and Literatures ([insert link](#)) and the Directed Independent Language Study (DILS, [insert link](#)).

3. Comprehensive Exam, Thesis and Non-thesis Options: As a final requirement to graduate, students must select one of the following 3 options:

- Pass a written qualifying (comprehensive) examination in one of the three fields of specialization. The MA qualifying examination probes student knowledge of one of the Department's three fields of study and the ability to think and express ideas clearly. Masters level students are required to answer three questions within four hours

- Thesis and Non-Thesis options: Both thesis and non-thesis options are available and students are expected to identify a specific topical interest and research focus by the end of their first semester in residence. The non-thesis option consists of two short papers and an oral examination; the thesis option involves production of a MA thesis that will be examined by a committee of three faculty members, one of whom is the faculty mentor. Students opting for an MA Thesis must have a GPA of 3.5 or higher.

M.A./M.P.H. Dual Degree in International Administration and Public Health Curriculum Requirements - International Administration

Code	Title	Credit Hours
IGS 611	International Organizations	3
IGS 612	International Administration	3
IGS 615	International Economics for MAIA	3
IGS 613	Global Cultures: Religion, Communication, and Security	3
IGS 614	World Affairs	3
IGS 616	Administration of Organizations	3
IGS 617	Practicum in International Administration	3
Elective Courses		9
MPH Requirements		30
Total Credit Hours		60

Curriculum Requirements - Public Health

Code	Title	Credit Hours
Core Courses		
EPH 600	Introduction to Public Health	3
EPH 601	Medical Biostatistics I	4
EPH 617 or EPH 620	Disease Prevention and Health Promotion Health Education and Behavior	3
EPH 621	Fundamentals of Epidemiology	3
EPH 631 or EPH 632	Public Health Administration U.S. Health Systems	3
EPH 641	Aspects of Environmental Health	3
EPH 680	Practical Field Experience	3
Required Electives		
EPH 612	Global Health	3
EPH 650	Health Economics for Evaluation and Policy	3
Approved Elective Courses		2
EPH-600, 700 level courses not already listed		
BST-600, 700 level courses		
MAIA Requirements		30
Total Credit Hours		60

Ph.D. in International Studies

The Department's Ph.D. program's primary objective is to prepare a select group of highly qualified doctoral students for careers in academic teaching and research. The requirements include:

- Complete a total of 66 degree credit hours (12 semester courses) to obtain the Ph.D. degree (i.e., 36 credit hours at the doctoral level beyond the MA degree).
- Complete one seminar on quantitative methods and one seminar on qualitative methods in the social sciences.
- Complete a sequence of two core seminars in two of the Program's three major fields of study:
 - International Relations;
 - Comparative Politics; and
 - International and Comparative Political Economy.
- Pass
 - a. written MA exam in one of the Program's three fields of study and
 - b. written and oral examinations in two of the Program's three fields of study.
- Complete at least one of the basic core seminars in the third (non-examination) field.
- Complete the Doctoral Workshop.

- Successfully defend a dissertation proposal/prospectus.
- Pass a foreign language examination.
- Complete 12 dissertation credit hours.
- Research, write and orally defend a dissertation that makes an original contribution to knowledge.

See the *INS Graduate Student Handbook* for a complete description of the requirements for the Ph.D. degree.

Latin American Studies

<http://www.as.miami.edu/las/graduate/>

Dept. Code: LAS

The Latin American Studies Program at the University of Miami takes an interdisciplinary approach to the study of the politics, economics, cultures, and societies of Latin America and the Caribbean. Courses in the program are offered in departments from every school and college at the University of Miami, and the program's faculty research topics ranging from development economics to immigrant health care, from indigenous music to Caribbean colonial literature, from the archaeology of the region's earliest people to present-day questions of resource conservation and management. Our students become true experts who can speak to a wide range of issues confronting Latin America; experts who can contribute proactively to development and cooperation as well as to business and political analysis in ways that their peers with a more traditional disciplinary focus simply cannot.

Requests for Information

Dr. William J. Pestle
Academic Director, Latin American Studies Program
Merrick Hall 102-E
University of Miami
Coral Gables, FL 33124-2005
las@miami.edu (lasgrad@miami.edu)

The interdisciplinary graduate programs in LAS offer excellent preparation for careers in international business, law, banking, work in philanthropy, economic development, the environment, government service, education, health care, journalism. There are currently three Masters Programs in Latin American Studies on offer.

Masters Programs in Latin American Studies

- M.A. in Latin American Studies (p. 967)
- M.A. in Latin American Studies with GIS Certificate (p. 968)
- B.A./M.A. in Latin American Studies (p. 243)

The interdisciplinary graduate programs in LAS offer excellent preparation for careers in international business, law, banking, work in philanthropy, economic development, the environment, government service, education, health care, journalism. There are two Joint/Dual degree programs currently on offer.

Joint Program in Latin American Studies

- M.A./M.PH Dual Degree in Latin American Studies and Public Health (p. 966)
- JD/M.A. in Latin American Studies (p. 965)

B.A./M.A. in Latin American Studies

FILAS (Fellows in Latin American Studies)

In this highly selective Honors Program, students follow a rigorous, accelerated curriculum to complete a dual degree (B.A./M.A.) in Latin American and Caribbean Studies in five years. The program provides exciting collaborative research, travel, and work opportunities.

Working with UM's world-class faculty in various academic disciplines, *FILAS* participants design individualized curricula. In addition to the regular general education course requirements of the College of Arts and Sciences, *FILAS* students choose one focus track for their most advanced courses: Social Sciences, Literature & Culture, Communication, Environmental Studies, Public Health, or History. For broad-based, multi-disciplinary preparation, students choose courses that focus on Latin America and the Caribbean from the following categories (at least ten of these courses must be taken at the Master's level):

Code	Title	Credit Hours
CAS GENERAL EDUCATION REQUIREMENTS		

English Composition ¹		6
ENG 105	English Composition I	
ENG 106	English Composition II	
Mathematics, Computing & Statistics ²		3
Second Language ³		
Writing Across the Curriculum ⁴		
Cognates ⁵		9
Advanced Language Proficiency in Spanish, French, Portuguese, or Haitian Creole		3
Select one of the following:		
FRE 203	Advanced French	
HAI 201	Intermediate Haitian Creole I	
POR 202	Intermediate Portuguese II	
SPA 203	Advanced Spanish	
Secondary Language Competence in another Latin American or Caribbean Language		3
Select one of the following:		
FRE 105	Accelerated Elementary French	
HAI 102	Elementary Haitian Creole II ((or equivalent))	
POR 105	Beginning Portuguese for Spanish Speakers	
SPA 105	Accelerated Elementary Spanish	
FILAS Specific Requirements		
Select one gateway seminar in Latin American Studies		3
Select two History courses		6
Select two International Studies courses		6
Select two Economics courses		6
Select two advanced Languages and Literatures courses (SPA, POR, FRE, or HAI)		6
Select seven courses in Study Abroad		21
Select one course as Internship in Latin America		3
Select five courses above the 300-level (third-year) in a range of disciplines		15
Select ten courses in one focus track		30
MA Phase Requirements		
GRE Exam in Semester 7 or 8		
LAS 601	Interdisciplinary in Latin American and Caribbean	3
LAS 602	Research Design in Latin American Studies	3
Select two Regional Fundamentals courses		6
Select four electives from approved LAS or combined courses		12
LAS 810	Pre-candidacy thesis credits (students must enroll in two semesters of this 3-credit course to fulfill this requirement.)	3
LAS 810	Pre-candidacy thesis credits	3
Total Credit Hours		150

¹ Certain AP/IB scores may be used to fulfill the Composition requirement as credit. If Transfer students transfer one of the two above, but not both, they may take ENG 208 to complete the requirement. ENG 105 must be taken unless exempted by SAT/V or ACT/V scores (does not include credits).

² MTH 108 or higher. Unless exempted by AP/IB, or UM placement test. UM placement test does not include credits. Prerequisites must be met before enrolling in MTH courses.

³ Students must take at least three credits in a language other than English at the 200-level or higher. Prerequisites may be required. Courses taken in order to meet this requirement, including necessary prerequisite courses to the 200 level courses, cannot be used in cognates seen below. **FILAS students already fulfill this requirement when completing the language requirements cited below.**

⁴ Degree candidates must complete at least four writing courses, and at least one such course must be in the student's major discipline.

- ⁵ Typically, students must complete a minimum of three cognates, one from each of the three areas of the University curriculum: Arts & Humanities; People & Society; and Science, Technology, Engineering & Mathematics. A cognate is a minimum of 9 credit hours, however it can be more. Each major/minor fulfills the cognate requirement in one Area of Knowledge. **However, FILAS students must complete only the STEM Cognate as the FILAS program fulfills the Arts & Humanities and People & Society cognates. To avoid additional course credits, please select a STEM Cognate that includes a Natural Science course to concurrently fulfill this CAS general education requirement.** According to the College of Arts & Sciences, "three credits must be earned from one of the following departments: Biology, Chemistry, Ecosystem Science & Policy (only ECS 111, 112, or 202), Geological Sciences, Marine Science (except MSC 313 and 314), Physical Science, or Physics. APY 203 and GEG 120 may also count. These credits may double count with any other requirement, e.g., courses in the STEM cognate."

FILAS students also write a Master's Thesis based on an original research project. In addition, they must defend the thesis and present their findings at the LAS Annual Student Symposium.

FILAS Admission Requirements

- SAT1 composite score of 1360 or ACT 31.
- Top 10% of high school graduating class.
- Regular Application for Admission to the University of Miami. We recommend students submit their applications by November 15.
- Recommendations from three high school teachers.
- Statement of interest in *FILAS*, emphasizing prior language or area study
- To continue through the graduate level (MA Phase), students must maintain at least a 3.4 GPA and take the GRE Exam.

J.D./M.A. in Latin American Studies

Overview

The University of Miami School of Law in partnership with the University of Miami Center for Latin American Studies (LAS), College of Arts and Sciences offers a joint J.D./M.A. in Latin American Studies and the Law. This curriculum prepares Law School students for government, political and nonprofit legal positions. The program provides a solid theoretical framework and grounding in policy analysis, administration, and management.

This joint program allows students to obtain both J.D. and M.A. degrees in 3 or 3 1/2 years -less time than obtaining the degrees separately. The first year is spent in the Law School and years two, three and four (if needed) are spent taking both Law and M. A. courses.

Admissions

To be admitted to this program, students must apply separately to both programs. Students may apply to the MA in Latin American Studies program prior to beginning Law School or anytime during the first or second year of Law School. Students may begin the MA program in the fall or spring semesters.

For admission to the M. A. program students must complete an MA application. If they apply before the end of their first year in Law School, they will not need to take the GRE exam. Their LSAT score will be used instead of the GRE. For more details on the M. A. program, visit the M.A. in Latin American Studies website.

Acceptance by one program does not in any way indicate or guarantee acceptance by the other degree program.

Tuition and Fees

Tuition for J.D. courses will be paid to the Law School. Tuition for the M.A courses will be paid to the College of Arts and Sciences. Law School scholarships may only be used towards tuition for Law School courses.

Courses and Credits

On the J.D. side, students must complete 82 credits in the Law School and 6 credits will be double-counted from the M.A. courses to complete the total of 88 JD credits. On the M.A. side, students must complete 21 credits in Latin American Studies courses, and 9 credits will be double-counted from the J.D. coursework to complete the total of 30 credits. Students will be required to complete a total of 103 credits for both degrees.

Juris Doctor (J.D.) Course Requirements

- During their first year of the joint program, students will be required to attend the J.D. program full-time.
- Students who begin in the JD program will be able to take courses in the Latin American Studies Master's program beginning the fall of their 2L year.
- Students must complete all J.D. requirements and all M.A. requirements as defined by their programs.
- Students may take summer law courses which may reduce the length of the joint degree program by up to a semester.
- Students may not take more than 16 credits/semester. Seventeen credits/semester may be taken with permission from the Associate Dean, Academic Affairs, School of Law.

Master of Latin American Studies Requirements

- Required courses in LAS are: LAS601, Introductory Seminar; LAS602, Research Design; and a disciplinary research methods course (to be approved by the degree director.)
- Two regional fundamentals courses are also required.
- Students will be required to write a master's thesis, create an equivalent capstone project, or pass a comprehensive exam. (6 credits) These options require a committee consisting of at least three faculty members.
- Language Requirement: Students must demonstrate advanced language competency in Spanish, French, Portuguese, or Haitian Creole. Students may establish proficiency by passing two courses taught in the target language at the 600-level or above, or by passing a language competency exam. A major indigenous language of Latin America may be substituted for either Spanish or Portuguese. Students may petition for a waiver of examination if they have gained language competency in another manner (i.e. native speaker, upper division coursework in target language, Peace Corps service, 18 credits or Defense Language Proficiency Test).

M.A. Dual Degree in Latin American Studies and Public Health

<http://www.as.miami.edu/las/graduate/joint-master-of-arts-programs/medicine-and-public-health/>

Miami is the gateway to Latin America. As such we recognize an urgent need for public health professionals with the training and expertise needed to meet the growing public health challenges both in Latin America and the Caribbean. This program is designed to train students for a career in public health with a focus on social policy, health management and health care in Latin America and the Caribbean, as well as expatriate communities in the United States.

Average Program Duration: 2 years, 5 semesters

Number of required credits: 54-55 (+6 for non-native speakers)

Curriculum Requirements

Code	Title	Credit Hours
EPH 600	Introduction to Public Health	3
EPH 601	Medical Biostatistics I	3-4
EPH 620	Health Education and Behavior	3
EPH 621	Fundamentals of Epidemiology	3
EPH 631	Public Health Administration	3
EPH 641	Aspects of Environmental Health	3
Language Requirement ¹		6
Select four of the following:		12
EPH 612	Global Health	
EPH 614	Global Outbreak	
EPH 639	Ecology and Control of Vector-Borne Diseases	
EPH 640	Urban Environment and Public Health	
EPH 644	Fundamentals of Program Evaluation	
EPH 647	Community Based Participatory Research	
EPH 650	Health Economics for Evaluation and Policy	
EPH 651	Research Methods	
EPH 671	Maternal and Child Health	
LAS 601	Interdisciplinary in Latin American and Caribbean	3
LAS 602	Research Design in Latin American Studies	3
Select two additional LAS courses in consultation with the Academic Director.		6
Regional Fundamentals in Latin America Electives ²		6
Select one of the following tracks (for a total of 6 credits):		6
EPH 680 & LAS 810	Practical Field Experience and Pre-candidacy thesis credits	
LAS 697	Readings for the Comprehensive Exam	
Total Credit Hours		60-61

¹ Students must demonstrate advanced language competency in Spanish, French, Portuguese, or Haitian Creole. Students may establish proficiency by passing two courses taught in the target language at the 500-level or above, or by passing a language competency exam. A major indigenous language of Latin America may be substituted for either Spanish or Portuguese. Students may petition for a waiver of examination if they have gained language competency in another manner (i.e. native speaker, upper division coursework in target language, Peace Corps service, IB credits or Defense Language Proficiency Test).

² Six credits worth of Regional Fundamentals in Latin America must be taken. These electives may be chosen from appropriate offerings in LAS, INS, POL, HIS, APY, or GEG. Regional Fundamentals are those courses that have a clear regional or sub-regional focus (e.g. Andean Region; the Caribbean; South America; Central America; Southern Cone; Brazil; South Florida) rather than a specific country focus. For this joint degree, we will require that the six credits of electives in POL, LAS, INS, APY, GEG, or HIS be used to meet this requirement. The LASAcademic Director may approve courses from other departments.

M.A. in Latin American Studies

The Master of Arts in Latin American Studies is a 30 credit hour interdisciplinary degree characterized by a high degree of flexibility in allowing students to create a course of study focused on Latin American and the Caribbean that serves the interests of the student. Combining core courses offered by the program with a large variety of courses combined with departments, programs, and units throughout the University of Miami, the program offers tremendous diversity in courses available for credit hour towards this degree. This encourages students to combine course offerings from around the university into a cohesive course of study that enables specialization in an area, topic, country, theme, or issue of their choosing and thus to tap into the many resources available at the University of Miami for students with a passion for Latin America and the Caribbean.

Curriculum Requirements

The program consists of two core Latin American and Caribbean seminars, two regional fundamentals, and a minimum of three additional seminars to be taken as electives. Students will also be required to take one research methods course at the 600-level.

Code	Title	Credit Hours
LAS 601	Interdisciplinary in Latin American and Caribbean	3
LAS 602	Research Design in Latin American Studies	3
Two Regional Fundamentals courses ¹		6
Three electives from the list of LAS designated or combined courses (600-level or above) ²		9
One research methods course in the discipline of the student's specialization ³		3
LAS 810	Pre-candidacy thesis credits (students must enroll in two semesters of this 3-credit course)	3
LAS 810	Pre-candidacy thesis credits	3
Thesis, Capstone, or Comprehensive Exam ⁴		
Language Proficiency ⁵		
Total Credit Hours		30

¹ Regional Fundamentals are those courses that have a clear regional or sub-regional focus (e.g. Andean Region; the Caribbean; South America; Central America; Southern Cone; Brazil; South Florida) rather than a specific country focus.

² Electives may be taken from any pre-approved combined or core LAS courses at the 600-level or above, or from other courses approved by the academic director.

³ A Research Methods course may be chosen from any available and accessible Research Methods courses available at the University of Miami, but must be appropriate to the course of study chosen by the student and requires approval of the academic director. Under special circumstances, the research methods requirement may be waived with the prior approval of the academic director.

⁴ Students are required to write a master's thesis, create an equivalent capstone project, or pass a comprehensive exam. The latter two options require the approval of the academic director. For each of these options, a committee consisting of at least three members is required. Students who opt for the comprehensive exam will take one more elective in the place of the Research Methods course and enroll in 6 credit hours of LAS 697, rather than LAS 810.

⁵ Students must demonstrate advanced language competence in Spanish, Portuguese, Haitian Creole, or French by passing a course taught in the target language at the 600-level or above, or by passing a language competency exam.

* With approval from the academic director, students may also take their elective credit hours with Latin Americanists in other Schools such as Communication, Law, Business, or Marine Sciences.

** Students who are simultaneously enrolled in a certificate program (other than GIS) at the University of Miami may double-count courses between the certificate program and the Master of Arts in Latin American Studies, with approval of the academic director. In select cases (such as methods courses), seminars and courses at the 600-level that do not specifically target Latin America or the Caribbean, but for which the final project or paper produced by the student is focused on Latin America may be counted towards the Master of Arts in Latin American Studies, subject to the approval of the academic director.

M.A. in Latin American Studies with GIS Certificate

<http://www.as.miami.edu/las/graduate/joint-master-of-arts-programs/gis/>

The Master of Arts in Latin American Studies with GIS certificate is a 30 credit hours interdisciplinary degree characterized by a high degree of flexibility in allowing students to create course of study focused on Latin American and the Caribbean that serves the interests of the student, while allowing students to focus on obtaining specific skills in geographic Information Systems (GIS). Combining core courses offered by the program with a large variety of combined courses offered by departments, programs, and units throughout the University of Miami, the program offers a tremendous diversity in courses available for credit hour towards this degree. This enables students to combine course offerings from around the university into a cohesive course of study that allows specialization in an area, topic, country, theme, or issue of their choosing and thus to tap into the many resources available at the University of Miami for students with a passion for Latin America and the Caribbean.

The GIS option allows students to work towards a graduate certificate in GIS through the department of Geographic and Regional Studies while working towards their Master of Arts in Latin American Studies.

Curriculum Requirements

Code	Title	Credit Hours
LAS 601	Interdisciplinary in Latin American and Caribbean	3
LAS 602	Research Design in Latin American Studies	3
GEG 691	Geographic Information Systems I	3
GEG 692	Remote Sensing of the Environment	3
GEG 693	Geographic Information Systems II	3
Select three electives in LAS		9
LAS 810	Pre-candidacy thesis credits (Students must enroll in two semester of this 3-credit course) ¹	3
LAS 810	Pre-candidacy thesis credits	3
Total Credit Hours		30

¹ The 6 credit hours in LAS 810 will consist of a GIS capstone project with a focus on Latin America, the Caribbean, or South Florida. Students will require a three-member committee to oversee the capstone project. A group project may be allowed with approval of the academic director.

Liberal Studies

<http://www.as.miami.edu/mals>

Dept. Code: MLS

Degree Programs

The Liberal Studies program is founded on an interdisciplinary approach to issues and questions central to the history and development of human culture. It is designed to provide a broad understanding of these issues and questions through a focused and systematic program of study drawing upon faculty from various disciplines in the humanities, the social sciences, and the basic sciences.

For further information regarding this program, please contact:

Master of Arts in Liberal Studies Program
1300 Campo Sano Avenue, 215
Coral Gables, FL 33146-2025
Call 305-284-8783 or email mals@miami.edu

Masters Program in Liberal Studies

- M.A. in Liberal Studies (p. 969)

The Master of Arts in Liberal Studies program is designed for the student who seeks to develop the critical thinking that marks a truly educated person—for the student who brings a heightened awareness of the unanswered questions that confront an inquiring mind—for the self-motivated person who never stops asking the first question: why?

MALS students come from varied backgrounds. They are artists, business professionals, entrepreneurs, engineers, homemakers, lawyers, recent graduates, journalists and teachers. The program gives them the opportunity for intellectual and personal growth and for sharing their experiences with others in a community of learning.

Post-Graduate Certificate in Liberal Studies

- Certificate in Liberal Studies

<http://www.as.miami.edu/mals/>

The Post-Graduate Certificate Program in Liberal Studies requires 15 credit hours of coursework. The curriculum can be designed to fit each student's academic goals. Students may select from MALS courses or other graduate level courses with the approval of the director.

M.A. in Liberal Studies

<http://www.as.miami.edu/mals/>

The Master of Arts in Liberal Studies degree requires 24 credit hours, plus a 6 credit hour thesis **OR** an additional 6 credit hours of coursework and a representative portfolio. The curriculum is drawn from three core courses as well as additional courses designed for MALS students. Students may select from other graduate level courses with the approval of the director. In addition, all students are required to participate in the MALS Writing Seminar.

Curriculum Requirements

Code	Title	Credit Hours
Core Courses		
MLS 601	Aspects of Creative and Reflective Thought	3
MLS 602	Perspectives on Human Nature	3
MLS 603	Theories of the Physical Universe	3
MLS Writing Workshop ¹		
Choose One of the Following Options:		21
Thesis or Project Option:		
Approved Graduate Credit Hours (15 credits) ²		
Thesis or Project Requirement (6 credits)		
Non-Thesis Option:		
Approved Graduate Credit Hours (21 credits) ²		
A portfolio representative of works completed		
Total Credit Hours		30

¹ Students learn to analyze and read texts critically and demonstrate their ability to express that knowledge in their oral and written work with accuracy and insight. This 3 hour, non-credit workshop is required and should be taken during the first regular semester of study.

² Students may select from other graduate level courses with the approval of the director.

Mathematics

<http://www.math.miami.edu>

Dept. Code: MTH

Degree Programs

The Mathematics Department offers graduate degree programs leading to the:

- Master of Arts (p. 970)
- Master of Science (p. 969)
- Master of Science in Mathematical Finance (p. 969)
- Doctor of Philosophy (p. 970)

Prerequisites and requirements for these degrees are described on the program pages:

Masters Programs in Mathematics

- M.A. in Mathematics (p. 970)
- M.S. in Mathematics (p. 972)
- M.S. in Mathematical Finance (p. 971)

Doctoral Program in Mathematics

- Ph.D. in Mathematics (p. 973)

M.A. in Mathematics

<http://www.math.miami.edu/>

Admissions Requirement

A minimum of 9 credit hours in mathematics courses numbered 200 and above is required. For more information about admission, please visit our website (<http://www.math.miami.edu/graduate/application-procedure>).

Curriculum Requirements

Code	Title	Credit Hours
One Year Topic Sequence		
Choose one of the following topic sequences:		6
MTH 613 & MTH 614	Partial Differential Equations I and Partial Differential Equations II	
MTH 615 & MTH 616	Ordinary Differential Equations and Dynamics and Bifurcations	
MTH 624 & MTH 625	Introduction to Probability Theory and Introduction to Mathematical Statistics	
MTH 631 & MTH 632	Topology I and Topology II	
MTH 633 & MTH 634	Introduction to Real Analysis I and Introduction to Real Analysis II	
MTH 661 & MTH 662	Abstract Algebra I and Abstract Algebra II	
Additional Courses ¹		24
A three-hour written examination covering the material in one of the year-long sequences listed above.		
Total Credit Hours		30

- ¹
- At least 18 credits of MTH courses are required.
 - All courses from other departments must be numbered 600 or above, be pertinent to the teaching of secondary school mathematics, and be approved by the graduate committee.

Sample Plan of Study

Course	Title	Credit Hours
First Year		
Fall		
MTH 610	Linear Algebra	3
MTH 631	Topology I	3
MTH 633	Introduction to Real Analysis I	3
Elective		3
		Credit Hours
		12
Spring		
MTH 612	Elementary Complex Analysis	3
MTH 634	Introduction to Real Analysis II	3
Elective		3

Real Analysis Exam		
	Credit Hours	9
Second Year		
Fall		
MTH 624	Introduction to Probability Theory	3
MTH 661	Abstract Algebra I	3
Elective		3
	Credit Hours	9
	Total Credit Hours	30

M.S. in Mathematical Finance

<http://www.msmf.miami.edu>

Admission Requirements

Here is a list of the course based admissions requirements. For more information about admission, please visit our website (<http://www.msmf.miami.edu/admissions/admission-requirements>).

- 1 semester of Linear Algebra
- 1 semester of Differential Equations
- 1 semester of calculus-based Probability and Statistics

Curriculum Requirements

Code	Title	Credit Hours
Core Courses		
MTH 642	Statistical Analysis	3
MTH 643	Statistical Analysis II with Financial Applications	3
MTH 645	Optimization Methods	3
MTH 647	Introduction to Mathematical Finance	3
MTH 648	Stochastic Calculus with Application to Finance	3
MTH 649	Computational Methods of Finance	3
FIN 650	Financial Investment	2
FIN 651	Advanced Topics in Investments	2
Electives		12
Computer Science, Engineering, and Mathematics Electives (3-9 credits)		
CSC 632	Introduction to Parallel Computing	
CSC 645	Introduction to Artificial Intelligence	
ECE 548	Machine Learning	
ECE 553	Neural Networks	
MTH 613	Partial Differential Equations I	
MTH 614	Partial Differential Equations II	
MTH 620	Numerical Linear Algebra	
MTH 646	Quantitative Risk Analysis	
MTH 650	Machine Learning in Quantitative Finance	
MTH 721	Mathematical Probability	
Finance Electives (2-6 credits)		
FIN 643	Quantitative Finance and Market Microstructure	
FIN 653	Alternative Investments	
FIN 660	International Finance	
FIN 670	Corporate Finance	
FIN 681	Financial Institutions	
FIN 683	Financial Modeling	
Other Business Electives (0-3 credits)		

ACC 602	Analysis of Financial Statements	
ECO 442	International Monetary Economics	
ECO 444	Game Theory in Economic Applications.	
FIN 425	Business and Security Valuation	
FIN 427	Fixed Income Markets and Analysis	
FIN 431	International Financial Management	
Total Credit Hours		34

Course	Title	Credit Hours
Year One		
Fall		
MTH 642	Statistical Analysis	3
MTH 647	Introduction to Mathematical Finance	3
FIN 650	Financial Investment	2
Elective ¹		3
Credit Hours		11
Spring		
MTH 643	Statistical Analysis II with Financial Applications	3
MTH 648	Stochastic Calculus with Application to Finance	3
FIN 651	Advanced Topics in Investments	2
Elective ¹		3
Credit Hours		11
Summer		
Summer Internship or Project (Optional)		
Credit Hours		0
Year Two		
Fall		
MTH 645	Optimization Methods	3
MTH 649	Computational Methods of Finance	3
FIN Electives		3-6
Additional Elective (If Needed) ¹		3
Credit Hours		12-15
Total Credit Hours		34-37

¹ Students may be required to take *CSC 220 Computer Programming II* or *ECE 218 Data Structures* during their first semester in the program. Students who are not proficient in C, C# or C++ may be required to take *CSC 322 System Programming* during their first or second semester in the program.

M.S. in Mathematics

<http://www.math.miami.edu/>

Admission Requirement

A minimum of 15 credit hours in mathematics courses numbered 200 and above is required. For more information about admission, please visit our website (<http://www.math.miami.edu/graduate/application-procedure>).

Curriculum Requirements

Code	Title	Credit Hours
A minimum of 24 credit hours must be earned in Mathematics Courses		
Choose two of the following:		12
MTH 631 & MTH 632	Topology I and Topology II	
MTH 633 & MTH 634	Introduction to Real Analysis I and Introduction to Real Analysis II	

MTH 661 & MTH 662	Abstract Algebra I and Abstract Algebra II	
MTH Courses 700 level and higher ¹		9-15
Additional Courses ¹		9
Three written exams, at least two of which are on the basic sequences of the above list, must be passed.		
Total Credit Hours		30-36

- ¹
- If a student takes 15 credits in MTH at the 700 level or higher 30 credits are required for the Masters.
 - If a student takes 12-14 credits in MTH at the 700 level or higher 33 credits are required for the Masters.
 - If a student takes 9-11 credits in MTH at the 700 level or higher 36 credits are required for the Masters.

Sample Plan of Study

Course	Title	Credit Hours
Year One		
Fall		
MTH 631	Topology I	3
MTH 633	Introduction to Real Analysis I	3
MTH 661	Abstract Algebra I	3
700 Level Topics Course		3
	Credit Hours	12
Spring		
MTH 632	Topology II	3
MTH 634	Introduction to Real Analysis II	3
MTH 662	Abstract Algebra II	3
700 Level Topics Course		3
Topic Sequence MS Exams		
	Credit Hours	12
Year Two		
Fall		
700 Level Topics Courses		9-12
	Credit Hours	9-12
	Total Credit Hours	33-36

Ph.D. in Mathematics

<http://www.math.miami.edu/>

Curriculum Requirements

The following requirements are in addition to the general requirements for the Doctor of Philosophy Degree as described by the Graduate School.

Code	Title	Credit Hours
Required Courses		
MTH 733 & MTH 734	Real Variables and Real Variables	6
MTH 735 & MTH 736	Complex Variables and Complex Variables	6
MTH 741 & MTH 742	Algebraic Topology and Algebraic Topology	6
MTH 761 & MTH 762	Abstract Algebra I and Abstract Algebra II	6
MTH 700 level and higher		12
Preliminary and three written qualifying exams must be passed. Of these written exams, two must be from the above basic sequences; the other may be another from the basic sequences or in the candidate's area of specialty		
A proficiency in one of the languages French, German, or Russian must be demonstrated.		

Additional Courses	24
Total Credit Hours	60

Modern Languages and Literatures

<http://www.as.miami.edu/ml>

Dept. Codes: ARB, CHI, FRE, GER, HAI, HEB, ITA, JPN, MLL, POR, SPA

Degree Programs

The Ph.D. in **Literary, Cultural, and Linguistic Studies** offers major concentrations in Literary and Cultural Studies and Critical Studies of Language/Linguistics. The program is designed primarily to prepare students for careers as university professors and research scholars. Students develop advanced language, teaching, and research skills that lend themselves to other professions, as well. A variety of geographic, temporal, and theoretical concentrations allow students to carry out innovative and interdisciplinary research projects, often with a transnational focus.

Students develop superior language skills and professional competency in their major research field(s) through an intensive study of canonical works while engaging in comparative, interdisciplinary fields such as Africana Studies, Arabic Studies, Caribbean Studies, French and Francophone Studies, Iberian Studies, Italian Studies, Latin American Studies, Luso-Brazilian Studies, and combinations thereof.

The program's strong theoretical component grounds student research in a range of areas, including: aesthetics, bilingualism, digital humanities, early modern studies, film studies, gender and sexuality studies, (im)migration studies, indigenous studies, performance studies, postcolonial studies, queer studies, subaltern studies, sociolinguistics, theatre studies, and women's studies.

Students are required to develop competency in a cognate field related to their intellectual pursuits, leading to the dissertation topic. Recent examples of cognate specialization include anthropology, communication studies, film studies, history, law, philosophy, musicology, classics, and sociology.

The department offers two graduate certificates to prepare students beyond their specialization, which may be fulfilled with course electives:

- Graduate Certificate in Second Language Acquisition and Teaching (<http://www.as.miami.edu/ml/graduate/slat-certificate>)
- Early Modern Studies Concentration (<http://humanities.miami.edu/humanities/academic/early-modern-studies-concentration>), an interdisciplinary certificate offered in conjunction with English and History

Admission Requirements

The Department of Modern Languages and Literatures accepts applications to the Ph.D. program for Fall admission only from students holding (or completing during the time of application) B.A. or M.A. degrees in a related discipline (e.g. Spanish, French, Luso-Brazilian Studies, History, Anthropology, Communication Studies, Comparative Literature, Philosophy, Journalism). The Department does not admit students who seek terminal M.A. degrees.

The deadline to apply for the 2019-20 academic year is December 30, 2018. All applicants will automatically be considered for Departmental TAs and University-wide fellowships.

Applications must include the following materials:

1. A completed application form, including a detailed statement of purpose. (Applications are only accepted through this link (<https://www.applyweb.com/miamigrd>)).
2. A Graduate Assistantship application.
3. Three letters of recommendation (typically, 1-2 pages). Applicants should use the CollegeNet interface to have recommenders submit their letters online.
4. GRE scores mailed directly from ETS testing agency to the Department of Modern Languages and Literatures. Domestic and international students can send GRE and TOEFL scores to our Department with the University of Miami code (5815).
5. International students without BA or MA degrees from a U.S. institution should have TOEFL scores mailed directly from the testing agency to the Department of Modern Languages and Literatures.
6. Graduate applicants who have attended college or university outside the United States must submit official translations of transcripts and diplomas directly to the Department of Modern Languages and Literatures.
7. A research paper of 15-20 pages in English.
8. Research paper(s) of 15-20 pages in the primary language(s) of proposed study.

Application fee of \$85.00

Printed materials should be sent to:

Graduate Program Admissions

Department of Modern Languages & Literatures
 University of Miami
 P. O. Box 248093
 Coral Gables, Florida 33124-4650
 FAX: 305-284-2068

For questions, consult the Graduate Program website (<http://www.as.miami.edu/ml/graduate>) or contact the Department (mlgraduate@miami.edu? subject=Graduate Applications) (305-284-5585).

MLL encourages African American and Hispanic applicants to pursue McKnight Doctoral Fellowships, which are supplemented by the UM College of Arts and Sciences to match the Departmental stipend amount. (Applicants must be U.S. citizens).

Applications are due on 15 January of each year and are available online (<http://www.fefonline.org>).

In case of any difficulty submitting the online application, applicants should contact FEF (webmaster@fefonline.org) or call 813-943-7578. For additional information, please contact the Florida Education Fund at 813- 272-2772.

Doctoral Program in Modern Languages and Literatures

- Ph.D. in Literary, Cultural, and Linguistic Studies (p. 975)

Ph.D. in Literary, Cultural, and Linguistic Studies

The **Ph.D. in Literary, Cultural, and Linguistic Studies** offers two major concentrations: 1) Literary and Cultural Studies and 2) Critical Studies of Language/Linguistics. Students in each concentration may opt to develop a secondary field of expertise in the other.

The program is designed primarily to prepare students for careers as university professors and research scholars. Students develop advanced language, teaching, and research skills that lend themselves to other professions, as well. A variety of geographic, temporal, and theoretical concentrations allow students to carry out innovative and interdisciplinary research projects, often with a transnational focus.

Basic Program Requirements

The requirements set out below for the **Ph.D. in Literary, Cultural, and Linguistic Studies** are minimum requirements. The Graduate Studies Committee, Director of Graduate Studies, and individual advisors may set additional requirements.

- The requirements:
 - for students entering on the "five-year plan" (with a B.A. or M.A., see below), passing satisfactorily a minimum of 60 graded credit hours in approved courses, 30 of which must be open to graduate students only;
 - for students entering on the "four-year plan" (with an M.A. in a closely related field, see below), passing satisfactorily a minimum of 48 graded credit hours in approved courses, 24 of which must be open to graduate students only;
- Passing MLL 701, MLL 711, MLL 714, MLL 799, and a minimum of 15 graded credit hours in the area(s) of research emphasis to be determined on an individualized basis in collaboration with the graduate advisors.
- For students in the Literary and Cultural Studies concentration, three credits of Critical Studies of Language/Linguistics and three credits in any Arts and Sciences discipline focusing on Colonial or Early Modern Studies (18th century or earlier).
- At least six credits in an approved cognate discipline to be determined in consultation with graduate advisors.
- Nine credits in Literary/Cultural Studies or Critical Studies of Language/Linguistics, for students pursuing an optional minor concentration.
- In addition to proficiency in English and the major language of study, demonstrating the following:
 - reading knowledge of two other languages; or
 - holistic knowledge of one other language (for example, by passing the equivalent of a course at the 300-level). Note: Appropriate languages of study will be determined in collaboration with the student's advisors (e.g. students of Latin America may be encouraged to study Portuguese or an indigenous language; students focusing on early modern Spanish or French studies may be encouraged to study Italian; students working in the French-speaking Caribbean may need to take Haitian Kreyòl; etc.);
 - if areas of specialization include Medieval, Early Modern, or Colonial Latin American Studies, students must demonstrate reading knowledge of Latin.
- Passing a Breadth Exam. Depending on the student's interests, the exam shall consist of three parts, according to one of the following configurations:
 - one geographic region over three time periods;
 - two geographic regions over two or three time periods;
 - two geographic regions over one or two time periods and one area of critical sociolinguistics;
 - two areas of critical sociolinguistics and one geographic region over one-time period. Note: Students entering the doctoral program with an MA in a relevant field may petition to waive the Breadth Exam (normally taken in the spring semester of the second year) after the first semester of study. The Graduate Studies Committee will consider petitions on an individualized basis.

8. Passing a Qualifying Exam on an approved topic. The exam typically includes three general approaches focusing on:
 - a. literature, cultural studies, or sociolinguistics;
 - b. critical theory;
 - c. a cognate discipline (e.g. history, sociology, philosophy, law, art, film, etc.).
9. Successfully defending a dissertation prospectus.
10. Completing and defending satisfactorily a dissertation.
11. Satisfying the requirements of the Graduate School as stated in the *Graduate Bulletin*.

Philosophy

<http://www.as.miami.edu/phi>

We offer an M.A. and a Ph.D. in philosophy.

The M.A. program is designed for those who want to pursue philosophy at a deeper level than in their B.A. degree, or who wish to transition into philosophy from other academic disciplines. Students may choose this program to improve their chances of acceptance into a highly-ranked Ph.D. program, or for other reasons. There are no distribution requirements: students may tailor their coursework to their own interests. Students must also write and defend a thesis, which can be used as a writing sample for Ph.D. program applications. (Note that acceptance into the M.A. program does not guarantee acceptance into our own Ph.D. program later on; the application procedures are separate.)

The Ph.D. program is specifically designed to prepare students for careers as professional teachers and researchers in philosophy, not only by way of coursework and research supervision, but also through professional mentoring and opportunities for philosophical development both inside and outside the classroom. Students normally enter with either a B.A. or an M.A. degree in philosophy. Students who enter without an M.A. and who fulfil the relevant requirements are awarded the M.A. degree as they work towards the Ph.D.

Each entering student is assigned a mentor from among the faculty, and faculty members lead professional development seminars on such topics as teaching, preparing work for publication, and preparing for the job market. A dedicated placement director work with each student to maximize their success at securing good post-graduation employment.

The Department prides itself on providing an inclusive, friendly and congenial atmosphere for doing philosophy, with many opportunities for informal interaction among students and faculty including workshops, conferences, colloquia and post-colloquium dinners.

Masters Degree in Philosophy

- M.A. in Philosophy (p. 976)

Doctoral Program in Philosophy

- Ph.D. in Philosophy (p. 977)

M.A. in Philosophy

Policies & Important Details

1. The M.A. in Philosophy is intended to deepen a student's background in philosophy, and to improve a student's preparation for Ph.D. programs in philosophy. It is possible to use the M.A. as a bridge program from another discipline into philosophy.
2. To maintain status as a graduate student, registration in each fall and spring semester is required. Otherwise, admission lapses and permission to re-enter must be granted.
3. Time restrictions on obtaining degrees will be strictly enforced and can be waived only by the Dean of the Graduate School.
4. Upon completing the course requirements and presenting and defending a satisfactory thesis, the student has completed the requirements for an M.A. in Philosophy.
5. The student in consultation with his/her selected M.A. thesis committee chair will decide on the thesis committee members. The thesis committee will consist of not less than three members, two from the Department's graduate faculty, and one from either inside or outside the Department. The chair has to be a member of the graduate faculty. The duties of the thesis committee are:
 - a. To consult with and to advise students on their research.
 - b. To meet, at intervals, to review progress and expected results.
 - c. To read and comment upon the draft thesis.
 - d. To meet, when the thesis is completed, to conduct the final oral examination and to satisfy itself that the thesis is a contribution to knowledge and that it is written in lucid and correct English and submitted in approved form.

The candidate is well advised to have a final acceptable typescript of the thesis in the hands of each member of his/her committee at a time reasonably in advance of the final defense of the work.

Curriculum Requirements

Code	Title	Credit Hours
600 or 700 level PHI electives		24
Research Requirement		6
PHI 810	Master's Thesis	
Masters Thesis ¹		
Total Credit Hours		30

¹ Presentation and oral defense of and acceptable thesis.

* Students must accumulate 30 credits in philosophy with satisfactory grades, 24 credits of coursework and 6 credits of thesis research. At least 18 of these credits must be earned while in residence.

Ph.D. in Philosophy

Policies and Important Details

1. The Ph.D. in Philosophy is for students with a background in philosophy. Normally at least a B.A. in Philosophy is required.
2. To maintain status as a graduate student, registration in each fall and spring semester is required. Otherwise, admission lapses and permission to re-enter must be granted.
3. Once a student has completed all course and required research credit hours, he or she must enroll in "Research in Residence" status until the degree has been granted. "Research in Residence" status is considered full time enrollment. Time restrictions on obtaining degrees will be strictly enforced and can be waived only by the Dean of the Graduate School.
4. Upon completing the course requirements and passing the qualifying exams with a grade of 1 or 2, the student has completed the requirements for an M.A. in Philosophy.
5. Upon completing the course requirements, passing the qualifying exams with a grade of 2, and successfully defending the Ph.D. proposal, the student is eligible for admission to Ph.D. candidacy.
6. Upon passing the qualifying exams, the student in consultation with his/her selected Ph.D. dissertation committee chair will decide on the dissertation committee members. The dissertation committee will consist of not less than four members, three from the department's graduate faculty, and one from outside the Department. The chair has to be a member of the graduate faculty. The duties of the dissertation committee are:
 - a. To consult with and to advise students on their research.
 - b. To meet, at intervals, to review progress and expected results.
 - c. To read and comment upon the draft dissertation.
 - d. To meet, when the dissertation is completed, to conduct the final oral examination and to satisfy itself that the dissertation is a contribution to knowledge and that it is written in lucid and correct English and submitted in approved form.

The candidate is well advised to have a final acceptable typescript of the dissertation in the hands of each member of his/her committee at a time reasonably in advance of the final defense of the work.

Curriculum Requirements

Students must accumulate a 60 credits in philosophy with satisfactory grades, 45 credits of coursework and 15 credits of dissertation research. At least 21 of the 45 credits must be for courses at the 700 level. At least 27 of these credits must be earned while in residence.

Code	Title	Credit Hours
Logic Requirement		3
PHI 611	Formal Logic	
Ethics Requirement		
Select one of the following:		3
PHI 631	Ethical Theory	
PHI 634	Political Philosophy	
Epistemology and Metaphysics		
Select two of the following:		6
PHI 642	Epistemology	
PHI 646	Evidence and Knowledge in Medicine	

PHI 647	Mind and Language	
PHI 648	Induction, Probability, and Scientific Method	
PHI 649	Metaphysics	
History		
Select one of the following:		3
PHI 660	History of Logic	
PHI 662	History of Ethics	
PHI 670	Presocratics and Plato	
PHI 672	Aristotle and Hellenistic Philosophy	
PHI 673	Medieval Philosophy	
PHI 674	Early Modern Philosophy	
PHI 677	Kant	
PHI 681	Pragmatism	
PHI 683	The Phenomenological Tradition	
PHI 684	History of Analytic Philosophy	
600 or 700 PHI Electives		9
700 Level PHI Electives		21
Research Requirement		15
PHI 830	Doctoral Dissertation	
PHI 840	Post-candidacy doctoral dissertation	
Qualifying Exam ¹		
Language Requirement ²		
PHD Dissertation ³		
Total Credit Hours		60

¹ A comprehensive qualifying exam must be taken. Exams are given the grade of 0, 1 or 2. A student must receive a grade of 2 in order to proceed to the dissertation stage. The student is provided with a reading list in their intended area of specialization. The student studies the material on the reading list, writes a paper of around 8,000 words on a topic central to this material, writes a dissertation proposal of around 2,000 words, and participates in an oral defense of the paper and proposal as they relate to the reading list

² A student must possess the linguistic proficiency required by the proposed dissertation topic. This is determined by the dissertation proposal committee on the basis of examinations or coursework.

³ Presentation and oral defense of an acceptable dissertation.

Physics

<http://www.physics.miami.edu>

Dept. Code: PHY

Degree Programs

All graduate students in physics must plan their entire program with the advice and approval of a departmental advisor.

The program of graduate studies in physics emphasizes research work, but also includes teaching experience as an essential element. Research and thesis opportunities are at present available in the fields of astrophysics and cosmology, atmospheric, ocean and quantum optics, biological physics, complexity, condensed matter/energy materials physics, elementary particle theory.

Masters Program in Physics

- M.S. in Physics (p. 978)

Doctoral Program in Physics

- Ph.D. in Physics (p. 979)

M.S. in Physics

In addition to the general requirements for graduate degrees, the Physics Department makes the following specific requirements.

1. Submission of scores on the general Graduate Record Examination (GRE).
2. A minimum of 30 physics course credit hours at the 600-700 level are required for the Master Degree.
3. The following specific courses, or their equivalent, are required for the M.S. degree:

Code	Title	Credit Hours
PHY 640	Classical Mechanics II	3
PHY 660	Quantum Mechanics and Modern Physics I	3
PHY 661	Quantum Mechanics and Modern Physics II	3
PHY 723	Statistical Mechanics I	3
PHY 752	Electromagnetic Theory I	3
PHY 753	Electromagnetic Theory II	3
PHY 770	Quantum Theory I	3
PHY 771	Quantum Theory II	3
Select six additional physics course credits at the 600 or 700 level		6
Total Credit Hours		30

4. For the M.S. degree no more than 3 credit hours for reading courses may be counted, and no more than 2 credit hours of seminars. Up to 6 credit hours may be earned in thesis work for this degree.
5. The physics department offers a comprehensive graduate examination each year. All students are required to take the exam when it is offered.
6. Courses taken outside the department should be relevant to the students' program and approved by the graduate advisor.

Ph.D. in Physics

In addition to the general requirements for graduate degrees, the Physics Department makes the following specific requirements.

1. Submission of scores on the general Graduate Record Examination (GRE).
2. A minimum of 24 physics course credit hours at the 600-700 level are required for the PhD.
3. The following specific courses, or their equivalent, are required for the PhD degree:

Code	Title	Credit Hours
PHY 640	Classical Mechanics II	3
PHY 660	Quantum Mechanics and Modern Physics I	3
PHY 661	Quantum Mechanics and Modern Physics II	3
PHY 723	Statistical Mechanics I	3
PHY 752	Electromagnetic Theory I	3
PHY 753	Electromagnetic Theory II	3
PHY 770	Quantum Theory I	3
PHY 771	Quantum Theory II	3
Select three additional physics lecture courses at the 600 or 700 level		9
Total Credit Hours		33

4. The physics department offers a comprehensive graduate examination each year. A passing grade at an appropriate level is required for the Ph.D. A student is required to take the exam each year and is allowed two attempts toward a passing grade.
5. Courses taken outside the department should be relevant to the students' program and approved by the graduate advisor.
6. Students are required to participate in research at the earliest opportunity. Specifically, upon passing the written graduate examination and before the end of the following semester, the student is required to select a faculty member who consents to serve as the student's Ph.D. thesis advisor. Student and thesis advisor are to form, in a timely fashion, a dissertation committee to review an oral presentation of the student's initial research activities and future plans. Should a student need to select a new thesis advisor, this selection must be made without delay, and the review process must be repeated.
7. Renewal of financial support from the department is contingent, each semester, upon satisfactory performance of teaching duties and research activities, and upon timely progress towards completion of all requirements for the Ph.D. degree.

Political Science

<http://www.as.miami.edu/mpa>

The MPA program is designed to prepare students for a career of public service. Students will be exposed to the essential components of public service professionalism—excellence in technique, ethics and leadership—to help meet the challenges in the years ahead. Our award-winning, student-

oriented faculty is dedicated to helping you achieve this “professional edge” in small, stimulating seminars, convenient evening courses, super-modern facilities and we have an excellent record in placing graduates.

Masters Program in Political Science

- M.P.A. Masters in Public Administration (p. 981)

Joint Program in Political Science

- J.D./M.P.A. Joint Degree Program (p. 980)
- MPH/MPA Joint Program (<http://www.as.miami.edu/mpa/about-the-program/dual-mpamph-program>)

J.D./M.P.A. Joint Degree Program

The joint program allows students to obtain both JD and MPA degrees in four years. The program is designed to prepare law school students for government, political and nonprofit legal positions. The first year is spent in the Law School and years two through four are spent taking both Law and MPA courses.

To be admitted to this program, students must apply separately to both programs. Students may apply to the MPA program prior to beginning law school or anytime during the first or second year of law school. Students may begin the MPA program in the fall, spring or summer semesters. For further information contact the Department of Political Science at 305-284-2401 or the Law School at 305-284-5535.

Curriculum Requirements

Code	Title	Credit Hours
Required Courses		27
POL 601	Budget and Financial Management and Administration	
POL 606	Organizational Dynamics and Management	
POL 610	Statistics for Politics and Public Administration	
POL 622	Introduction to Graduate Public Administration	
POL 646	Public Policy Process and Implementation	
POL 647	Human Resource Management in Public Service	
POL 651	Productivity in the Public and Non-Profit Sectors	
POL 656	Public Service Internship	
POL 671	Government and Business	
Electives (Select one of the following)		3
POL 624	Non-Profit Organizations: Law, Policy, and Management	
POL 619	Introduction to Game Theory for Political Science	
POL 625	Comparative Public Policy and Administration	
POL 626	Administrative Law	
POL 634	Applied Policy Analysis	
POL 652	Total Quality Public Service Management: Achieving High Performance Government	
POL 654	Politics and Ethics	
POL 657	Ethical and Managerial Issues in Government, Business and Non-Profit Organization.	
POL 658	From Electronic Government to Digital Governance	
POL 696	Special Topics in Public Administration, Policy, and Law	
POL 697	Special Topics in International Relations	
Total Credit Hours		30

Plan of Study

Course	Title	Credit Hours
Year One		
Fall		
Law Courses		16
	Credit Hours	16

Spring		
Law Courses		16
	Credit Hours	16
Year Two		
Fall		
Law Courses		9
MPA Courses		6
	Credit Hours	15
Spring		
Law Courses		9
MPA Courses		6
	Credit Hours	15
Year Three		
Fall		
Law Courses		8
MPA Courses		6
	Credit Hours	14
Spring		
Law Courses		9
MPA Courses		3
	Credit Hours	12
Year Four		
Fall		
Law Courses		6
MPA Courses		6
	Credit Hours	12
Spring		
Law Courses		9
MPA Courses		3
	Credit Hours	12
	Total Credit Hours	112

M.P.A. Masters in Public Administration Curriculum Requirements

Code	Title	Credit Hours
POL 601	Budget and Financial Management and Administration	3
POL 606	Organizational Dynamics and Management	3
POL 610	Statistics for Politics and Public Administration	3
POL 619	Introduction to Game Theory for Political Science (Game Theory)	3
POL 622	Introduction to Graduate Public Administration	3
POL 624	Non-Profit Organizations: Law, Policy, and Management	3
POL 626	Administrative Law	3
POL 634	Applied Policy Analysis	3
POL 646	Public Policy Process and Implementation	3
POL 647	Human Resource Management in Public Service	3
POL 651	Productivity in the Public and Non-Profit Sectors (Productivity improvement in Public and Nonprofit Organizations)	3
POL 657	Ethical and Managerial Issues in Government, Business and Non-Profit Organization.	3
POL 656	Public Service Internship	3
POL 658	From Electronic Government to Digital Governance	3

POL 671	Government and Business	3
POL 696	Special Topics in Public Administration, Policy, and Law	3
Total Credit Hours		48

- * 36 to 48 credit hours at the graduate level, depending on government management experience and academic preparation.
- ** Completion of core and specialized track course requirements as specified by the POL Department in consultation with the student's career goals and interests.
- *** An option exists for those students who wish to complete in five years their Political Science Bachelor's Degree and a Master of Public Administration. Contact POL Department for details.
- **** All other requirements as stated in sections Requirements for the Master of Arts Degree and General Information.

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The Masters in Public Administration Program: Sample Schedule

Course	Title	Credit Hours
Year One		
First Semester		
POL 601	Budget and Financial Management and Administration	3
POL 622	Introduction to Graduate Public Administration	3
POL 696	Special Topics in Public Administration, Policy, and Law (Administering Global Governance)	3
POL 696	Special Topics in Public Administration, Policy, and Law (Equity and Diversity)	3
Credit Hours		12
Second Semester		
POL 610	Statistics for Politics and Public Administration	3
POL 646	Public Policy Process and Implementation	3
POL 654	Politics and Ethics	3
POL 696	Special Topics in Public Administration, Policy, and Law (Policy Analysis)	3
Credit Hours		12
Third Semester		
POL 651	Productivity in the Public and Non-Profit Sectors	3
Credit Hours		3
Year Two		
Fourth Semester		
POL 619	Introduction to Game Theory for Political Science	3
POL 647	Human Resource Management in Public Service	3
POL 658	From Electronic Government to Digital Governance	3
POL 671	Government and Business	3
Credit Hours		12
Fifth Semester		
POL 606	Organizational Dynamics and Management	3
POL 624	Non-Profit Organizations: Law, Policy, and Management	3
POL 656	Public Service Internship	3
Credit Hours		9
Total Credit Hours		48

- * 36 to 48 credit hours at the graduate level, depending on government management experience and academic preparation.
- ** Completion of core and specialized track course requirements as specified by the POL Department in consultation with the student's career goals and interests.
- *** An option exists for those students who wish to complete in five years their Political Science Bachelor's Degree and a Master of Public Administration. Contact POL Department for details.
- **** All other requirements as stated in sections Requirements for the Master of Arts Degree and General Information.

M.P.A./M.P.H. Second Master's Degree in Public Health Master of Public Administration Joint Degree (MPA/MPH)

The Master of Public Administration/ Master in Public Health (MPA/MPH) degree is offered jointly by the University of Miami College of Arts and Sciences and the Miller School of Medicine's Department of Public Health Sciences. The joint degree is designed for students who seek an in-depth knowledge of public health with training in management and public policy administration. Students may complete the requirements for the MPA and MPH degrees consecutively or in succession.

Applicants must be admitted into the MPH and MPA programs on a separate basis, based on the admissions requirements and procedure of each individual program. Acceptance by one program does not in any way indicate or guarantee acceptance by the other degree program. Both the MPA and the MPH degree programs require the Graduate Record Exam (GRE) as part of the admissions requirement.

Average Program Duration: 2.5 years

Number of required credits: 66

Curriculum Requirements - MPA

Code	Title	Credit Hours
Required MPA Courses (30 Credits)		
POL 601	Budget and Financial Management and Administration	3
POL 606	Organizational Dynamics and Management	3
POL 610	Statistics for Politics and Public Administration	3
POL 622	Introduction to Graduate Public Administration	3
POL 646	Public Policy Process and Implementation	3
POL 647	Human Resource Management in Public Service	3
POL 651	Productivity in the Public and Non-Profit Sectors	3
POL 671	Government and Business	3
Choose 6 Credits from the Following:		6
POL 656	Public Service Internship	
Approved MPA Elective		
Required MPH Courses		36
Total Credit Hours		66

Curriculum Requirements - MPH

Code	Title	Credit Hours
EPH 600	Introduction to Public Health	3
EPH 601	Medical Biostatistics I	4
EPH 617	Disease Prevention and Health Promotion	3
or EPH 620	Health Education and Behavior	
EPH 621	Fundamentals of Epidemiology	3
EPH 631	Public Health Administration	3
or EPH 632	U.S. Health Systems	
EPH 641	Aspects of Environmental Health	3
EPH 644	Fundamentals of Program Evaluation	3
EPH 650	Health Economics for Evaluation and Policy	3
EPH 652	Health Policy	3
EPH 681	Capstone Experience Project	3
Approved Elective Courses		5
EPH-600, 700 level courses not already listed		
BST-600, 700 level courses		
Required MPA Courses		30
Total Credit Hours		66

M.P.A. Online

The MPA program is designed to provide students with a comprehensive and holistic understanding of what you will need to be an effective public service leader. Students will explore the most critical areas of public administration, planning and financial budgeting, political analysis and personnel administration as well as contemporary issues in Ethics, Digital Governance, NGOs and Global Governance. Assignment examples include practice in management consulting, policy making and democratic input.

Influence the future of your community. A Master's degree in Public Administration from the University Miami gives you access to a rewarding career in Public Service. According to the Bureau of Labor Statistics, this is a growing field with the number of new government jobs predicted to increase by 1.4 million over the next ten years. Visit our website for more information. (<http://miami.edu/online/programs/masters-in-public-administration>)

Curriculum Requirements

Code	Title	Credit Hours
MPA Online Courses		
Curriculum Requirements		
POL 601	Budget and Financial Management and Administration	3
POL 606	Organizational Dynamics and Management	3
POL 610	Statistics for Politics and Public Administration	3
POL 622	Introduction to Graduate Public Administration	3
POL 646	Public Policy Process and Implementation	3
POL 647	Human Resource Management in Public Service	3
POL 651	Productivity in the Public and Non-Profit Sectors	3
POL 654	Politics and Ethics	3
POL 658	From Electronic Government to Digital Governance	3
POL 671	Government and Business	3
POL 696	Special Topics in Public Administration, Policy, and Law	6
Total Credit Hours		36

Certificate in Public Administration

The Certificate in Public Administration is available in both the traditional and online platform. The program is available to a student wishing to earn just a certificate or to a student who wants to earn a spot in the master's of Public Administration program but does not meet the admission criteria. The Certificate requires the completion of any six of the core MPA courses with a grade of B or higher in all six courses (see MPA course listing (p. 981)). Students who successfully earn a B or higher in all six core courses are then eligible to enroll in the Masters in Public Administration program.

Curriculum Requirements

Code	Title	Credit Hours
Curriculum Requirement		
Select 6 of the following courses:		18
POL 601	Budget and Financial Management and Administration	
POL 606	Organizational Dynamics and Management	
POL 610	Statistics for Politics and Public Administration	
POL 622	Introduction to Graduate Public Administration	
POL 646	Public Policy Process and Implementation	
POL 647	Human Resource Management in Public Service	
POL 651	Productivity in the Public and Non-Profit Sectors	
POL 671	Government and Business	
Total Credit Hours		18

Psychology

<http://www.psy.miami.edu>

Dept. Code: PSY

Complete details about the Psychology Graduate Program, including description of our three graduate divisions (Adult, Child, and Health), faculty research interests, and admission requirements, can be found at our website listed above.

Master of Science in Psychology

- M.S. in Psychology (p. 986)

Doctoral Program in Psychology

- Ph.D. in Psychology (p. 985)

Certificate in Applied Behavior Analysis

- Certificate in Applied Behavior Analysis (p. 986)

Ph.D. in Psychology

1. The principal goal of the graduate program in Psychology is that of preparing the student for a career contributing to the growth of scientific knowledge in psychology.
 2. Applicants for admission to graduate status in psychology shall have
 - a. a minimum average of B over-all
 - b. at least 18 credit hours of psychology that must include courses in Introductory Psychology, Statistics, and Experimental Psychology or Research Methods.
 - c. Students lacking the necessary preparation must ordinarily make up deficiencies prior to admission to the Graduate School.
 3. All applicants must present the Graduate Record Examination (Aptitude Tests; Advanced Test in Psychology preferred). In all cases admission to graduate degree programs in Psychology is competitive, since available resources do not permit admission of all qualified applicants.
 4. The Ph.D. programs are categorized into three Divisions: *Health Psychology* (including Health Clinical Psychology, Behavioral Medicine, and Behavioral Neurosciences); *Child Psychology* (including Clinical Child Psychology, Pediatric Health Psychology, and Applied Developmental Psychology); *Adult Psychology* (including Adult Clinical Psychology). All clinical Ph.D. programs in Psychology require a minimum of 72 credit hours, including thesis and dissertation credit hours. Non-clinical programs require a minimum of 60 credit hours.
 5. PSY 680 and PSY 681 will not be counted toward the 72 credit hour minimum.
 6. A Master of Science in Psychology based upon 24 credit hours of course work and 6 credit hours of Master's thesis research is required in all programs.
 7. In cases in which a student has a prior graduate degree, the number of credit hours required for the Ph.D. may be reduced at the discretion of the Department.
 8. All programs in Clinical Psychology require an internship.
- All clinical students must successfully complete:

Code	Title	Credit Hours
Foundation Courses		
PSY 604	Cognition and Emotion	3
PSY 605	Cognitive Neuroscience	3
PSY 614	Diversity issues in psychology	3
PSY 620	Advanced Developmental Psychology	3
PSY 625	Social Psychology	3
PSY 640 or PSY 641	Adult Psychopathology Child and Adolescent Psychopathology	3
Methodological Courses		
PSY 631	Psychological Statistics, Research Methods, and Design	3
PSY 632	Multiple Regression and Multivariate Statistics	3
PSY 633	Structural Equation Modeling	3
Total Credit Hours		27

Requirements for Cognitive Neuroscience Track (Non-clinical)

- a. A minimum grade average of B is required for all students.
- b. All students seeking an advanced degree in Psychology must participate substantially in the teaching of course offerings in the Psychology Department as an essential part of their education.

Certificate in Applied Behavior Analysis

<http://www.psy.miami.edu/aba/>

The Post-Baccalaureate Certificate Program in Applied Behavior Analysis (ABA) is a full-time graduate program designed for students who have earned a bachelor's degree in psychology or a related field and are seeking further training and/or professional certification in ABA. It is a 24-credit program designed to be completed in two consecutive semesters (fall/spring). Students who complete the certificate program will meet all the university instructional coursework and experience requirements necessary to take the exam to become a Board Certified assistant Behavior Analyst (BCaBA).

Curriculum Requirements

Code	Title	Credit Hours
Classroom Based Courses ¹		
PSY 666	Concepts and Principles of Applied Behavior Analysis	3
PSY 667	Assessment and Treatment of Language Learning	3
PSY 668	Functional Assessment and Treatment of Aberrant Behavior	3
PSY 669	Professional Issues in Designing and Monitoring Interventions	3
Practicum Courses ²		
PSY 676	Application of ABA: Principles and Concepts	3
PSY 677	Application of the Assessment and Treatment of Language and Learning	3
PSY 678	Application of the Assessment and Treatment of Learning	3
PSY 679	Advanced Application of ABA	3
Total Credit Hours		24

¹ Classroom-based courses are offered in a face-to-face didactic format.

² Practicum course experiences are provided within University of Miami-based ABA training clinics. Each practicum course requires students complete 12 hours per/week of supervised clinical work.

M.S. in Psychology

<http://www.psy.miami.edu/aba/>

The Master's program specializing in Applied Behavior Analysis is a full-time graduate program for students who have earned a bachelor's degree in Psychology or a related field and are seeking further training and/or professional certification in Applied Behavior Analysis. The 36-credit program begins each Fall and is designed to be completed in four consecutive semesters [Fall/Spring/Summer/Fall]. Students who complete the certificate program will meet all the University instructional coursework and experiential [practicum] requirements necessary to become a Board Certified Behavior Analyst [BCBA].

Curriculum Requirements

Code	Title	Credit Hours
Classroom Based Courses ¹		
PSY 664	Ethics and Professional Conduct in Behavior Analysis	3
PSY 665	Advanced Topics in Applied Behavior Analysis	3
PSY 666	Concepts and Principles of Applied Behavior Analysis	3
PSY 667	Assessment and Treatment of Language Learning	3
PSY 668	Functional Assessment and Treatment of Aberrant Behavior	3
PSY 669	Professional Issues in Designing and Monitoring Interventions	3
Practicum Courses ²		
PSY 674	Applications of ABA in Development Disabilities	3
PSY 675	Advanced Applications of Applied Behavior Analysis II	3
PSY 676	Application of ABA: Principles and Concepts	3
PSY 677	Application of the Assessment and Treatment of Language and Learning	3
PSY 678	Application of the Assessment and Treatment of Learning	3

PSY 679	Advanced Application of ABA	3
Total Credit Hours		36

- ¹ Classroom-based courses are offered in a face-to-face didactic format.
- ² Practicum course experiences are provided within University of Miami-based ABA training clinics. Each practicum course requires students complete 12 hours per/week of supervised clinical work.

Sociology

<http://www.as.miami.edu/sociology>

Dept. Code: SOC

Graduate Program Overview

The Graduate Program in Sociology at the University of Miami is intended to equip students with the theoretical, methodological, and analytical tools required for research and teaching. The Graduate Program in Sociology is designed for students seeking the Doctor of Philosophy (Ph.D.) in Sociology. The Master of Arts (M.A.) degree is earned during the first portion of the program. At the doctoral level, graduate students are encouraged to choose two concentrations from three substantive areas:

1. Criminology,
2. Race & Ethnic Relations, and Immigration
3. Medical Sociology.

Although the strengths of the department lie within these major programmatic fields, students may also develop a course of study that meets unique research interests and career objectives. Assistantship and fellowships are awarded each academic year to cover tuition and living expenses.

For more details, consult the Guide to Graduate Study in Sociology available through the Sociology Department (<http://www.as.miami.edu/sociology>).

Masters Program in Sociology

- M.A. in Sociology (p. 987)

Doctoral Program in Sociology

- Ph.D. in Sociology (p. 988)

M.A. in Sociology

<http://www.as.miami.edu/sociology/>

Curriculum Requirements

Code	Title	Credit Hours
SOC 601	Classical Sociological Theory	3
SOC 604	Proseminar in Sociology	1
SOC 609	Social Statistics	3
SOC 610	Advanced Research Methods	3
or SOC 613	Qualitative Research Methods	
SOC 611	Advanced Sociological Statistical Analysis I	3
Select one of the following:		
SOC 615	Class Structure and Social Stratification	3
or SOC 616	Social Psychology: Sociological Perspectives	
Three additional courses ¹		9
SOC 810	Master's Thesis	6
Additional Requirements		
Students must submit and successfully defend a thesis in accordance with graduate school policy		
Total Credit Hours		31

¹ These should include beginning PhD. courses.

* An M.A. in sociology is offered as the first step in the PhD.

- ** A minimum of 31 credit hours at the graduate level 600 of which 6 must be taken in thesis work. Funded full time students will complete 36 credits as a result of funding requirements.
- *** A maximum of 6 credit hours can be transferred from acceptable graduate institutions.
- **** 3 credit hours of course work may be earned in a related discipline. Such course selections must have prior departmental approval.
- ***** The completion of all other requirements stated in sections of the Bulletin devoted to requirements for the Master's Degree and General Information.

Ph.D. in Sociology

www.as.miami.edu/sociology/

Curriculum Requirements

Course requirements for students **WITH** a M.A. in Sociology from UM:

Code	Title	Credit Hours
SOC 602	Contemporary Sociological Theory	3
SOC 612	Sociological Statistics II	3
SOC 610 or SOC 613	Advanced Research Methods Qualitative Research Methods	3
SOC 615 or SOC 616	Class Structure and Social Stratification Social Psychology: Sociological Perspectives	3
SOC 622	Teaching Seminar in Sociology	3
Three courses toward a substantive area of concentration.		9
Three courses toward a second substantive area of concentration		9
Dissertation Work:		12
SOC 830	Pre-Candidacy Doctoral Dissertation ²	
SOC 840	Post-Candidacy Doctoral Dissertation	
Additional Requirements		
Students must pass two written substantive area examinations		
Students must complete a paper of publishable quality		
Students must be admitted to candidacy		
Students must complete a written presentation and oral defense of an acceptable dissertation		
Total Credit Hours		45

- ¹ An M.A. or and M.S. degree is required for admission to this program. The courses taken for the Ph.D. must be different from the courses taken for the M.A. degree.
- ² A maximum of 6 Pre-Candidacy Doctoral Dissertation credit hours may be taken.
- ³ With reference of the 45 total credits hours, it is anticipated that three credit hours will have been taken as electives at the M.A. level.
- ⁴ The satisfactory completion of the requirements of the Graduate School as stated in this Bulletin

Business

<http://www.bus.miami.edu>

Departments

- Accounting
- Business Law
- Business Technology
- Economics
- Finance
- Health Management and Policy
- Management
- Management Science
- Marketing

Research Institutes

Institute for the Study of Quality in Manufacturing and Service

The University of Miami Institute for the Study of Quality in Manufacturing and Service (UMISQ) exists to advance the theory and practice of Quality Science. Its mission is to promote the improvement and innovation of quality on local, national, and international levels through the acquisition, dissemination, and application of knowledge in the areas of science, technology, and management as related to Quality Science in general, and Lean Six Sigma Management specifically.

Objectives

1. To conduct research in Quality Science and to publish its results through appropriate professional and academic outlets.
2. To educate and train management, labor, UM students, and others in the theories and practices of Quality Science in general, and Lean Six Sigma Management specifically.
3. To create internships for M.B.A. students in which they can solve real world problems using Quality Science theory and practice in general, and Lean Six Sigma management theory and practice in particular.
4. To provide a vehicle for Lean Six Sigma certifications.

The Institute pursues its objectives through involvement of faculty, students, and client organizations in all sectors of the economy.

Intelligent Computer Systems Research Institute

The Intelligent Computer Systems Research Institute is a center for research and information dissemination within the field of information business technology. The institute focuses on multi-disciplinary topics such as Big Data, Analytics, Cloud Computing, Artificial Intelligence, Machine Learning, Agent technology, 'The Internet of Things', Health and Legal Informatics, Business Intelligence, and embedded systems.

Objectives

1. To encourage partnerships between academia and industry. Corporate partners can provide data, field studies, test environments, and other resources through which leading theoretical work can be developed tested in an applied environment.
2. To conduct research for publication in leading academic and industry related journals, as well as working papers.
3. To encourage industry partners to work with students through the creation of internship positions. These internships provide students the opportunity to act as a link between the teaching and research of the institute's members and the field based applied environment.

Graduate Business Student Association

The Graduate Business Student Association (GBSA) is a professional and social student-run organization. All graduate business students become members once enrolled in a business master's or doctoral program and are encouraged to attend meetings and events. The GBSA organizes activities and events aimed at strengthening networking within the graduate business student body and the business community while enriching the academic and social experiences of its members. The GBSA is governed by a committee that consists of a president, vice president, treasurer, secretary, marketing director, community service director, networking director, wellness and athletics director, and a Graduate School Association senator. In addition, cohort representatives are elected per program to serve as a liaison between their respective cohort and the committee.

Financial Assistance

Graduate Business Scholarships and Fellowships

There are a limited number of merit-based graduate business scholarships which are awarded at the time of admission to qualified full-time MBA students entering in the fall semester only. A graduate business scholarship covers a portion of tuition for the MBA degree. Graduate business scholarships are not automatically renewed.

In addition to graduate business scholarships, there are a limited number of Emery Means Findley, Jr. Fellowships and scholarships which are awarded by Graduate Business Programs to applicants with outstanding academic credentials. Any applicant who wishes to be considered for a graduate business scholarship or a fellowship, must indicate this in the space provided on the application. Awards are available to both domestic and international students.

There may be a limited number of merit/need-based scholarships which are awarded following admission to Professional and Executive programs. Details on how to apply for these scholarships are provided at the time of admission.

Donor Scholarships

Several endowed scholarships are made available to incoming graduate business students through the generosity of alumni and friends of the University of Miami Business School. These donor scholarships are for the purpose of recruiting students of high academic merit. The total number and amount of scholarship awards vary from year to year.

Scholarships will be awarded based on the recommendations of the Faculty Admissions Committee on a first come, first served basis. Since the number of scholarships is limited, students who meet the minimum criteria are not guaranteed a donor scholarship award.

We regret that a student may be ineligible for financial awards if he/she receives tuition benefits from the University of Miami or accepts any assistantship, scholarship, grant or fellowship from the University of Miami, in addition to our offer. This includes employees, their spouses, and dependents.

BANK OF AMERICA - ENDOWED BUSINESS SCHOLARSHIPS¹

Criteria: A graduate business school student based on a combination of scholarship and financial need, who will preferably specialize in Finance, Accounting, or Management.

JACK R. BORSTING - GRADUATE SCHOLARSHIP ENDOWMENT

Criteria: Outstanding candidate for a master's level business degree.

RYDER/PATRICK J. CESARANO – ENDOWED SCHOLARSHIP¹

Criteria: MBA student with a concentration in finance or management science/operations research. Based on academic excellence and financial need.

PAT & LON WORTH CROW - SCHOLARSHIP ENDOWMENT¹

Criteria: Graduate business student specializing in Finance, who possesses several years of work experience, preferably with an expressed interest in a career in banking or a banking-related field. U.S. citizen, preferably resident in South Florida community.

EMERY MEANS FINDLEY, JR. – ENDOWED GRADUATE FELLOWSHIPS IN BUSINESS

Criteria: Outstanding candidates for Graduate Business Programs.

DEAN M. FOGEL BUSINESS ENDOWED SCHOLARSHIP

Criteria: Graduate business student with financial need and priority is for a United States veteran.

ALBERT AND ESTHER GREEN ENDOWED SCHOLARSHIP

Criteria: Graduate business student with a health challenge, or student studying or working in Health Administration.

ALLAN M. HERBERT & PATRICIA M. HERBERT – ENDOWED GRADUATE BUSINESS SCHOLARSHIP¹

Criteria: Outstanding graduate business student, well-rounded, willing to finance his/her own education, and who appreciates the value of work and strives to combine study, work and extra-curricular activities.

JAMES W. McLAMORE – GRADUATE BUSINESS FELLOWSHIPS

Criteria: To recruit and retain outstanding graduate business students.

E. BRUCE MCLAUGHLIN & CYNTHIA M. SWOL - ENDOWED SCHOLARSHIP IN MARKETING¹

Criteria: Graduate business student with concentration in Marketing, who has significant work experience prior to entering the MBA program. U. S. citizen, with preference given to female students with unmet financial need.

MERRILL LYNCH & CO. FOUNDATION, INC. – FELLOWSHIPS IN INTERNATIONAL FINANCE

Criteria: Graduate business student preparing for a career in International Finance.

CHARLES & ROSE NATIELLO AND THOMAS A. NATIELLO, JR. BUSINESS SCHOLARSHIP

Criteria: Full-time Graduate Business student who has completed one year and is enrolled in a two-year program with a 3.5 GPA or higher.

PIECHOSKI FAMILY GRADUATE BUSINESS FELLOWSHIP

Criteria: Outstanding graduate business student.

SOUTHEAST BANKING CORPORATION FOUNDATION – ENDOWED SCHOLARSHIPS¹

Criteria: Graduate student in the MBA program who is a Florida resident. Based on academic excellence and financial need.

SOUVIRON FAMILY SCHOLARSHIP - Annual MBA Scholarship

Criteria: The annual scholarship is for a MBA student with financial need with a preference for an Eagle Scout, if someone meets that criteria. If not, a qualified MBA student with need.

¹ Essay Required: In 300 words or less, please explain why you need financial assistance to complete your MBA degree. The essay must be included with your application.

Various other donor scholarships are available based upon need, merit, or other specified criteria.

Ziff Graduate Career Services Center

The Ziff Graduate Career Services Center's mission is to provide the most current career services and resources through systems that support career advising, coaching, and student counseling. The Ziff Graduate Career Services Center supports all University of Miami Business School graduate students who seek career guidance, coaching, and targeted job search information. The Ziff Graduate Career Services Center continues to build, foster, and maintain partnerships and corporate relationships with the South Florida business community, as well as relevant national and global business entities to expose and engage students in their chosen career interests.

The Ziff Graduate Career Services Team is committed to providing each student with a personalized career plan along with the requisite resources and skills needed to be competitive in their career path of choice. Developing graduates who will become principled leaders with innovative ideas in a more global society is the most important challenge that the Ziff Team seeks to meet for our students' career readiness.

The Ziff Graduate Career Services Team is the student's front-line resource to assist in the development of an effective career strategy and the personal branding activities and initiatives that will prepare them for a successful job search at all levels of their career. The personal branding efforts include a strategic resume, development of a LinkedIn profile, honing of interview skills through practice and mock interviews with selected employers, faculty and staff, networking opportunities and practices, understanding the generation and maintenance of contacts, and preparation for a successful career transition. Highlighting leadership, organization, and continuous career management while developing and enhancing an array of competencies and skills is central to the mission of the Ziff Graduate Career Services Center.

On Campus Corporate Recruiting, Interviews, and Making Connections

The Miami Business School recruiting initiatives begin in the Fall semester, from mid-September through mid-December, and continue into the Spring semester from mid-January through May. The Ziff Graduate Career Services Center provides ongoing events including Information Sessions, Workshops, Guest Speaker Events, Alumni Engagement, and On Campus recruiters – all in an effort to expose students to Talent Acquisition Professionals, C-Suite executives, Executive and mid-Level Executive Recruiting entities, and real-world executives who contribute their time to present a variety of career pathways and experiences for graduates.

Mock interviews are scheduled in the Fall and Spring to ensure employers are available to students so they may gain experience with their presentation and interviewing skills. The mock interview is a simulation of a job interview and includes a conversational exercise that replicates a real-life interview to the extent possible, or represents a practical scenario to provide experience for candidates in a non-threatening scenario. All participating students receive valuable and objective feedback in writing based on their unique interview experience.

Networking Strategies, Approaches and Practices

Students are encouraged to join the Miami Business Clubs and Groups via LinkedIn, Facebook and other social media outlets as an engaging way to reach out to contacts, companies, classmates, colleagues, UM alums, faculty, and employers to build their own unique network. The ZIFF/ SYMPPLICITY website (<https://sba-miami-csm.symplicity.com>) and the accompanying smart phone application, *Careers by SYMPPLICITY*, provides students with notices, agendas, job listings, itineraries, seminars, and work sessions key to their major. The Ziff team compiles and disseminates a weekly *eNEWS* publication available on the app. Additionally, student emails are sent allowing each to stay abreast of all current and future career opportunities and events.

The University of Miami Alumni Association (<http://www.miamialumni.net>) and the Miami Business School (<http://www.bus.miami.edu/alumni>) allows students to search for classmates, update their contact information, and make valuable career connections. These resources are continuously evolving to provide access to the ever-changing social media marketplace.

The Ziff Graduate Career Services Center also provides networking opportunities through on campus career fairs, guest speaker series and events that encourage students to engage employers, recruiters and other working professionals in a variety of disciplines, and sectors of business and industry. Additionally the Ziff website provides access to UM-MBS-MBA/Masters graduates who make themselves available as a resources for students.

Internship Opportunities and Experience

The Miami Business School encourages students to augment their classroom experience and curriculum through participation in an internship during Summer, Spring, and Fall semesters (if students are eligible). The Ziff Graduate Career Services Center recruits a variety of employers to provide unique and targeted internship opportunities for students - all identified and advertised on the Ziff website.

An internship assignment is a key positioning element for the post-MBA and post-Masters candidate's career. The internship search is the graduate student's main focus at the beginning of their enrollment in their specific program. The Ziff team works with all graduate students to target their career choices and optimize the type of resources necessary, while providing counseling to improve the student's fit for employers.

Registration for Ziff

Miami Business School graduate business students who are seeking employment opportunities post-graduation are required to register on the Ziff website to establish an individual account that includes personal and academic profiles, as well as career goals and objectives, in order to access job postings, workshops, events, coaching, advising, counseling, interviewing strategies, and more. The Ziff Graduate Career Services Center utilizes a software application that allows students to download the Careers by SYMPLICITY app for both iPhone and Android smart phones and any tablets. Students receive alerts about upcoming events and activities, resources for job searches, other career-related opportunities and initiatives, as well as links to employment search engines by major or discipline, while affording an array of other online resources in preparation for job searches and interviewing.

The Ziff team has engaged a few recent software applications that are, like Facebook and LinkedIn, synced with the Careers by SYMPLICITY app for resume optimization and professional objective feedback, as well as a software application for seeking global job opportunities.

Online Resources

The Center's online portal is where students can access an array of tools for career resources, tools for conducting and tracking employment searches and status, networking activities, career fairs, informational sessions, national and regional conferences, professional networking opportunities and corporate presentations - all of which are also promoted on the student's calendars. Updated and new employment search engines and resources and the links to the most efficient website tools are available to students to search types of companies and industries as well as geographic locations, position descriptions, company career requirements and benefits - including compensation packages and qualifications.

Student Responsibilities

Ultimately, success in obtaining a job is defined by the student's own activities, based on each individual's unique set of circumstances, discipline, geographic preferences, type of industry or business, as well as their short and long term goals and objectives. With the Ziff Graduate Career Services Center as a partner, students can create a successful personal branding effort that will connect a network of contacts that will lead to interviews and job offers. Participation in on-campus recruiting activities, Club activities, graduate and on-campus-wide business career fairs, relevant workshops and other MBS-sponsored events is encouraged to broaden students' exposure to individuals and environments that can assist them in their personal job search initiatives.

Students are required to meet with a Ziff Graduate Career Services Center career advisor in their first term to discuss career goals and to develop a personalized career plan that will lay out a strategy and time frame for their goals. This Career Action Plan document and the ongoing strategies and management will be built through numerous advising/coaching sessions, workshops, incorporation of valuable feedback from Miami Business School business partners, faculty and networking contacts - as well as participation in both Miami Business School and external events or initiatives.

International students have the additional responsibility of clarifying their work authorization and visa information in order to secure internships and full or part-time positions. The International Student and Scholar Services Department (ISSS) (http://www.miami.edu/sa/index.php/student_services-1) will be of invaluable assistance.

Please note, the Ziff Graduate Career Services Center supports career outcomes, however, it is the students' personal commitment that truly leads to career success.

The Mentor Program

1. The Miami Business School Mentor Program is designed to enhance the classroom experience by matching students with professionals who have experience and expertise in the students' area of career interest, or are versed in areas of professional development.
2. Through personal interaction with experienced business professionals, students gain an understanding of corporate culture, career directions, and networking. Students also have the opportunity to interact with other mentors by attending regularly scheduled round tables, hosted by the School.
3. Graduate business students are encouraged to participate.
4. Applications are available on our website. (<https://miamimentoring.chronus.com/about>)

Master of Business Administration

- Two Year MBA (p. 1007)
- One Year MBA (p. 1006)
- Accelerated MBA in Real Estate (p. 1001)
- JD/MBA (p. 1004)
- MD/MBA (p. 1005)
- JD/LLM/MBA (p. 1003)
- BArch/MBA (p. 1002)

Executive and Professional

- Professional MBA (p. 996)

- Global Executive MBA (hybrid) (p. 1000)
- Executive MBA Health Sector Management (p. 997)
- Miami Executive MBA en Español (p. 996)
- Miami Executive MBA for Artists and Athletes (hybrid) (p. 999)

Specialized Masters Degrees

- M.H.A. in Health Sector Management and Policy (p. 1009)
- Master of Accounting (p. 1009)
- Master of Science in Business Analytics (p. 1017)
- Master of Arts in Economics (p. 1016)
- Master of Science in Finance (p. 1018)
- Master in International Business Studies (p. 1008)
- Master of Science in Management Studies (p. 1020)
- Master of Science in Taxation (p. 1021)
- Master of Professional Accounting (online) (p. 1016)
- Master of Science in Finance (online) (p. 1019)

Doctoral Programs in Business

- Doctorate of Philosophy in Business (p. 993)
- Doctorate of Philosophy in Economics (p. 995)

Certificate Programs

- Certificate in Accounting Practice (online) (p. 1027)
- Certificate in Corporate Finance (online) (p. 1028)
- Certificate in Financial Decision Making (online) (p. 1029)
- Certificate in Leadership (p. 1030)
- Graduate Business Certificate (p.)

Doctoral

Doctoral

The doctoral program at the University of Miami Business School links world-class faculty with accomplished PhD candidates to prepare them for careers in academic research and teaching. The PhD in Business and PhD in Economics programs, combine interdisciplinary study and research with one-on-one mentoring from faculty experts in your area of interest.

Doctorate of Philosophy in Business

Doctor of Philosophy in Business

The PhD in Business program combines interdisciplinary study and research. It is designed to prepare students for careers in academic research and teaching. Students follow specialized programs of study under the guidance of faculty experts. In addition, they have the opportunity to participate in cross-disciplinary training. The curriculum will also equip students with the skills and experience necessary for academic placement in the world's top research universities.

A minimum of 60 credit hours are required to earn the PhD in Business degree. The program requires year-round, full-time study in order to maximize interaction between faculty and students. Students are expected to interact and begin research projects with the faculty upon entering the program.

The requirements for the PhD in Business degree are the same as those listed in the general section.

Students may choose to concentrate their study in:

- **Accounting**
- **Finance**
- **Management Science**
- **Marketing**
- **Operations Management**
- **Organizational Behavior**
- **Strategy/International Business**

Required “Core” Courses

*These courses can be waived by consent of the appropriate department; waiver is granted by issuing transfer credit hours for similar courses taken at the advanced graduate level at accredited institutions.

There are two streams of “core” courses for students, each comprising of five courses.

Stream I

(Accounting, Finance, Management Science, Marketing-Quantitative, and Operations Management)

Code	Title	Credit Hours
ECO 600	Econometrics	3
ECO 601	Graduate Macroeconomic Theory	3
ECO 602	Advanced Microeconomic Theory	3
ECO 612	Economic Strategies for Firms and the Industry	3
ECO 620	Advanced Econometrics	3
Total Credit Hours		15

Stream II

(Marketing-Consumer Behavior, Organizational Behavior, Strategy/International Business)

Code	Title	Credit Hours
PSY 625	Social Psychology	3
PSY 631	Psychological Statistics, Research Methods, and Design	3
PSY 632	Multiple Regression and Multivariate Statistics	3
SOC 610	Advanced Research Methods	3
SOC 616	Social Psychology: Sociological Perspectives	3
or ECO 602	Advanced Microeconomic Theory	
Total Credit Hours		15

Area of Concentration Courses

*These are to be decided by the student and faculty.

*Students in the Management Science concentration are required to complete at least 30 graduate credits in STEM courses.

In total, a minimum of 33 credit hours in concentration courses are to be taken, up to 15 of which may be satisfied by transfer-credit hours. Some Departments may require students to complete a minor field. If so, their major field must consist of a minimum of 24 credit hours (with at least 15 credit hours completed in doctoral program residence at the University of Miami). The minor field would then consist of 9-12 credit hours in an area outside of the major concentration (with a minimum of 9 credit hours taken in doctoral program residency at the University of Miami).

Dissertation Research

12 credit hours are to be taken at a minimum—two semesters of 6-9 credit hours each. No transfer credit is given for dissertation or prior research.

Total Credit Hour Requirements

In total, a minimum of 60 credit hours are required for receiving the Ph.D. degree in Business:

Code	Title	Credit Hours
"Core" courses		15
"Concentration" courses		33
Dissertation research		12
Total Credit Hours		60

To this total must be added any prerequisite courses (as outlined above), with transfer- credit hours being subtracted.

Doctorate of Philosophy in Economics

The Ph.D. program in Economics prepares the recipient for a variety of research-oriented career opportunities, including university research/teaching, government employment, and a host of employment opportunities in the private sector

Curriculum Requirements

Code	Title	Credit Hours
Core Courses		
ECO 600	Econometrics	3
ECO 601	Graduate Macroeconomic Theory	3
ECO 602	Advanced Microeconomic Theory	3
ECO 603	Monetary Theory and Policy	3
ECO 612	Economic Strategies for Firms and the Industry	3
ECO 620	Advanced Econometrics	3
ECO 621	Advanced Macro Analysis	3
ECO 625	Applied Econometrics	3
ECO 633	Advanced Micro Analysis	3
ECO 634	Advanced Micro Analysis II	3
ECO 860	The Theory of International Trade (Theory of International Trade)	3
MTH 633	Introduction to Real Analysis I	3
Fields of Specialization		
Select two of the following Areas of Concentration:		6
Macroeconomics:		
ECO 603	Monetary Theory and Policy	
ECO 604	Topics in Applied Macroeconomics	
Financial Economics:		
ECO 604	Topics in Applied Macroeconomics	
ECO 625	Applied Econometrics	
Human Resource Economics:		
ECO 611	Labor Economics (III)	
ECO 625	Applied Econometrics	
Environmental Economics:		
ECO 625	Applied Econometrics	
ECO 645	Regulations Economics	
Cognate Areas with Departmental Approval		
One Course from a Minor Field		3
Electives		
Select one Elective from the graduate offerings of the Mathematics, Business Technology, Management Science, and Finance departments		
Additional Requirements		
Comprehensive Examinations covering the core and the one field of specialization		3

ECO 830	Doctoral Dissertation	12
Total Credit Hours		60

* Applicants for admission to graduate study in Economics should have an extensive background in Economic Theory and Quantitative methods.

MBA Programs

MBA Programs

The MBA (Master of Business Administration) at the University of Miami Business School prepare students for leadership in today's rapidly changing global economy. In order to compete and succeed in the 21st century, business leaders must not only be able to adapt to change, they must *drive* change. At the Miami Business School, we not only prepare students for careers in management and leadership positions, we produce creative thinkers, strong communicators, and the best negotiators.

MBA programs are offered in different formats to serve the diverse academic and business needs of our constituents including full time, part time, hybrid and online.

Executive and Professional MBA Programs

Executive MBA and Professional MBA Programs

The University of Miami Business School offers Executive and Professional MBA programs that are designed for accomplished professionals who are ready to take their career to the next level without interrupting their career. Participants gain insight and understanding into the business environment by gaining a more global outlook and are better equipped to meet the challenges of today's business world. They become better negotiators, strategic thinkers, and more effective team players in a variety of business related situations. Programs include:

- Professional MBA
- Global Executive MBA
- Executive MBA in Health Sector Management and Policy
- Miami Executive MBA en Español
- Miami Executive MBA for Artists and Athletes

Miami Executive MBA en Español

Miami Executive MBA en Español

The University of Miami Business School's Miami Executive MBA en Español is designed for highly experienced Spanish-speaking executives, entrepreneurs and other professionals in Latin America. The Miami Executive MBA en Español enables participants to broaden their business knowledge, improve their management skills and strategic decision-making abilities, and expand their professional network through close interaction with a select group of business leaders from across Latin America. The Miami Executive MBA en Español is taught in seven, two-week sessions offering a total of 15 courses of which 13 take place on campus in Coral Gables and two abroad during a Residential Session Abroad. The courses are given in sequence; the same group of students advances together throughout the entire program. A two-week residential session abroad provides MBA students with the opportunity to gain international business perspectives, first-hand. As part of this program, students may receive lectures on pressing international business matters, meet prominent local business leaders, tour companies and manufacturing operations, and immerse themselves in a country's cultural, social, and business environment. All classes are taught entirely in Spanish, with some reading materials in English, so reading-level knowledge of English is required.

To obtain detailed program admission curricula information please reference the program brochure which can be requested by contacting the Office of Recruiting and Admissions at 305-284-2510 or visit our website (<http://www.bus.miami.edu/graduate-programs/executive-mba/global-emba>).

Curriculum Requirements

Code	Title	Credit Hours
Session I		
ACC 607	Financial Accounting and Reporting	3
MGT 651	Behavioral and Organizational Systems	3
MGT 628	Global Entrepreneurship ¹	4
Session II		
FIN 602	Fundamentals of Finance	3
MKT 660	Foundations of Marketing Management	3

Session III		
ECO 675	Latin America and the Global Economy	3
Elective Course		3
Session IV		
MAS 612	Advanced Quantitative Analysis	3
BTE 621	Management Information Systems	3
Session V		
BUS 605	Residential Session Abroad	2
ECO 691	Managerial Economics	3
Session VI		
MGT 653	Operations Management	3
MGT 658	Strategic Management	3
Session VII		
BSL 696	Legal and Ethical Implications in Executive Decision Making	3
Elective Course		3
Total Credit Hours		45

¹ Runs throughout the program.

Health Sector Management and Policy

The University of Miami Business School Executive MBA in Health Sector Management and Policy Program prepares graduates for positions of leadership in health care and health-related organizations. The program focuses on the post-graduate educational needs of professionals already fully employed in the health care industry, as well as those aspiring to careers in the field. Combining its strengths in graduate business education and its close relationships with the South Florida health care community, the program teaches practical administrative skills as well as broad strategic and theoretical perspectives to students who wish to expand their knowledge of management and administration as applied to the health care industry.

To obtain detailed program admission and curricula information please reference the program brochure which can be requested by contacting the Office of Recruiting and Admissions at 305-284-2510 or visit our website (<http://www.bus.miami.edu/graduate-programs/executive-mba/health-management>).

Curriculum Requirements

Code	Title	Credit Hours
Year One Spring Semester-Term 1		
BUS 601	MBA Math Module	0
MGT 651	Behavioral and Organizational Systems	3
HSM 601	Essentials of Health Care Administration	3
Year One Spring Semester-Term 2		
ACC 602	Analysis of Financial Statements	3
HSM 684	Analysis of Health Care Delivery and Policy	3
Year One Fall Semester-Term 1		
MAS 610	Statistical Analysis for Managerial Decision Making	3
MKT 660	Foundations of Marketing Management	3
Year One Fall Semester-Term 2		
MAS 641	Operations Research Models in Management	3
HSM 687	Health Care Organization, Economics, and Ethics	3
Year Two Spring Semester-Term 1		
FIN 602	Fundamentals of Finance	3
MGT 653	Operations Management	3
Year Two Spring Semester-Term 2		
MGT 602	Human Resource Management	3
HSM 655	Public Policy and Health	3
Year Two Fall Semester-Term 1		
ACC 660	Managerial Accounting in Healthcare Organizational	3

BTE 621	Management Information Systems	3
Year Two Fall Semester-Term 2		
MGT 658	Strategic Management	3
BSL 685	Legal Aspects of Health Administration	3
Total Credit Hours		48

Professional MBA

Professional MBA

The University of Miami Business School's Professional MBA Program is designed for professionals with three to seven years of work experience who aspire to pursue a career in business or would like to strengthen their knowledge and skills in the fundamental disciplines of business to make them successful in today's competitive environment. The Professional MBA Program provides professionals the opportunity to earn an MBA by attending class on Monday evenings and Saturday mornings.

To obtain detailed program admission and curricula information please reference the program brochure which can be requested by contacting the Office of Recruiting and Admissions at 305-284-2510 or visit our website (<http://bus.miami.edu/graduate-programs/professional-mba>).

Professional MBA, Fall Cohort

Code	Title	Credit Hours
Year One Fall Semester-Term 1		
ACC 607	Financial Accounting and Reporting	3
ECO 690	Essentials of Economic Theory	3
Year One Fall Semester-Term 2		
MAS 610	Statistical Analysis for Managerial Decision Making	3
MGT 600	Managing Responsible Behavior in Organizations	3
Year One Spring Semester-Term 1		
FIN 602	Fundamentals of Finance	3
MKT 660	Foundations of Marketing Management	3
Year One Spring Semester-Term 2		
Elective*		2
Elective*		2
Elective (optional)*		2
Year Two Fall Semester-Term 1		
Elective*		2
MAS 641	Operations Research Models in Management	3
Year Two Fall Semester-Term 2		
MGT 653	Operations Management	3
BTE 621	Management Information Systems	3
Year Two Spring Semester-Term 1		
ACC 608	Managerial Accounting	3
BSL 695	Legal Implications in Executive Decision Making	3
Year Two Spring Semester-Term 2		
MGT 658	Strategic Management	3
Total Credit Hours		42-44

* Elective courses offered are based on class demand

Professional MBA, Spring Cohort

Code	Title	Credit Hours
Year One Spring Semester-Term 1		
ACC 607	Financial Accounting and Reporting	3
MGT 600	Managing Responsible Behavior in Organizations	3
Year One Spring Semester-Term 2		
ECO 690	Essentials of Economic Theory	3

MAS 610	Statistical Analysis for Managerial Decision Making	3
Year One Fall Semester-Term 1		
ACC 608	Managerial Accounting	3
FIN 602	Fundamentals of Finance	3
Year One Fall Semester-Term 2		
MAS 641	Operations Research Models in Management	3
MKT 660	Foundations of Marketing Management	3
Year Two Spring Semester-Term 1		
BTE 621	Management Information Systems	3
MGT 653	Operations Management	3
Year Two Spring Semester-Term 2		
Elective*		2
Elective*		2
Elective (optional)*		2
Year Two Fall Semester-Term 1		
Elective*		2
BSL 695	Legal Implications in Executive Decision Making	3
Year Two Fall Semester-Term 2		
MGT 658	Strategic Management	3
Total Credit Hours		42-44

* Elective courses offered are based on class demand and availability

The Miami Executive MBA for Artists and Athletes (hybrid)

The Miami Executive MBA for Artists and Athletes is an accredited track of our existing Executive MBA program which combines classroom courses and online distance learning to allow both active and retired NFL players, as well as other athletes and artists the ability to take courses while tending to their regular daily activities or business commitments. This is a very important population, many of whom are already executives familiar with branding, marketing, media, and public relations. The participants in this Program would have demonstrated working in collaborative environments. They also possess a highly disciplined work ethic and perseverance to succeed.

The EMBA for Artists and Athletes track builds on these daily features of life and provides a framework for participants to capitalize on their experiences and become successful managers and business leaders during and/or after their professional sports and entertainment days. These individuals have to learn to transition their playing skills into practical leadership and business skills. The Artists and Athletes track provides participants with the industry exposure and extensive network base, both key for elevating their careers and leveraging their personal brands. Similar to our other EMBA tracks, the EMBA for Artists & Athletes is lock-step in nature. Participants progress together through a sequential pattern of courses. They will obtain their MBA from UM after a successful completion of 42 credits over an 18 month period. The course curriculum is adapted from the EMBA and Professional MBA programs with some adaptations with a similar structure to our Global Executive MBA Program. The Artists and Athletes track consists of 6 residencies in an 18 month period (33 credits) and the online distance learning module (9 credits) for a total of 42 credits.

To obtain detailed program admission and curricula information please reference the program brochure which can be requested by contacting the Office of Recruiting and Admissions at 305-284-2510 or visit our website (<http://www.bus.miami.edu/graduate-programs/executive-mba/emba-artists-athletes>).

Code	Title	Credit Hours
Spring Semester		
Residency 1		
BUS 601	MBA Math Module	0
BUS 602	Critical Thinking and Effective Writing	1
BUS 603	Critical Thinking and Effective Speaking	1
MGT 600	Managing Responsible Behavior in Organizations	3
Residency 2		
ACC 607	Financial Accounting and Reporting	3
MKT 660	Foundations of Marketing Management	3
Online		
ACC 608	Managerial Accounting	3

Residency 3		
BSL 696	Legal and Ethical Implications in Executive Decision Making	3
ECO 690	Essentials of Economic Theory	3
Online Prep		0
Fall Semester		
Online		
MAS 610	Statistical Analysis for Managerial Decision Making	3
MAS 641	Operations Research Models in Management	3
Spring Semester		
Residency 4		
FIN 602	Fundamentals of Finance	3
MGT 621	High Performance Leadership	2
Residency 5		
MGT 625	Entrepreneurship: Creating New Ventures	2
MGT 653	Operations Management	3
Residency 6		
FIN 645	Real Estate Finance	3
MGT 658	Strategic Management	3
Total Credit Hours		42

Global Executive MBA

The Global Executive MBA program is aimed at senior executives who want to further their business acumen and enhance their understanding of conducting business globally. The format flexibility and length of the program will permit students to earn their MBA. The 17-month program blends face-to-face on-campus modules, which include executive presentations, case studies and group projects, with distance learning. It covers four focus areas (Global Strategy and Execution; Managing Global Operations and Decision Making; Global Multi-Cultural Leadership; and Entrepreneurship, Innovation and Technology) through eleven courses or modules, as well as an Integrated Project carried out in nine on-campus residencies and eight Inter-Residencies (distance-learning). The Global EMBA is lock-step in nature. Students will progress together through a sequential pattern of courses. The students will obtain their MBA after the successful completion of 45 credit hours over an 17 month period.

To obtain detailed program admission and curricula information please reference the program brochure which can be requested by contacting the Office of Recruiting and Admissions at 305-284-2510 or visit our website (<http://www.bus.miami.edu/graduate-programs/executive-mba/emba-americas>).

Curriculum Requirements

Code	Title	Credit Hours
Fall Semester		
Residency 1 (One week)		
BUS 650	Introduction to the Miami EMBA for the Americas	1
BUS 652	Global Strategy	2
BUS 656	Integrated Business Project ¹	2
Residency 2		
BUS 653	Global Institutions, Infrastructure, and Environment	4
Residency 3		
BUS 651	Global Strategic Marketing	4
Spring Semester		
Residency 4		
BUS 654	Corporate Financing and Investing	4
BUS 656	Integrated Business Project	2
Residency 5		
BUS 657	Optimizing Human Capital	4
Residency 6		
BUS 658	Business Analytics	4
Fall Semester		

Residency 7		
BUS 656	Integrated Business Project	2
BUS 663	Entrepreneurship and Innovation	4
Residency 8		
BUS 661	Enhancing Global Operations	4
Residency 9 (One week)		
BUS 662	Decision Making in Global Environment	4
BUS 660	High Performance Leadership	4
Total Credit Hours		45

1. Runs throughout the program.

Full Time MBA Programs

Full-Time MBA Programs

The University of Miami delivers full-time MBA programs that are innovative, flexible and career focused. They are designed for those who either have an undergraduate background in business, or are from other industry areas interested in a career in business. The curriculum not only prepares students for leadership in business, it adds a valuable dimension to other professions. Students become better negotiators, strategic thinkers, and more effective team players in a variety of business related situations. Programs include:

- Two-Year MBA
- One-Year MBA
- Accelerated MBA in Real Estate
- JD/MBA (Joint Degree)
- MD/MBA (Joint Degree)
- JD/LLM/MBA
- BArch/MBA (Joint Degree)

Accelerated MBA in Real Estate

Accelerated MBA in Real Estate

The Miami Business School offers an accelerated MBA program with a concentration in real estate highlighted by two internship opportunities. Bringing together the School's strengths in management education with the strengths of the UM School of Architecture in new urbanism, the program prepares students to succeed in commercial real estate market careers. This program is designed to meet the needs of the student with an undergraduate degree in business. Applicants must demonstrate successful completion of the core business courses: Financial and Managerial Accounting, Microeconomics, Macroeconomics, Statistics, Calculus, Organizational Behavior, Operations Management, Marketing, and Finance.

To obtain detailed program admission information, please reference the program brochure which can be requested by contacting the Office of Recruiting and Admissions at 305-284-2510 or visit our website (http://bus.miami.edu/graduate-programs/full-time-mba/real-estate/index.html?utm_source=undefined&utm_medium=undefined&utm_campaign=undefined&utm_term=undefined&utm_content=undefined).

Code	Title	Credit Hours
Summer Semester		
BUS 801	Introduction to Commercial Real Estate: Analysis and Field Experience	3
Fall Semester		
BUS 802	Commercial Real Estate Field Experience	3
Spring Semester-Term 1		
BUS 604	Career Development and Enrichment	0
FIN 641	Valuation and Financial Decision Making	2
FIN 644	Real Estate Investment and Appraisal	2
FIN 645	Real Estate Finance (Full Semester)	3
MAS 632	Management Science Models for Decision Making	2
RED 680	Entrepreneurship in Real Estate Development	3
Spring Semester-Term 2		
BSL 690	Legal and Ethical Implications of Business Decision Making	2

BTE 610	Foundations of Management Information Systems	2
FIN 642	The Financial Environment	2
FIN 648	Advanced ARGUS	1
Fall Semester-Term 1		
BUS 602	Critical Thinking and Effective Writing	1
BUS 604	Career Development and Enrichment	1
FIN 649	Non-Profit Consulting Project (Full Semester)	2
MKT 650	Strategic Marketing	2
RED 601	Introduction to Real Estate Development and Urbanism	3
Fall Semester-Term 2		
BSL 694	Real Estate Law	2
BUS 603	Critical Thinking and Effective Speaking	1
MGT 677	Corporate Strategy and Organization	2
Elective		2
Total Credits		41

BArch/MBA

The Bachelor of Architecture/Master of Business Administration is an exciting joint venture with the Miami Business School and School of Architecture, which will allow students to earn a Bachelor of Architecture as well as a Master of Business Administration. The joint degree offers students the unique opportunity to complete the two degrees in six years, saving an entire year by combining the programs.

Students will begin taking Saturday graduate level business courses during the fourth year of their architecture program. Both degrees are fully accredited by their respective accrediting bodies – the NCARB and AACSB International.

To obtain detailed program admission information, please reference the program brochure which can be requested by contacting the Office of Recruiting and Admissions at 305-284-2510 or visit our website (<http://www.arc.miami.edu/academics/undergraduate/bachelor-of-architecture-mba>).

Curriculum Requirements

Code	Title	Credit Hours
Year One Spring Semester-Term 1		
BSL 690	Legal and Ethical Implications of Business Decision Making	2
BUS 602	Critical Thinking and Effective Writing	1
BUS 604	Career Development and Enrichment	0
MAS 632	Management Science Models for Decision Making	2
Elective		2
Elective		2
Year One Spring Semester-Term 2		
BUS 603	Critical Thinking and Effective Speaking	1
BTE 610	Foundations of Management Information Systems	2
FIN 642	The Financial Environment	2
MGT 643	Principles of Operations Management	2
MKT 650	Strategic Marketing	2
Year One Fall Semester-Term 1		
BUS 604	Career Development and Enrichment	1
MGT 675	Business Policy and Strategy	2
ECO 685	Managerial Decisions in a Global Economy	2
Elective		2
Elective		2
Year One Fall Semester-Term 2		
Elective		2
Elective		2
Elective		2
Year Two Spring Semester-Term 1		

Elective		2
Elective		2
Elective		2
Year Two Spring Semester-Term 2		
MGT 677	Corporate Strategy and Organization	2
Elective		2
Elective		2
Total Credits		45

¹ Elective offerings are based on class demand.

² Prerequisite coursework: The following courses must be successfully completed during the fourth year of the BArch program: ACC 670, FIN 641, MAS 201, MGT 620, MKT 640

JD/LLM/MBA

JD/LLM/MBA

Triple Degree Program: A Specialized Option for Business Majors

The University of Miami School of Law and the Miami Business School have created a triple degree program - a JD, an LLM in Tax or Real Property Development, and an MBA- which can be completed in just four years and two summers.

This program offers a combination of legal and business degrees to students who were undergraduate business majors. These credentials are ideal for anyone with a long-term goal of servicing top corporate clients or becoming a senior executive at a bank, real estate company, or financial institution. They also serve as significant assets in today's competitive marketplace to any attorney starting out in tax or real estate law.

To obtain detailed program admission, please reference the program brochure which can be requested by contacting the Office of Recruiting and Admissions at 305-284-2510 or visit our website (<http://bus.miami.edu/graduate-programs/full-time-mba/jd-llm-mba>).

Code	Title	Credit Hours
Spring Semester-Term 1		
BUS 602	Critical Thinking and Effective Writing	1
BUS 604	Career Development and Enrichment	0
FIN 641	Valuation and Financial Decision Making	2
MAS 632	Management Science Models for Decision Making	2
Elective		2
Elective		2
Spring Semester-Term 2		
BSL 690	Legal and Ethical Implications of Business Decision Making	2
BUS 603	Critical Thinking and Effective Speaking	1
BTE 610	Foundations of Management Information Systems	2
FIN 642	The Financial Environment	2
MKT 641	Marketing Research	2
Fall Semester-Term 1		
BUS 604	Career Development and Enrichment	1
MGT 645	Principles of Supply Chain Management	2
MKT 650	Strategic Marketing	2
Elective		2
Elective		2
Fall Semester-Term 2		
MGT 677	Corporate Strategy and Organization	2
Elective		2
Elective		2
Elective		2
Total Credit Hours		35

JD/MBA

Juris Doctor /Master of Business Administration

The University of Miami School of Law and the Miami Business School offer a joint degree program in law and business. Upon completion of this program, a student earns the Juris Doctor degree from the School of Law and a Master of Business Administration degree from the Miami Business School.

Students who apply for the joint J.D./M.B.A. program must apply to both the School of Law and the Miami Business School. The applicant must achieve a qualifying score on the Law School Admissions Test (LSAT) and the Graduate Management Admissions Test (GMAT) for admission to the respective schools. The applicant must notify both schools that he or she is applying for the joint J.D./M.B.A. program, and in order to remain in the joint program, the student must meet minimum standards of both the School of Law and the Miami Business School.

To obtain detailed program admission information, please reference the program brochure which can be requested by contacting the Office of Recruiting and Admissions at 305-284-2510 or visit our website (http://bus.miami.edu/graduate-programs/full-time-mba/jd-mba/index.html?utm_source=undefined&utm_medium=undefined&utm_campaign=undefined&utm_term=undefined&utm_content=undefined).

In addition to all requirements for the J.D degree., students in the joint J.D./M.B.A. program must complete the following courses:

LAW 406 - Professional Responsibility

And two of the following:

LAW 100 - Business Associations

LAW 101 - Commercial Law

LAW 105 - Federal Income Tax

Code	Title	Credit Hours
Year One Fall Semester-Term 1		
ACC 670	Financial Reporting and Analysis	2
BUS 600 or BUS 602	Fundamentals of Critical Thinking and Effective Writing (Optional) Critical Thinking and Effective Writing	1
BUS 604	Career Development and Enrichment	0
ECO 685	Managerial Decisions in a Global Economy	2
MGT 675	Business Policy and Strategy	2
Year One Fall Semester-Term 2		
ACC 671	Accounting for Decision Making	2
BUS 603	Critical Thinking and Effective Speaking (Optional)	1
MAS 631	Statistics for Managerial Decision Making	2
MGT 620	Managing Through People	2
Year One Spring Semester-Term 1		
BSL 690	Legal and Ethical Implications of Business Decision Making	2
BUS 604	Career Development and Enrichment	1
FIN 641	Valuation and Financial Decision Making	2
MAS 632	Management Science Models for Decision Making	2
MKT 640	Foundations of Marketing Management	2
Year One Spring Semester-Term 2		
BTE 610	Foundations of Management Information Systems	2
FIN 642	The Financial Environment	2
MGT 643	Principles of Operations Management	2
MKT 650	Strategic Marketing	2
Year Two Fall Semester-Term 1		
BUS 604	Career Development and Enrichment	0
Elective		2
Elective		2
Elective		2
Elective		2
Year Two Fall Semester-Term 2		
Elective		2

Elective		2
Elective		2
Elective		2
Year Two Spring Semester-Term 1		
BUS 604	Career Development and Enrichment	1
Elective		2
Elective		2
Elective		2
Elective		2
Year Two Spring Semester-Term 2		
MGT 677	Corporate Strategy and Organization	2
Elective		2
Elective		2
Elective		2
Total Credit Hours		46-48

7 electives (14 credits) are required during the 2nd year of the program. Elective offerings are based on class demand.

MD/MBA

MD/MBA

The University of Miami Business School offers a joint MD/MBA degree program in partnership with the University's Miller School of Medicine (<http://www.med.miami.edu>). The business curriculum prepares future physicians for the business complexities related to running a private medical practice or heading a group practice, and prepares medical students for careers in health sector management, leadership, and policy.

The MD/MBA program adds an additional year to the four-year medical school curriculum. The MBA coursework ranges from financial reporting and corporate strategy to the legal aspects of health administration.

MD students are eligible to apply to the MD/MBA program during their 3rd year of Medical School and will be required to submit a Full-Time MBA online application and the GMAT (<http://www.mba.com>) to be considered for the program.

To obtain detailed program admission information, please reference the program brochure which can be requested by contacting the Office of Recruiting and Admissions at 305-284-2510 or visit our website (<http://bus.miami.edu/graduate-programs/full-time-mba/md-mba>).

Curriculum Requirements

Code	Title	Credit Hours
Fall Semester-Term 1		
ACC 670	Financial Reporting and Analysis	2
BUS 604	Career Development and Enrichment	0
ECO 685	Managerial Decisions in a Global Economy	2
HSM 601	Essentials of Health Care Administration	2
HSM 683	Professional Skills Development (Full Semester)	2
MGT 675	Business Policy and Strategy	2
Elective		2
Fall Semester-Term 2		
ACC 671	Accounting for Decision Making	2
BSL 685	Legal Aspects of Health Administration	2
BUS 603	Critical Thinking and Effective Speaking	1
MAS 631	Statistics for Managerial Decision Making	2
MGT 620	Managing Through People	2
Elective		2
Spring Semester-Term 1		
BUS 604	Career Development and Enrichment	1
FIN 641	Valuation and Financial Decision Making	2
MAS 632	Management Science Models for Decision Making	2

HSM 684	Analysis of Health Care Delivery and Policy	2
MKT 640	Foundations of Marketing Management	2
Elective		2
Spring Semester-Term 2		
BTE 610	Foundations of Management Information Systems	2
FIN 642	The Financial Environment	2
HSM 655	Public Policy and Health	2
MGT 643	Principles of Operations Management	2
MGT 677	Corporate Strategy and Organization	2
Total Credit Hours		44

One Year MBA

One Year MBA Program

The One-Year MBA program at the University of Miami Business School is offered once per year in January. This program is innovative, flexible, and career focused. It is designed to meet the needs of the student with an undergraduate degree in business, who graduated from an accredited university. The 35-credit curriculum is cohort based and completed in one year.

To obtain detailed program admission information, please reference the program brochure which can be requested by contacting the Office of Recruiting and Admissions at 305-284-2510 or visit our website (<http://bus.miami.edu/graduate-programs/full-time-mba/one-year-mba>).

Curriculum Requirements

Code	Title	Credit Hours
Spring Semester-Term 1		
BUS 602	Critical Thinking and Effective Writing	1
BUS 604	Career Development and Enrichment	0
FIN 641	Valuation and Financial Decision Making	2
MAS 632	Management Science Models for Decision Making	2
Elective		2
Elective		2
Spring Semester-Term 2		
BSL 690	Legal and Ethical Implications of Business Decision Making	2
BTE 610	Foundations of Management Information Systems	2
BUS 603	Critical Thinking and Effective Speaking	1
FIN 642	The Financial Environment	2
MKT 641	Marketing Research	2
Fall Semester-Term 1		
BUS 604	Career Development and Enrichment	1
MGT 645	Principles of Supply Chain Management	2
MKT 650	Strategic Marketing	2
Elective		2
Elective		2
Fall Semester-Term 2		
MGT 677	Corporate Strategy and Organization	2
Elective		2
Elective		2
Elective		2
Total Credit Hours		35

Two Year MBA

Two Year MBA Program

The full-time two-year MBA Program is innovative and career focused. It is designed to meet the needs of undergraduate students who have studied in any discipline. In addition to preparing business leaders of the future, the curriculum adds a valuable dimension to those seeking to build their business acumen for a wide variety of future career opportunities.

UM's full-time MBA program is a 56 credit hour, lock-step program that is completed in less than two calendar years. Students typically enroll in elective courses during the second year of the program. In addition, students may enroll in a foreign language class, with no additional charge.

To obtain detailed program admission information, please reference the program brochure which can be requested by contacting the Office of Recruiting and Admissions at 305-284-2510 or visit our website (<http://bus.miami.edu/graduate-programs/full-time-mba/two-year-mba>).

Curriculum Requirements

Code	Title	Credit Hours
Year One Fall Semester-Term 1		
ACC 670	Financial Reporting and Analysis	2
BUS 600 or BUS 602	Fundamentals of Critical Thinking and Effective Writing Critical Thinking and Effective Writing	1
BUS 604	Career Development and Enrichment	0
ECO 685	Managerial Decisions in a Global Economy	2
MGT 675	Business Policy and Strategy	2
Year One Fall Semester-Term 2		
ACC 671	Accounting for Decision Making	2
BUS 603	Critical Thinking and Effective Speaking	1
MAS 631	Statistics for Managerial Decision Making	2
MGT 620	Managing Through People	2
Year One Spring Semester-Term 1		
BSL 690	Legal and Ethical Implications of Business Decision Making	2
BUS 604	Career Development and Enrichment	1
FIN 641	Valuation and Financial Decision Making	2
MAS 632	Management Science Models for Decision Making	2
MKT 640	Foundations of Marketing Management	2
Year One Spring Semester-Term 2		
BTE 610	Foundations of Management Information Systems	2
FIN 642	The Financial Environment	2
MGT 643	Principles of Operations Management	2
MKT 650	Strategic Marketing	2
Year Two Fall Semester-Term 1		
BUS 604	Career Development and Enrichment	0
Elective		2
Elective		2
Elective		2
Elective (Optional)		2
Year Two Fall Semester-Term 2		
Elective		2
Elective		2
Elective		2
Elective (Optional)		2
Year Two Spring Semester-Term 1		
BUS 604	Career Development and Enrichment	1
Elective		2
Elective		2
Elective		2

Elective (Optional)	2
Year Two Spring Semester-Term 2	
MGT 677	Corporate Strategy and Organization
Elective	2
Elective	2
Elective (Optional)	2
Total Credits	56

* 11 electives (22 credits) are required during the 2nd year of the program. Elective offerings are based on class demand.

Specialized Master Degrees

Specialized Master Degrees

The Miami Business School offers a premier catalog of master's degree programs geared toward specific career paths. Each of these full-time programs can be completed in less than one year. Students will focus on in-depth business analysis as well as enhancing their proficiency in topics like accounting, finance, and organizational leadership. A new skill-set in a specialized area will make students more valuable to their organizations and more competitive in the marketplace.

- M.H.A. in Health Sector Management and Policy
- Master in International Business
- Master of Accounting
- Master of Arts in Economics
- Master of Professional Accounting (online)
- Master of Science in Business Analytics
- Master of Science in Finance
- Master of Science in Finance (online)
- Master of Science in Management (Leadership)
- Master of Science in Taxation

Master in International Business

Master in International Business

The Master in International Business (MIB) program seeks to develop global leaders. To this end, it offers to a select group of globally-minded students from throughout the world with rich experiential learning opportunities in Miami and other locations worldwide. The program incorporates a rigorous academic curriculum focusing on best practices by both global startups and leading multinationals in addressing their emerging opportunities and challenges. Students are exposed to South Florida's rich multicultural business community and the hundreds of international conferences that it hosts every year. Students may focus their professional development efforts on developing both regional competencies and functional expertise of their choice. MIB program activities in and out of classrooms are designed to help its students bond, as well as expand their professional network with participants of other graduate business programs.

To obtain detailed program admission information, please reference the program brochure which can be requested by contacting the Office of Recruiting and Admissions at 305-284-2510 or visit our website (<http://bus.miami.edu/graduate-programs/specialized-masters/international>).

Curriculum Requirements

Code	Title	Credit Hours
Summer Semester		
Intensive English Program - Mandatory for non-native English speakers in need of enhancing English language skills		
Fall Semester-Term 1		
ACC 670	Financial Reporting and Analysis	2
BUS 610	Critical Thinking and Persuasion for Business	2
ECO 695	Global Economics	2
MAS 631	Statistics for Managerial Decision Making	2
MGT 620	Managing Through People	2
Fall Semester-Term 2		
FIN 641	Valuation and Financial Decision Making	2

MGT 643	Principles of Operations Management	2
MGT 691	International Management	2
MKT 640	Foundations of Marketing Management	2
Spring Semester-Term 1		
BUS 622	Global Business Consulting (Optional - Student must apply *Full Semester)	3
BSL 692	Legal Implications of International Business Transactions	2
FIN 660	International Finance	2
MGT 628	Global Entrepreneurship (Can be waived if participating in BUS 622)	2
MGT 645	Principles of Supply Chain Management	2
Spring Recess		
BUS 624	Asian/Pacific Business Environment- International Trip	2
BUS 625	Latin America Business Environment - International Trip	2
BUS 636	United States Business Environment - Domestic Trip	2
Spring Semester-Term 2		
MGT 617	Leading Across Cultures	2
MGT 677	Corporate Strategy and Organization	2
MKT 641	Marketing Research (Can be waived if participating in BUS 622)	2
Total Credit Hours		31-34

Master of Accounting

The Master of Accounting (MAcc) and Master of Science in Taxation (MST) programs are similar in that they offer an opportunity to concentrate in accounting, but they differ in degree of specialization and career path orientation. The MAcc offers two separate tracks in assurance and corporate accounting while the MST is designed for students interested in careers in taxation. In addition to the traditional one year of full-time study beyond the Bachelor's level, the MAcc and the MST programs are offered as accelerated programs for University of Miami undergraduates.

Scholarships

University of Miami School of Business - Alumni Association Endowed Accounting Scholarships are available for students pursuing Graduate Studies in Accounting. Various other scholarships and assistantships may be available.

Accounting Summer Intensive Program

The Accounting Summer Intensive Program is designed for students who hold at least an undergraduate business degree in a field other than accounting from an accredited college or university and for foreign students.

Non-Accounting Majors

Students that have a non-accounting degree, preferably in business, can apply for admission to our Master of Accounting (MAcc) or Master of Science in Taxation (MST) and Summer Intensive Program. Applicants to the MAcc or MST program will automatically be considered applicants to the Accounting Summer Intensive Program if their undergraduate degree is not in accounting. Summer Intensive students entering the MAcc or MST program must also take an advanced taxation course (ACC 639) which is offered following the Summer Intensive Program in an intersession format in August before the start of the fall semester. Although MST students must complete advanced taxation in the summer, MAcc students may complete the course in the summer or in term one of the spring semester.

Foreign Students

The Accounting Summer Intensive Program is also designed to meet the needs of foreign students. Foreign students must have successfully completed two semesters of intermediate accounting, one semester of cost accounting, one semester of auditing, one semester of accounting information systems and one semester of tax at a U.S. university accredited by the AACSB or alternatively, must attend the Summer Intensive Program before enrolling in graduate accounting courses. Foreign students entering the MAcc or MST program must also take an advanced taxation course (ACC 639) which is offered following the Summer Intensive Program in an intersession format and in term one of the spring semester. Foreign applicants to the MAcc program will automatically also be considered applicants to the Accounting Summer Intensive Program.

Program Schedule

The Accounting Summer Intensive Program is fast-paced and requires full-time attention. As its name implies, the program is intensive and not designed for students that are working even part-time. The 7-week program begins each year about July 1 and continues through mid-August and consists of two 3½-week modules. Three 2-credit courses are included in each module. Students who want to take any additional graduate

tax classes should also plan to take the advanced taxation course (ACC 639) which is offered following the Summer Intensive Program in a 9-day intersession format in August before the start of the fall semester.

Program Prerequisite Accounting Courses

Students entering the program are required to have previously completed introduction to financial accounting and management accounting at a US or foreign university.

Summer Intensive Program Course Offerings

The Summer Intensive Program includes the following six 2-credit upper division accounting courses that are prerequisites for graduate study.

Code	Title	Credit Hours
ACC 632	Intermediate Accounting I	2
ACC 633	Intermediate Accounting II	2
ACC 634	Cost Accounting	2
ACC 635	Auditing	2
ACC 636	Accounting Systems	2
ACC 673	Taxation for Business and Investment Decisions	2

Note that the Summer Intensive Program does not include an advanced taxation course (the equivalent of ACC 404) which is a required prerequisite for most tax courses in the MST program. Accordingly, in addition to the six summer intensive courses, students entering the MST program must complete ACC 639 which is offered following the Summer Intensive Program in an intersession format in August before the start of the fall semester.

Entering the MAcc or MST Program

Upon successful completion of the intensive program, students immediately enter the MAcc or MST program in the fall semester. To graduate with their MAcc or MST degree, students must complete 30 credits beyond the 12-credit intensive program and may graduate in as little as two semesters, assuming they are full-time students.

CPA Licensure Requirements

Most of our students intend to become qualified as Certified Public Accountants (CPA). While the CPA exam is a national exam administered by the American Institute of Certified Public Accountants, its execution and CPA licensing practices are governed by state law. For example, some states require a certain number of credit hours in particular subjects and have overall accounting and business credit hour requirements. As such, you should check with the state in which you intend to practice to determine what the specific course requirements are for that state. Our department is unable to make a determination of your eligibility to sit for the CPA exam. This can only be done by the appropriate state board. Please find the licensure requirements for the State of Florida, here (<http://www.myfloridalicense.com/dbpr/cpa/licensure.html>).

For your convenience, the Florida rules that apply to most individuals are summarized here. Please check the State of Florida Web site noted above for updates and rules which may apply in particular circumstances.

As of July 1, 2008 the Florida State Board of Accountancy (BOA) separated the requirements to become a Certified Public Accountant (CPA) into two parts: (1) the requirements to be eligible to take the CPA exam and (2) the requirements for licensure to practice as a CPA in Florida.

Requirements to Sit for the CPA Exam: To be eligible to take the CPA exam, applicants must have completed 120 semester hours including 24 semester hours of upper division (300-level or above) accounting to include auditing, cost and managerial accounting, financial accounting, accounting information systems, and taxation. Applicants must also complete 24 semester hours of upper division general business courses with some exceptions in that one microeconomics, one macroeconomics, one statistics, one business law, and one introduction to computers course may be lower division (freshman or sophomore level). As part of the general business hours, applicants are required to have a total of six semester hours of business law courses, which must cover contracts, torts, and the Uniform Commercial Code. Note that excess upper division accounting courses may be used to meet the general business requirement; however, elementary accounting classes are never acceptable for credit nor are courses for non-accounting majors and any MBA courses that are equivalent to elementary accounting.

The exam is offered in the following time periods; January – February, April – May, July – August and October – November. Note that applicants are not required to have a bachelor's degree in order to sit for the CPA exam.

Requirements for Licensure: In addition to passing all four parts of the CPA exam with at least a 75% within 18 month rolling period, the Florida State Board of Accountancy requires that applicants have completed a bachelor's degree plus an additional 30 hours for a total of 150 semester hours before you can become licensed as a CPA. One year of work experience under the supervision of a licensed CPA is now also required to become licensed. In addition to experience obtained in public accounting and government, Florida's 2008 legislative change also allows experience obtained in industry and academia. This experience may be obtained before or after sitting for the exam, however, all requirements to sit for the exam must be met before the work experience commences. If you fail to apply for licensure within three years of receiving the licensure package, (sent after you pass all four parts) the CPA grades expire and you have to retake the examination.

The 150 semester hours must include a minimum of 36 semester hours of upper division accounting courses and at least 39 semester hours of upper division (with some exception) general business courses. Excess upper division accounting courses may be used to meet the general business requirement. Courses for non-accounting majors and any MBA courses that are equivalent to elementary accounting are not accepted for this requirement.

Licensed in Another State: If you are licensed in a state other than Florida you can obtain a license in Florida by a process called endorsement. You must provide evidence of meeting all of the requirements in effect at the time of your application. In addition if you passed the exam more than two years before applying you must provide evidence of meeting continuing professional education requirements.

CPA Accreditation Requirements

The Florida State Board of Accountancy accepts degrees from schools accredited by the following associations : Middle States Association, New England Association, North Central Association, Northwest Association, Southern Association of Colleges and Schools, Western Association of Schools and Colleges, Association of Independent Schools and Colleges who have been approved by the Florida State Board of Independent Colleges and Universities, and Canadian Schools who have been approved by their provincial educational bodies. If you have graduated from a school or college which is not accredited by the above mentioned means, then you must use the provisions of F.A.C. 61H1-27.001 (5) (see below).

Applicants Who Have Graduated from Non-Accredited Schools (61H1-27.001) (5)

Applicants who have graduated from a non-accredited school may still qualify to sit for the CPA examination. The candidate must take 15 semester hours of graduate classes. Those must consist of at least nine hours of graduate level accounting courses including a minimum of three semester hours of graduate tax. THESE HOURS MUST BE TAKEN AFTER ADMISSION TO GRADUATE SCHOOL. If the courses are taken before admission to a graduate program, the classes will not be accepted, even if the school includes them as part of the graduate program. These courses cannot duplicate other courses which the applicant has taken and they cannot be used to accredit the non-accredited degree and satisfy the educational requirements. The applicant must complete the graduate school courses to validate the non-accredited degree. The applicant must also meet all other requirements for endorsement or transfer of credit. An evaluation of foreign transcripts must be completed by an evaluation service which has been approved by the Board (see Board Approval Evaluation Services).

Duplicate Courses

No credit will be given for courses which duplicate another course for which the applicant has received credit. CPA review courses are considered as duplicates.

Admission Requirements

For admission to MAcc , based on an undergraduate degree from an accredited U.S. institution, we consider the applicant's:

- Undergraduate grade point average
- GMAT score
- Grades in specific accounting courses
- Rigor of the undergraduate program
- Other factors such as work experience.

Admission decisions are made on a competitive basis from the applicant pool. Undergraduate students from the University of Miami that have a grade point average of 3.4 or higher do not have to take the GMAT exam. In addition individuals who have demonstrated their ability to do graduate work in accounting by becoming a CPA or who have earned a graduate degree from a business school accredited by the AACSB are also waved from the requirement to take the GMAT exam.

Students without an undergraduate degree in accounting will be required to take certain prerequisite courses to secure admission. These prerequisites will depend upon the undergraduate major and previous accounting courses taken. Necessary prerequisite accounting courses can be taken in the University of Miami's Accounting Summer Intensive Program, which is a seven-week program beginning in early July.

Foreign students must provide evidence of proficiency in English by supplying a TOEFL score. Additionally, foreign students must have successfully completed two semesters of intermediate accounting, one semester of cost accounting, one semester of auditing, one semester of accounting systems and one semester of tax at a U.S. university accredited by the AACSB before enrolling in graduate accounting courses. Alternatively, foreign students may attend the University of Miami's Accounting Summer Intensive Program to fulfill this requirement.

Master of Accounting (MACC)

The MAcc program offers two tracks: Assurance (MAcc-Assurance) for students planning to go into public accounting and Corporate Accounting (MAcc-Corporate) for students planning careers as controllers, CFOs or financial analysts. The MAcc is designed for the student who has taken the accounting and related courses required for an undergraduate major in accounting or other undergraduate business majors who have successfully completed the Accounting Summer Intensive Program. These students should be able to complete the MAcc in a year or less provided they enroll as full time students.

Undergraduate Course Requirements

The courses listed below are undergraduate prerequisites that, unless already completed, must be fulfilled in order to be admitted for graduate study. For most graduate tax classes including ACC 648 Financial Reporting Implications of Income Taxes., the equivalent of ACC 404 Advanced Taxation(Corporate and Partnership Income Taxation) is also required. Students can satisfy this prerequisite by taking ACC 639 Income Taxation and Business Entities which is offered in a 9-day intersession format in August before the start of the fall semester. If a candidate does not have an undergraduate business degree, additional business prerequisites (economics, marketing, management, finance and others) will also be required.

Code	Title	Credit Hours
ACC 211	Principles of Financial Accounting	3
ACC 212	Managerial Accounting	3
ACC 301	Cost Accounting	3
ACC 311	Intermediate Accounting I	3
ACC 312	Intermediate Accounting II	3
ACC 402	Auditing	3
ACC 403	Fundamentals of Taxation	3
ACC 404	Advanced Taxation	3
ACC 406	Accounting Systems	3

Master of Accounting—Assurance Track (MAcc-Assurance)

The program requires 30 semester hours consisting of nine required courses and the balance of approved elective courses provided the student has an undergraduate degree in Accounting, or its equivalent, from an accredited institution. In addition to the nine required courses, students must select four courses from the designated course list. Other courses can be selected from the list of approved electives or in consultation with the program director. Courses with a 600-level designation are designed for graduate students. Courses with a 500-level designation are open to upper-level undergraduate students and do not count toward the MAcc degree. Unless otherwise noted, courses in the program are two semester hours (two credits).

Code	Title	Credit Hours
Required Courses		14
ACC 610	Financial Reporting Research	
ACC 622/522	Advanced Issues in Auditing	
ACC 628	Introduction to Accounting Analytics	
ACC 630/530	International Financial Reporting Standards	
ACC 648	Financial Reporting Implications of Income Taxes.	
ACC 672/572	Advanced Financial Analysis	
BUS 610	Critical Thinking and Persuasion for Business	
Additional Courses		16
The remaining courses will be selected from the following or other courses approved by the program director and a pre-approved list will be provided:		
ACC 603	Studies in Financial Reporting Issues	
ACC 604	Seminar in Cost Accounting	
ACC 606	Internal Auditing	
ACC 611	Auditing Seminar	
ACC 620	Accounting Controls in Information Technology	
ACC 623	International Accounting and Taxation	
ACC 624/524	Accounting for Governmental and Not-for-Profit Entities	
ACC 626	Introduction to Forensic Accounting and Litigation Support Services	
ACC 627	Accounting Regulations and Compliance	
ACC 640	Corporate Taxation I	
ACC 641	Corporate Taxation II	
ACC 642	Seminar in Taxation	
ACC 664	Global Mergers and Acquisitions: Accounting and Related Issues	
ACC 677	Forensic Accounting	
ACC 699	Directed Readings (Internal Auditing Internship)	
BSL 675	Advanced Business Law	

BSL 691	The Public Corporation: Legal Perspectives
FIN 650	Financial Investment
FIN 670	Corporate Finance
MAS 637	Applied Regression Analysis and Forecasting
MAS 639	Data Acquisition, Preparation, and Visualization
MAS 648	Data Mining
Total Credit Hours	30

¹ Any other electives must be selected in consultation with the Program Director.

Master of Accounting—Corporate Accounting Track (MAcc-Corporate)

The program requires 30 semester hours consisting of eight required courses and the balance of approved elective courses provided the student has an undergraduate degree in Accounting, or its equivalent, from an accredited institution. In addition to the eight required courses, students must select five courses from the designated course list. Other courses can be selected from the list of approved electives or in consultation with the program director. Courses with a 600-level designation are designed for graduate students. Courses with a 500-level designation are open to upper-level undergraduate students and do not count toward the MAcc degree. Unless otherwise noted, courses in the program are two semester hours (two credits).

Code	Title	Credit Hours
Required Courses		13
ACC 606	Internal Auditing	
ACC 610	Financial Reporting Research	
ACC 628	Introduction to Accounting Analytics	
ACC 630/530	International Financial Reporting Standards (1 credit)	
ACC 648	Financial Reporting Implications of Income Taxes.	
ACC 672/572	Advanced Financial Analysis	
BUS 610	Critical Thinking and Persuasion for Business	
Additional Courses		17
The remaining courses will be selected from the following or other courses approved by the program director and a pre-approved list will be provided:		
ACC 603	Studies in Financial Reporting Issues	
ACC 604	Seminar in Cost Accounting	
ACC 611	Auditing Seminar	
ACC 620	Accounting Controls in Information Technology	
ACC 622/522	Advanced Issues in Auditing (3 credits)	
ACC 623	International Accounting and Taxation	
ACC 624/524	Accounting for Governmental and Not-for-Profit Entities	
ACC 626	Introduction to Forensic Accounting and Litigation Support Services	
ACC 627	Accounting Regulations and Compliance	
ACC 640	Corporate Taxation I	
ACC 641	Corporate Taxation II	
ACC 642	Seminar in Taxation	
ACC 662	Taxation of Multinational Corporations	
ACC 664	Global Mergers and Acquisitions: Accounting and Related Issues	
ACC 677	Forensic Accounting	
ACC 699	Directed Readings	
BSL 675	Advanced Business Law	
BSL 691	The Public Corporation: Legal Perspectives	
FIN 650	Financial Investment	
FIN 651	Advanced Topics in Investments	
FIN 660	International Finance	
FIN 670	Corporate Finance	
FIN 671	Advanced Topics in Corporate Finance	

FIN 674	Financial Analysis of Mergers and Acquisitions	
MAS 637	Applied Regression Analysis and Forecasting	
MAS 639	Data Acquisition, Preparation, and Visualization	
MAS 648	Data Mining	
Total Credit Hours		30

¹ Any other electives must be selected in consultation with the Program Director.

*Curriculum changes are pending Board of Trustee approval

Accelerated Masters Programs

In addition to offering the Master of Accounting (MAcc) and Master of Science in Taxation (MST) on the usual time frame involving one year of full-time study beyond the Bachelor's level, the MAcc and MST are offered as accelerated programs. These programs permit high achieving accounting students who have accelerated their education by taking advanced courses in high school, testing out of classes, taking increased class loads, or going to summer school, to start their graduate work while seniors.

The accelerated programs are available only to students who are undergraduate students at the University of Miami. The programs are designed in such a way that students can expect to complete both their Bachelor's and Master's degrees and make significant progress on the CPA exam (if not complete it entirely) within 4½ years. In addition, these programs are extremely price competitive.

Accelerated Program Timeline

Code	Title	Credit Hours
Pre-Requisites		
A minimum of 102 credit hours		
Accounting Major Requirements		
ACC 301 or ACC 404	Cost Accounting Advanced Taxation	
ACC 311	Intermediate Accounting I	
ACC 312	Intermediate Accounting II	
ACC 402	Auditing	
ACC 403	Fundamentals of Taxation	
BSL 401	The Law of Financial Transactions	
All UG degree requirements except those taken in the senior year.		
Students that select the MAcc-Corporate Track must take FIN 303 before or during their senior year.		
Summer after Junior Year		
Internship		
Senior Year Curriculum ¹		
ACC 506 or ACC 572	Internal Auditing Advanced Financial Analysis	2
ACC 522	Advanced Issues in Auditing	3
ACC 530	International Financial Reporting Standards	1
ACC 648	Financial Reporting Implications of Income Taxes.	2
BSL 691	The Public Corporation: Legal Perspectives	2
BUS 610	Critical Thinking and Persuasion for Business	2
Summer after Senior Year ²		
1 ACC graduate course		
Approved CPA Review Course ³		
Pass CPA exam		
Final Fall Semester		
Remaining 16 graduate credits ⁴		

¹ Twelve credits of work in senior year will count towards the MAcc or MST degree (only students in the accelerated program are eligible to take these classes during their senior year).

² Students must take one accounting graduate course in the summer following their senior year. Accounting courses are offered based on demand and could include ACC 620 Accounting Controls in Information Technology(offered every summer) or ACC 649 Issues in Tax Policy.

- ³ Students are also REQUIRED to take an approved CPA review course during the summer following their senior year. Students who do not take a CPA review course must complete an additional six graduate credits which will likely delay graduation to May instead of graduating in December.
- Students are also expected to pass part, if not all, of the CPA exam during this summer.
- ⁴ In the final fall semester students will complete the remaining 16 graduate credits including the requirements for their track and electives selected in consultation with the Program Director.

Admission to the Accelerated Programs

Incoming Freshmen

- Prospective students apply to the accelerated program when they apply for admission to the University of Miami.
- SAT scores should meet or exceed 1400; high school unweighted GPA should meet or exceed 3.75.
- Students are required to have an overall and accounting GPA of 3.3 or higher by their junior year in college. Students must then maintain an overall GPA of 3.3 or higher and an accounting GPA of 3.3 or higher to remain in the program. Students who do not maintain the expected GPA may be placed on probation or transferred out of the program.
- Students will need to have completed 102 credit hours by the start of their senior year.

Current University of Miami Undergraduate Accounting Majors

- Students should apply to the accelerated program by September 15 of their junior year.
- Admission to the program will be based on GPA, letters of recommendation, and performance in upper division (300-level or above) accounting courses in progress or completed. It is expected that the students admitted to the program will have GPAs exceeding 3.3, but students with these scores are not guaranteed admission. The decision will depend on the quality and size of the applicant pool and will be made by senior school administrators and faculty.
- After admission, to remain in the program, students must maintain an overall GPA of 3.3 or higher and an accounting GPA of 3.3 or higher. Students who do not maintain the expected GPA may be placed on probation or transferred out of the program.
- Students will need to have completed 102 credit hours by the start of their senior year including ACC 311, ACC 312, ACC 402, ACC 403, BSL 401 and ACC 404.

Five-Year Accounting Program with Senior-Year Internship

The Five-Year Accounting Program with Senior-Year Internship is intended to allow exceptional students to acquire both undergraduate and graduate accounting degrees in five years while gaining valuable experience working at a full-time internship in the spring semester of their senior year. Students will also take a CPA review course and sit for the CPA exam so they can pass some (if not all) parts of the exam before they graduate with their Master of Accounting or Master of Science in Taxation degree.

Program Timeline

1. Fall semester of Junior Year: Complete an application to the program by September 15 and apply for an internship position to take place in the spring of senior year.
2. Fall semester of Senior Year: Submit the internship agreement and apply to graduate school.
3. Spring semester of Senior Year: Complete Internship followed by 9 credit hours of coursework to complete the undergraduate accounting degree in specially-designed short-duration courses that include ACC 301, ACC 406 and MGT 401.
4. Summer following Senior Year: Take CPA review and exam.
5. Fall semester following Senior Year: Begin the Master of Accounting (MAcc) or Master of Science in Taxation (MST) Program.

Pre-requisites

The program is designed for University of Miami Business School undergraduate students who are pursuing the accounting major and who have a cumulative GPA of at least 3.2 at the time of application. Admission to the program is based on several criteria, so a 3.2 GPA does not guarantee admission. Students should discuss the program and their academic plan for entering the program with an academic advisor in the Office of Undergraduate Business Education or with the Program Director in the Department of Accounting. Prior to the spring semester of their senior year, students will need to have completed all undergraduate degree requirements, except for two accounting major courses (ACC 301 and ACC 406) and MGT 401.

Senior Year Spring Semester Curriculum

In the first half of the spring semester of the senior year, students will work full-time in an accounting internship for which they can receive 3 credit hours toward their undergraduate degree (ACC 550). Additionally, in the spring semester of their senior year, students will take 9 credit hours in three specially-designed short-duration courses that include ACC 301, ACC 406 and MGT 401.

Summer, Fall, and Spring after Senior Year

In the summer after their senior year, students will have the opportunity to take a CPA review course and sit for the CPA exam. Students will complete their Master of Accounting or Master of Science in Taxation in the fall and spring semesters after senior year and begin working that following summer or fall.

Admission to the Five-Year Accounting Program with Senior-Year Internship

- Students must apply to the program in their junior year and obtain an “approved” internship through the Toppel Career Center.
- The internship must be scheduled to take place during the spring semester of their senior year.
- In the fall semester of their senior year, before registering for their senior-year spring classes, students must submit a copy of their internship agreement to the Program Director or Program Manager in the Department of Accounting.
- By the fall semester of their senior year, students must have applied for admission to the graduate program and submitted their verification deposit to pursue a Master of Accounting or Master of Science in Taxation degree in the fall semester immediately following their senior year.
- The GMAT will be waived for students admitted into the program.

Master of Arts in Economics

Master of Arts in Economics

The Master of Arts in Economics program provides students with the essential analytical tools and rigorous training they need to apply economic analysis to help both global corporations and government institutions achieve success. The program introduces students to several applied areas of economics and provides the required problem-solving skills to analyze economic problems.

To obtain detailed program admission information, please reference the program brochure which can be requested by contacting the Office of Recruiting and Admissions at 305-284-2510 or visit our website (<http://bus.miami.edu/graduate-programs/specialized-masters/economics>).

Curriculum Requirements

Code	Title	Credit Hours
Fall Semester		
ECO 600	Econometrics	3
ECO 601	Graduate Macroeconomic Theory	3
ECO 610	Mathematical Economics and Applications	3
ECO 612	Economic Strategies for Firms and the Industry	3
ECO 860	The Theory of International Trade (The Theory of International Trade)	3
Spring Semester		
ECO 620	Advanced Econometrics	3
ECO 621	Advanced Macro Analysis	3
ECO 645	Regulations Economics	3
ECO 692	Applied Economics	3
ECO 698	Selected Topics (Economics of Uncertainty and Executive Compensation)	3
Total Credit Hours		30

Master of Professional Accounting (online)

Master of Professional Accounting (online)

The Master of Professional Accounting provides focused, accounting education meant to prepare students for a career in public accounting, private industry, as well as government/non-profit sector. The program consists of 32 credits that will be taken over a 16-month period with start dates in September, January, and May. The coursework will consist of 16 credits in basic accounting, taxation and information systems, followed by 16 credits in advanced topics including auditing and financial statement analysis and firm valuation. The courses offered in the MPrA are taught at both the undergraduate and graduate level in accounting at the Miami Business School. All of these courses have been taught as two-credit or three-credit courses, but have been modified, combined and packaged into four credit modules. Most students in the program will earn a Certificate in Accounting Practice along the way to earning their degree.

To obtain detailed program admission and curricula information please visit the website. (<http://www.miami.edu/online/online-degrees/masters-professional-accounting>)

Curriculum Requirements

Code	Title	Credit Hours
ACC 681	Introduction to Financial and Managerial Accounting	4
ACC 682	Intermediate Accounting	4
ACC 683	Taxation	4
ACC 684	Accounting Information Systems	4
ACC 685	Financial Statement Analysis and Valuation	4
ACC 686	Auditing	4
ACC 687	Advanced Cost Accounting	4
ACC 688	Advanced Accounting and Financial Reporting	4
Two additional optional courses ¹		
ACC 689	Current Issues in Accounting (Issues in Accounting with a focus on International Financial Reporting Standards (IFRS) and Governmental and Not-for-Profit Accounting)	4
ACC 690	Fraud and Forensic Accounting: Ethics and Legal Environment (Fraud and Forensic Accounting: Ethics and the Legal Environment)	4
Total Credit Hours		40

¹ Should your state of residence require additional coursework in order to sit for the CPA certification exam, you may enroll in two additional (optional) advanced courses which will enable you to earn additional Accounting credits that may be required.

Master of Science in Business Analytics

Master of Science in Business Analytics

The Master of Science in Business Analytics program is an intensive experience that develops well-trained business analysts armed with the skills necessary to understand, manage and make use of big data in a business context. Over the course of 10 months, students learn how to turn abstract data into meaningful information with which to predict consumer behavior and forecast revenue and expenses for virtually any business model and any industry sector.

To obtain detailed program admission information, please reference the program brochure which can be requested by contacting the Office of Recruiting and Admissions at 305-284-2510 or visit our website (<http://bus.miami.edu/graduate-programs/specialized-masters/analytics>).

Curriculum Requirements

Code	Title	Credit Hours
Fall Semester-Term 1		
MAS 627	Programming for Data Analytics	2
MAS 631	Statistics for Managerial Decision Making	2
MAS 632	Management Science Models for Decision Making	2
MAS 637	Applied Regression Analysis and Forecasting	2
Elective		2
Fall Semester-Term 2		
BUS 610	Critical Thinking and Persuasion for Business	2
MAS 639	Data Acquisition, Preparation, and Visualization	2
MAS 648	Data Mining	2
Elective		2
Spring Semester-Term 1		
MAS 640	Applied Time Series Analysis and Forecasting	2
MAS 651	Machine Learning for Data Analytics	2
Elective		2
Spring Semester-Term 2		
BUS 641 or MAS 650	Business Analytics Capstone Project Management Science Internship	2
MAS 646	Generalized Linear Models	2

MAS 649	Big Data Analytics	2
Elective		2
Total Credit Hours		32

Master of Science in Finance

Master of Science in Finance

The Master of Science in Finance program prepares students for successful careers in corporate finance, investments, and other financial sectors. The program immerses student in a narrow course of study over the course of only 10 months. Throughout the program, students are challenged to approach real-world problems with a practical lens. When they graduate, they possess the knowledge base and sophistication to make critical financial decisions for any organization.

To obtain detailed program admission information, please reference the program brochure which can be requested by contacting the Office of Recruiting and Admissions at 305-284-2510 or visit our website (<http://bus.miami.edu/graduate-programs/specialized-masters/finance>).

Curriculum Requirements - Corporate Track

Code	Title	Credit Hours
Fall Semester-Term 1		
BSL 691	The Public Corporation: Legal Perspectives	2
BUS 600 or BUS 602	Fundamentals of Critical Thinking and Effective Writing Critical Thinking and Effective Writing	1
BUS 604	Career Development and Enrichment	0
BUS 640	Quantitative and Analytical Fundamentals for Finance	4
FIN 650	Financial Investment	2
FIN 670	Corporate Finance	2
Fall Semester-Term 2		
ACC 672	Advanced Financial Analysis	2
BUS 603	Critical Thinking and Effective Speaking	1
FIN 643	Quantitative Finance and Market Microstructure	2
FIN 686	Financial Decision Making	2
Spring Semester-Term 1		
BUS 604	Career Development and Enrichment	1
FIN 674	Financial Analysis of Mergers and Acquisitions	2
FIN 679	Private Equity and Venture Capital	2
FIN 685	Mathematics of Financial Derivatives	2
Elective		2
Spring Semester-Term 2		
FIN 652	Fixed Income Securities	2
FIN 671	Advanced Topics in Corporate Finance	2
FIN 681	Financial Institutions	2
FIN 683	Financial Modeling	2
Total Credit Hours		35

Curriculum Requirements - Investments Track

Code	Title	Credit Hours
Fall Semester-Term 1		
BUS 600 or BUS 602	Fundamentals of Critical Thinking and Effective Writing Critical Thinking and Effective Writing	1
BUS 604	Career Development and Enrichment	0
BUS 640	Quantitative and Analytical Fundamentals for Finance	4
FIN 650	Financial Investment	2
FIN 660	International Finance	2
FIN 670	Corporate Finance	2

Fall Semester-Term 2		
ACC 672	Advanced Financial Analysis	2
BUS 603	Critical Thinking and Effective Speaking	1
FIN 643	Quantitative Finance and Market Microstructure	2
FIN 686	Financial Decision Making	2
Spring Semester-Term 1		
BUS 604	Career Development and Enrichment	1
FIN 651	Advanced Topics in Investments	2
FIN 674	Financial Analysis of Mergers and Acquisitions	2
FIN 685	Mathematics of Financial Derivatives	2
Elective		2
Spring Semester-Term 2		
FIN 652	Fixed Income Securities	2
FIN 653	Alternative Investments	2
FIN 681	Financial Institutions	2
FIN 683	Financial Modeling	2
Total Credit Hours		35

Master of Science in Finance (online)

Master of Science in Finance (online)

The Master of Science in Finance provides focused, graduate level education meant to prepare students for a professional career in finance. The program consists of 32 credits taken over a sixteen-month period beginning in August, January, or May. The program includes 4 credits of fundamental coursework in finance and quantitative methods plus 28 credits in more advanced finance topics. The proposed 32-credit online curriculum waives the following 3 courses from the on-campus version of the MS in Finance, as it is geared for Working Professionals who are already expected to possess the skills covered in these courses: BUS 600/ BUS 602 Critical Thinking and Effective Writing (1 credit); BUS 603 Critical Thinking and Effective Speaking (1 credit); and BUS 604 Career Development and Enrichment (1 credit). Students in the program will earn both the Certificate in Financial Decision Making and the Certificate in Corporate Finance along the way to earning their degree.

To obtain detailed program admission and curricula information, please visit the website (<http://www.miami.edu/online/programs/masters-in-finance>). (<http://www.miami.edu/online/programs/masters-in-finance>)

Curriculum Requirements

Code	Title	Credit Hours
BUS 640	Quantitative and Analytical Fundamentals for Finance	4
FIN 613	Intermediate Corporate Finance and Investments	4
FIN 614	International Finance, Valuation, and Financial Statement Analysis	4
FIN 615	Financial Decision Making	4
FIN 616	Advanced Corporate Finance	4
FIN 617	Derivatives and Financial Modeling	4
FIN 618	Quantitative Finance and Microstructure	4
FIN 619	Advanced Portfolio Management and Alternative Investments	4
Total Credit Hours		32

Certificate in Financial Decision Making

For students who want to advance in corporate finance functions without committing to a full degree program. This certificate is 16 credits taken over an eight-month period beginning in August, January or May. Students would typically be working in such functions as the controller's office, treasury management, capital budgeting, or investor relations. After completion, it is possible to apply for admission to the online Master of Science in Finance which would then take another 16 credits and 8 months to complete.

Code	Title	Credit Hours
BUS 640	Quantitative and Analytical Fundamentals for Finance	4
FIN 613	Intermediate Corporate Finance and Investments	4
FIN 614	International Finance, Valuation, and Financial Statement Analysis	4

FIN 615	Financial Decision Making	4
Total Credit Hours		16

Certificate in Corporate Finance

For students who work in a financial setting and wish to further their understanding of finance but do not wish to commit to a full degree program. This certificate is 16 credits taken over an eight-month period beginning in August, January or May. Students would typically be working at a wealth management firm, a mutual fund, hedge fund, or pension fund. After completion, it is possible to apply for admission to the online Master of Science in Finance which would then take another 16 credits and 8 months to complete.

Code	Title	Credit Hours
BUS 640	Quantitative and Analytical Fundamentals for Finance	4
FIN 613	Intermediate Corporate Finance and Investments	4
FIN 614	International Finance, Valuation, and Financial Statement Analysis	4
FIN 616	Advanced Corporate Finance	4
Total Credit Hours		16

Master of Science in Management

Master of Science in Management (Leadership)

The Master of Science in Management (Leadership) program, with a leadership specialization, shapes students into competent, versatile and dynamic leaders ready to navigate the complex workplace of the 21st century. The program helps participants develop the interpersonal skills they need to influence others and lead effectively in today's challenging work environment. Not only does the program include coursework to provide students with a foundation of basic management skills, it includes a set of courses that focus on the skills needed to achieve performance at the highest levels possible.

To obtain detailed program admission information, please reference the program brochure which can be requested by contacting the Office of Recruiting and Admissions at 305-284-2510 or visit our website (<http://bus.miami.edu/graduate-programs/specialized-masters/leadership>).

Curriculum Requirements

Code	Title	Credit Hours
Fall Semester-Term 1		
MAS 631	Statistics for Managerial Decision Making	2
MGT 620	Managing Through People	2
MGT 622	High Performance Teams	2
Fall Semester-Term 2		
ACC 670	Financial Reporting and Analysis	2
BUS 610	Critical Thinking and Persuasion for Business	2
MGT 621	High Performance Leadership	2
MGT 623	Human Resource Systems	2
Spring Semester-Term 1		
FIN 641	Valuation and Financial Decision Making	2
MGT 616	Foundations in Organizational Management Consulting	2
MGT 624	Negotiation Strategies	2
MKT 640	Foundations of Marketing Management	2
Spring Semester-Term 2		
MGT 617	Leading Across Cultures	2
MGT 618	Leading Change in Organizations	2
MGT 677	Corporate Strategy and Organization	2
MGT 699	Directed Study (Individual Assessment & Coaching in Leadership Skills)	2
Total Credit Hours		30

Master of Science in Taxation

The Master of Accounting (MAcc) and Master of Science in Taxation (MST) programs are similar in that they offer an opportunity to concentrate in accounting, but they differ in degree of specialization and career path orientation. The MAcc offers two separate tracks in assurance and corporate accounting while the MST is designed for students interested in careers in taxation. In addition to the traditional one year of full-time study beyond the Bachelor's level, the MAcc and the MST programs are offered as accelerated programs for University of Miami undergraduates.

Scholarships

University of Miami Business School - Alumni Association Endowed Accounting Scholarships are available for students pursuing Graduate Studies in Accounting. Various other scholarships and assistantships may be available.

Accounting Summer Intensive Program

The Accounting Summer Intensive Program is designed for students who hold at least an undergraduate business degree in a field other than accounting from an accredited college or university and for foreign students.

Non-Accounting Majors

Students that have a non-accounting degree, preferably in business, can apply for admission to our Master of Accounting (MAcc) or Master of Science in Taxation (MST) and Summer Intensive Program. Applicants to the MAcc or MST program will automatically be considered applicants to the Accounting Summer Intensive Program if their undergraduate degree is not in accounting. Summer Intensive students entering the MAcc or MST program must also take an advanced taxation course (ACC 639) which is offered following the Summer Intensive Program in an intersession format in August before the start of the fall semester. Although MST students must complete advanced taxation in the summer, MAcc students may complete the course in the summer or in term one of the spring semester.

Foreign Students

The Accounting Summer Intensive Program is also designed to meet the needs of foreign students. Foreign students must have successfully completed two semesters of intermediate accounting, one semester of cost accounting, one semester of auditing, one semester of accounting information systems and one semester of tax at a U.S. university accredited by the AACSB or alternatively, must attend the Summer Intensive Program before enrolling in graduate accounting courses. Foreign students entering the MAcc or MST program must also take an advanced taxation course (ACC 639) which is offered following the Summer Intensive Program in an intersession format and in term one of the spring semester. Foreign applicants to the MAcc program will automatically also be considered applicants to the Accounting Summer Intensive Program.

Program Schedule

The Accounting Summer Intensive Program is fast-paced and requires full-time attention. As its name implies, the program is intensive and not designed for students that are working even part-time. The 7-week program begins each year about July 1 and continues through mid-August and consists of two 3½ -week modules. Three 2-credit courses are included in each module. Students who want to take any additional graduate tax classes should also plan to take the advanced taxation course (ACC 639) which is offered following the Summer Intensive Program in a 9-day intersession format in August before the start of the fall semester.

Program Prerequisite Accounting Courses

Students entering the program are required to have previously completed introduction to financial accounting and management accounting at a US or foreign university.

Summer Intensive Program Course Offerings

The Summer Intensive Program includes the following six 2-credit upper division accounting courses that are prerequisites for graduate study.

Code	Title	Credit Hours
ACC 632	Intermediate Accounting I	2
ACC 633	Intermediate Accounting II	2
ACC 634	Cost Accounting	2
ACC 635	Auditing	2
ACC 636	Accounting Systems	2
ACC 673	Taxation for Business and Investment Decisions	2

Note that the Summer Intensive Program does not include an advanced taxation course (the equivalent of ACC 404) which is a required prerequisite for most tax courses in the MST program. Accordingly, in addition to the six summer intensive courses, students entering the MST program must complete ACC 639 which is offered following the Summer Intensive Program in an intersession format in August before the start of the fall semester.

Entering the MAcc or MST Program

Upon successful completion of the intensive program, students immediately enter the MAcc or MST program in the fall semester. To graduate with their MAcc or MST degree, students must complete 30 credits beyond the 12-credit intensive program and may graduate in as little as two semesters, assuming they are full-time students.

CPA Licensure Requirements

Most of our students intend to become qualified as Certified Public Accountants (CPA). While the CPA exam is a national exam administered by the American Institute of Certified Public Accountants, its execution and CPA licensing practices are governed by state law. For example, some states require a certain number of credit hours in particular subjects and have overall accounting and business credit hour requirements. As such, you should check with the state in which you intend to practice to determine what the specific course requirements are for that state. Our department is unable to make a determination of your eligibility to sit for the CPA exam. This can only be done by the appropriate state board. The licensure requirements for the State of Florida can be viewed here (<http://www.myfloridalicense.com/dbpr/cpa/licensure.html>).

For your convenience, the Florida rules that apply to most individuals are summarized here. Please check the State of Florida Web site noted above for updates and rules which may apply in particular circumstances.

As of July 1, 2008 the Florida State Board of Accountancy (BOA) separated the requirements to become a Certified Public Accountant (CPA) into two parts: (1) the requirements to be eligible to take the CPA exam and (2) the requirements for licensure to practice as a CPA in Florida.

Requirements to Sit for the CPA Exam

To be eligible to take the CPA exam, applicants must have completed 120 semester hours including 24 semester hours of upper division (300-level or above) accounting to include auditing, cost and managerial accounting, financial accounting, accounting information systems, and taxation. Applicants must also complete 24 semester hours of upper division general business courses with some exceptions in that one microeconomics, one macroeconomics, one statistics, one business law, and one introduction to computers course may be lower division (freshman or sophomore level). As part of the general business hours, applicants are required to have a total of six semester hours of business law courses, which must cover contracts, torts, and the Uniform Commercial Code. Note that excess upper division accounting courses may be used to meet the general business requirement; however, elementary accounting classes are never acceptable for credit nor are courses for non-accounting majors and any MBA courses that are equivalent to elementary accounting.

The exam is offered in the following time periods; January – February, April – May, July – August and October – November. Note that applicants are not required to have a bachelor's degree in order to sit for the CPA exam.

Requirements for Licensure

In addition to passing all four parts of the CPA exam with at least a 75% within 18 month rolling period, the Florida State Board of Accountancy requires that applicants have completed a bachelor's degree plus an additional 30 hours for a total of 150 semester hours before you can become licensed as a CPA. One year of work experience under the supervision of a licensed CPA is now also required to become licensed. In addition to experience obtained in public accounting and government, Florida's 2008 legislative change also allows experience obtained in industry and academia. This experience may be obtained before or after sitting for the exam, however, all requirements to sit for the exam must be met before the work experience commences. If you fail to apply for licensure within three years of receiving the licensure package, (sent after you pass all four parts) the CPA grades expire and you have to retake the examination.

The 150 semester hours must include a minimum of 36 semester hours of upper division accounting courses and at least 39 semester hours of upper division (with some exception) general business courses. Excess upper division accounting courses may be used to meet the general business requirement. Courses for non-accounting majors and any MBA courses that are equivalent to elementary accounting are not accepted for this requirement.

Licensed in Another State

If you are licensed in a state other than Florida you can obtain a license in Florida by a process called endorsement. You must provide evidence of meeting all of the requirements in effect at the time of your application. In addition if you passed the exam more than two years before applying you must provide evidence of meeting continuing professional education requirements.

CPA Accreditation Requirements

The Florida State Board of Accountancy accepts degrees from schools accredited by the following associations : Middle States Association, New England Association, North Central Association, Northwest Association, Southern Association of Colleges and Schools, Western Association of Schools and Colleges, Association of Independent Schools and Colleges who have been approved by the Florida State Board of Independent Colleges and Universities, and Canadian Schools who have been approved by their provincial educational bodies. If you have graduated from a school or college which is not accredited by the above mentioned means, then you must use the provisions of F.A.C. 61H1-27.001 (5) (see below).

Applicants Who Have Graduated from Non-Accredited Schools (61H1-27.001) (5)

Applicants who have graduated from a non-accredited school may still qualify to sit for the CPA examination. The candidate must take 15 semester hours of graduate classes. Those must consist of at least nine hours of graduate level accounting courses including a minimum of three semester

hours of graduate tax. THESE HOURS MUST BE TAKEN AFTER ADMISSION TO GRADUATE SCHOOL. If the courses are taken before admission to a graduate program, the classes will not be accepted, even if the school includes them as part of the graduate program. These courses cannot duplicate other courses which the applicant has taken and they cannot be used to accredit the non-accredited degree and satisfy the educational requirements. The applicant must complete the graduate school courses to validate the non-accredited degree. The applicant must also meet all other requirements for endorsement or transfer of credit. An evaluation of foreign transcripts must be completed by an evaluation service which has been approved by the Board (see Board Approval Evaluation Services).

Duplicate Courses

No credit will be given for courses which duplicate another course for which the applicant has received credit. CPA review courses are considered as duplicates.

For the CPA requirements in other states, you should consult the State Board of Accountancy for your state.

Admission Requirements

For admission to either the MAcc or MST, based on an undergraduate degree from an accredited U.S. institution, we consider the applicant's:

- Undergraduate grade point average
- GMAT score
- Grades in specific accounting courses,
- Rigor of the undergraduate program
- Other factors such as work experience

Admission decisions are made on a competitive basis from the applicant pool. Undergraduate students from the University of Miami that have a grade point average of 3.4 or higher do not have to take the GMAT exam. In addition individuals who have demonstrated their ability to do graduate work in accounting by becoming a CPA or who have earned a graduate degree from a business school accredited by the AACSB are also waved from the requirement to take the GMAT exam.

Students without an undergraduate degree in accounting will be required to take certain prerequisite courses to secure admission. These prerequisites will depend upon the undergraduate major and previous accounting courses taken. Necessary prerequisite accounting courses can be taken in the University of Miami's Accounting Summer Intensive Program, which is a seven-week program beginning in early July.

Foreign students must provide evidence of proficiency in English by supplying a TOEFL score. Additionally, foreign students must have successfully completed two semesters of intermediate accounting, one semester of cost accounting, one semester of auditing, one semester of accounting systems and one semester of tax at a U.S. university accredited by the AACSB before enrolling in graduate accounting courses. Alternatively, foreign students may attend the University of Miami's Accounting Summer Intensive Program to fulfill this requirement.

Master of Science in Taxation (MST)

This program affords the accounting major or equivalent the opportunity to specialize in the area of taxation. Through electives, students are able to expand their areas of expertise, so that they may adequately prepare themselves for careers requiring a high degree of specialized tax knowledge in public accounting, private industry, and government. The program requires 30 semester hours consisting of six required courses and the balance of approved elective courses provided the student has an undergraduate degree in Accounting, or its equivalent, from an accredited institution and has completed ACC 403 Fundamentals of Taxation and ACC 404 Advanced Taxation, or their equivalents. Students who have taken only one tax course should plan to take an advanced taxation course (such as ACC 639 Income Taxation and Business Entities which is offered following the Summer Intensive Program in an intersession format in August before the start of the fall semester). In addition to the nine required courses, students must select four courses from the designated course list. Other courses can be selected from the list of approved electives or in consultation with the program director. Courses with a 600-level designation are designed for graduate students. Courses with a 500-level designation are open to upper-level undergraduate students and do not count toward the MST degree. Unless otherwise noted, courses in the program are two semester hours (two credits).

Program Requirements

Code	Title	Credit Hours
Required Courses		15
ACC 610	Financial Reporting Research	
ACC 628	Introduction to Accounting Analytics	
ACC 630/530	International Financial Reporting Standards	
ACC 640	Corporate Taxation I	
ACC 643	Tax Research	
ACC 645	Partnership Taxation	
ACC 648	Financial Reporting Implications of Income Taxes.	

BUS 610	Critical Thinking and Persuasion for Business	
Additional Courses ¹		15
The remaining courses will be selected from the following or other courses approved by the program director and a pre-approved list will be provided:		
ACC 603	Studies in Financial Reporting Issues	
ACC 604	Seminar in Cost Accounting	
ACC 606	Internal Auditing	
ACC 611	Auditing Seminar	
ACC 620	Accounting Controls in Information Technology	
ACC 622	Advanced Issues in Auditing (3 credits)	
ACC 623	International Accounting and Taxation	
ACC 624	Accounting for Governmental and Not-for-Profit Entities	
ACC 626	Introduction to Forensic Accounting and Litigation Support Services	
ACC 627	Accounting Regulations and Compliance	
ACC 641	Corporate Taxation II	
ACC 642	Seminar in Taxation	
ACC 662	Taxation of Multinational Corporations	
ACC 664	Global Mergers and Acquisitions: Accounting and Related Issues	
ACC 672	Advanced Financial Analysis	
ACC 677	Forensic Accounting	
ACC 699	Directed Readings (Internal Auditing Internship)	
BSL 675	Advanced Business Law	
BSL 691	The Public Corporation: Legal Perspectives	
FIN 650	Financial Investment	
FIN 670	Corporate Finance	
MAS 637	Applied Regression Analysis and Forecasting	
MAS 639	Data Acquisition, Preparation, and Visualization	
MAS 648	Data Mining	
Total Credit Hours		30

¹ Any other electives must be selected in consultation with the Program Director.

*Curriculum changes are pending Board of Trustee approval.

Accelerated Masters Programs

In addition to offering the Master of Accounting (MAcc) and Master of Science in Taxation (MST) on the usual time frame involving one year of full-time study beyond the Bachelor's level, the MAcc-Assurance Track, MAcc-Corporate Track, and MST are offered as accelerated programs. These programs permit high achieving accounting students who have accelerated their education by taking advanced courses in high school, testing out of classes, taking increased class loads, or going to summer school, to start their graduate work while seniors.

The accelerated programs are available only to students who are undergraduate students at the University of Miami. The programs are designed in such a way that students can expect to complete both their Bachelor's and Master's degrees and make significant progress on the CPA exam (if not complete it entirely) within 4½ years. In addition, these programs are extremely price competitive.

Accelerated Program Timeline

Code	Title	Credit Hours
Pre-Requisites		
A minimum of 102 credit hours		
Accounting Major Requirements		
ACC 301 or ACC 404	Cost Accounting Advanced Taxation	
ACC 311	Intermediate Accounting I	
ACC 312	Intermediate Accounting II	
ACC 402	Auditing	

ACC 403	Fundamentals of Taxation	
BSL 401	The Law of Financial Transactions	
All UG degree requirements except those taken in the senior year.		
Students that select the MAcc-Corporate Track must take FIN 303 before or during their senior year.		
Summer after Junior Year		
Internship		
Senior Year Curriculum ¹		
ACC 506 or ACC 572	Internal Auditing Advanced Financial Analysis	2
ACC 522	Advanced Issues in Auditing	3
ACC 530	International Financial Reporting Standards	1
ACC 648	Financial Reporting Implications of Income Taxes.	2
BSL 691	The Public Corporation: Legal Perspectives	2
BUS 602	Critical Thinking and Effective Writing	1
BUS 603	Critical Thinking and Effective Speaking	1
Summer after Senior Year ²		
1 ACC graduate course		
Approved CPA Review Course ³		
Pass CPA exam		
Final Fall Semester		
Remaining 16 graduate credits ⁴		

¹ Twelve credits of work in senior year will count towards the MAcc or MST degree (only students in the accelerated program are eligible to take these classes during their senior year).

² Students must take one accounting graduate course in the summer following their senior year. Accounting courses are offered based on demand and could include ACC 620 Accounting Controls in Information Technology(offered every summer) or ACC 649 Issues in Tax Policy.

³ Students are also **REQUIRED** to take an approved CPA review course during the summer following their senior year. Students who do not take a CPA review course must complete an additional six graduate credits which will likely delay graduation to May instead of graduating in December.

Students are also expected to pass part, if not all, of the CPA exam during this summer.

⁴ In the final fall semester students will complete the remaining 16 graduate credits including the requirements for their track and electives selected in consultation with the Program Director.

Admission to the Accelerated Programs

Incoming Freshmen

- Prospective students apply to the accelerated program when they apply for admission to the University of Miami.
- SAT scores should meet or exceed 1400; high school unweighted GPA should meet or exceed 3.75.
- Students are required to have an overall and accounting GPA of 3.3 or higher by their junior year in college. Students must then maintain an overall GPA of 3.3 or higher and an accounting GPA of 3.3 or higher to remain in the program. Students who do not maintain the expected GPA may be placed on probation or transferred out of the program
- Students will need to have completed 102 credit hours by the start of their senior year.

Current University of Miami Undergraduate Accounting Majors

- Students should apply to the accelerated program by September 15 of their junior year.
- Admission to the program will be based on GPA, letters of recommendation, and performance in upper division (300-level or above) accounting courses in progress or completed. It is expected that the students admitted to the program will have GPAs exceeding 3.3, but students with these scores are not guaranteed admission. The decision will depend on the quality and size of the applicant pool and will be made by senior school administrators and faculty.
- After admission, to remain in the program, students must maintain an overall GPA of 3.3 or higher and an accounting GPA of 3.3 or higher. Students who do not maintain the expected GPA may be placed on probation or transferred out of the program.
- Students will need to have completed 102 credit hours by the start of their senior year including ACC 311, ACC 312, ACC 402, ACC 403, BSL 401 and ACC 404.

Five-Year Accounting Program with Senior-Year Internship

The Five-Year Accounting Program with Senior-Year Internship is intended to allow exceptional students to acquire both undergraduate and graduate accounting degrees in five years while gaining valuable experience working at a full-time internship in the spring semester of their senior year.

Students will also take a CPA review course and sit for the CPA exam so they can pass some (if not all) parts of the exam before they graduate with their Master of Accounting or Master of Science in Taxation degree.

Program Timeline

1. Fall semester of Junior Year: Complete an application to the program by September 15 and apply for an internship position to take place in the spring of senior year.
2. Fall semester of Senior Year: Submit the internship agreement and apply to graduate school.
3. Spring semester of Senior Year: Complete Internship followed by 9 credit hours of coursework to complete the undergraduate accounting degree in specially-designed short-duration courses that include ACC 301, ACC 406 and MGT 401.
4. Summer following Senior Year: Take CPA review and exam.
5. Fall semester following Senior Year: Begin the Master of Accounting (MAcc) or Master of Science in Taxation (MST) Program.

Pre-requisites

The program is designed for University of Miami Business School undergraduate students who are pursuing the accounting major and who have a cumulative GPA of at least 3.2 at the time of application. Admission to the program is based on several criteria, so a 3.2 GPA does not guarantee admission. Students should discuss the program and their academic plan for entering the program with an academic advisor in the Office of Undergraduate Business Education or with the Program Director in the Department of Accounting. Prior to the spring semester of their senior year, students will need to have completed all undergraduate degree requirements, except for two accounting major courses (ACC 301 and ACC 406) and MGT 401.

Senior Year Spring Semester Curriculum

In the first half of the spring semester of the senior year, students will work full-time in an accounting internship for which they can receive 3 credit hours toward their undergraduate degree (ACC 550). Additionally, in the spring semester of their senior year, students will take 9 credit hours in three specially-designed short-duration courses that include ACC 301, ACC 406 and MGT 401.

Summer, Fall, and Spring after Senior Year

In the summer after their senior year, students will have the opportunity to take a CPA review course and sit for the CPA exam. Students will complete their Master of Accounting or Master of Science in Taxation in the fall and spring semesters after senior year and begin working that following summer or fall.

Admission to the Five-Year Accounting Program with Senior-Year Internship

- Students must apply to the program in their junior year and obtain an "approved" internship through the Toppel Career Center.
- The internship must be scheduled to take place during the spring semester of their senior year.
- In the fall semester of their senior year, before registering for their senior-year spring classes, students must submit a copy of their internship agreement to the Program Director or Program Manager in the Department of Accounting.
- By the fall semester of their senior year, students must have applied for admission to the graduate program and submitted their verification deposit to pursue a Master of Accounting or Master of Science in Taxation degree in the fall semester immediately following their senior year.
- The GMAT will be waived for students admitted into the program.

M.H.A. in Health Sector Management and Policy

Overview

The MHA program helps students understand business principles and their application to the health care sector. Students enrolled in the Master in Health Administration (MHA) program hone skills in business fundamentals such as finance, accounting, human resources, and process improvement, and gain knowledge in health care specific areas including the structure, organization, policy, and delivery of health care; health economics; and information technology; among others. Students also gain a comprehensive lens through which they can approach solutions in their careers through first-hand experience of daily operations and opportunities to improve processes. Students have access to C-suite leaders in the classroom and other venues. Each student will also have the opportunity to participate in an off-site internship experience. Graduates of the program are prepared to be leaders in the management and administration of health care systems, physician groups, insurance companies, medical device companies and health care facilities.

Curriculum Requirements

Code	Title	Credit Hours
Fall Semester-Term 1		
BTE 610	Foundations of Management Information Systems	2
HSM 601	Essentials of Health Care Administration	2
HSM 683	Professional Skills Development	2
Fall Semester-Term 2		
FIN 641	Valuation and Financial Decision Making	2
MGT 623	Human Resource Systems	2
MAS 631	Statistics for Managerial Decision Making	2
Spring Semester-Term 1		
HSM 640	Health and Medical Decision Making	2
HSM 684	Analysis of Health Care Delivery and Policy	2
MKT 640	Foundations of Marketing Management	2
MGT 677	Corporate Strategy and Organization	2
Spring Semester-Term 2		
HSM 620	Population Health	2
HSM 655	Public Policy and Health	2
Summer Semester		
HSM 699	Health Care Administration Internship	4
Fall Semester-Term 1		
ACC 665	Health Care Financial and Managerial Accounting	2
BSL 685	Legal Aspects of Health Administration	2
MAS 633	Introduction to Quality Management	2
Fall Semester-Term 2		
MAS 634	Administrative Systems for Quality Management	2
MGT 620	Managing Through People	2
MKT 643	Health Care Marketing	2
Total Credit Hours		40

Non-Degree Programs

Graduate Non Degree Programs

The School offers open enrollment certificate programs in general business as well as accounting and finance (online) which enable professionals to add basic business courses to their portfolios.

To obtain specific program information please visit:

- Certificate in Accounting Practice (online) (p. 1027)
- Certificate in Business (p. 1028)
- Certificate in Corporate Finance (online) (p. 1028)
- Certificate in Financial Decision Making (online) (p. 1029)
- Certificate in Leadership (p. 1030)

Certificate in Accounting Practice (online)

Certificate in Accounting Practice

Intended for candidates with no prior accounting credits, the Certificate of Professional Accounting program will provide the fundamental knowledge of financial and managerial accounting, as well as taxation and accounting information systems sufficient to equip students for entry-level jobs in public or corporate accounting.

The Certificate of Professional Accounting program strives to conform to the strategic priorities of the Miami Business School in the following ways:

1. Integrate knowledge from the latest field-based research into classroom discussion so that students better understand financial and managerial decision making in practice and can take a professional leadership role in assessing the pros and cons of standard quantitative tools used in accounting.
2. Recognize the context and implications of the conflicts of interest inherent in the accounting industry in both classroom discussion and extracurricular interaction with local leaders, in order to create principled leaders in the field of accounting.
3. Expose students to the global aspect of the field of accounting through both coursework and interaction with masters-level students in one of the most culturally diverse graduate business schools in the United States.

The specific CPA program objectives are to address the growing demand for a masters-level business certificate focused in accounting by accomplishing the following goals:

- Provide focused, graduate level education to those wishing to pursue a professional career in accounting
- Develop communication skills critical to long-term success in the accounting profession
- Provide participants with an understanding of the day-to-day work environment accounting professionals face, and career guidance, through periodic interaction with other professionals

To obtain detailed program admission and curricula information please visit website (<http://welcome.miami.edu/online/programs/masters-in-professional-accounting/certificate>).

Certificate Requirements

Code	Title	Credit Hours
ACC 681	Introduction to Financial and Managerial Accounting	4
ACC 682	Intermediate Accounting	4
ACC 683	Taxation	4
ACC 684	Accounting Information Systems	4
Total Credit Hours		16

Certificate in Business

Certificate in Business

The Certificate in Business program provides professional and graduate students an opportunity to obtain valuable, fundamental business education and enhance their analytical skills, as well as soft skills. The program consists of seven courses in business covering all fundamental functions central to any business operation. Students can take one or more courses for credit, but must satisfactorily complete all seven courses to be awarded the certificate. One or more of these courses may also serve as part of the specialized master's degrees. The Graduate Admissions Committee welcomes applications from individuals whose undergraduate degrees are from accredited colleges or universities. The GMAT and GRE are not required except from students seeking admission to the specialized master's programs.

To obtain detailed program admission information, please contact the Office of Recruiting and Admissions at 305-284-2510 or visit our website. (<http://www.bus.miami.edu/graduate-programs/business-certificate>)

Curriculum Requirements

Code	Title	Credit Hours
ACC 670	Financial Reporting and Analysis	2
BUS 610	Critical Thinking and Persuasion for Business	2
FIN 641	Valuation and Financial Decision Making	2
MAS 631	Statistics for Managerial Decision Making	2
MGT 620	Managing Through People	2
MGT 677	Corporate Strategy and Organization	2
MKT 640	Foundations of Marketing Management	2
Total Credit Hours		14

Certificate in Corporate Finance (online)

This certificate is designed for students who are seeking a career change to corporate finance, or students wishing to advance in the corporate Treasurer's office or similar structure. The certificate begins with a common core of financial tools. The core classes include an integrated foundation

of finance, economics and accounting, as well as an integrated course on domestic and international corporate valuation, covering both financial and accounting problems. The certificate finishes with a course in applied corporate finance, which focuses on financial decision making from a corporation's perspective. Issues addressed include management of corporate liabilities, leasing and other asset-based financing techniques, short-term and long-term financing, capital budgeting decisions (CAPEX), corporate valuation, hedging with options and futures, dividend policy and share repurchases, corporate financial strategy, and other current issues in corporate finance.

Students completing the online Master of Science in Finance have the option of earning a certificate in either Corporate Finance or Financial Decision-Making to supplement their degree. Additionally, an individual certificate in each track can be earned online for those students who do not wish to complete the full degree at this time. The combined Certificate in Finance Decisions and Corporate Finance requires 20 credits, while the Certificate in Corporate

To obtain more information please visit the website (<http://welcome.miami.edu/online/programs/masters-in-finance/certificate>).

Curriculum Requirements

Code	Title	Credit Hours
BUS 640	Quantitative and Analytical Fundamentals for Finance	4
FIN 613	Intermediate Corporate Finance and Investments	4
FIN 614	International Finance, Valuation, and Financial Statement Analysis	4
FIN 616	Advanced Corporate Finance	4
Total Credit Hours		16

Certificate in Financial Decision Making (online)

This certificate is designed for students who wish to either become financial managers or who wish to advance their financial careers. The certificate begins with a common core of financial tools and finishes with a course in financial decision-making. The core classes include an integrated foundation of finance, economics and accounting, as well as an integrated course on domestic and international corporate valuation, covering both finance and accounting problems. The financial decision making course, and the certificate will help managers use decision-making theory to better understand why investors, money managers, and corporate managers often make sub optimal economic and financial decisions. The course includes basic techniques and models that a manager or an investor should know. The certificate will provide students with a template for thinking through a variety of financial issues.

Students completing the master's in finance have the option of earning a certificate in either Corporate Finance or Financial Decision Making to supplement their degree. Additionally, an individual certificate in each track can be earned online for those students who do not wish to complete the full degree at this time. The combined Certificate in Finance Decisions and Corporate Finance requires 20 credits, while the Certificate in Financial Decision Making requires 16 credits.

To obtain detailed program admission and curricula information please visit the website (<http://welcome.miami.edu/online/programs/masters-in-finance/certificate>).

Curriculum Requirements

Code	Title	Credit Hours
BUS 640	Quantitative and Analytical Fundamentals for Finance	4
FIN 613	Intermediate Corporate Finance and Investments	4
FIN 614	International Finance, Valuation, and Financial Statement Analysis	4
FIN 615	Financial Decision Making	4
Total Credit Hours		16

Certificate in Leadership

Certificate in Leadership

The Certificate in Leadership is designed to help participants develop the interpersonal skills needed to influence others and lead effectively in today's challenging work environment. The program consists of four 2 credit hour courses. Students must have an undergraduate degree to be eligible for this certificate.

Curriculum Requirements

Code	Title	Credit Hours
MGT 617	Leading Across Cultures	2
MGT 621	High Performance Leadership	2
MGT 622	High Performance Teams	2
MGT 618 or MGT 623	Leading Change in Organizations Human Resource Systems	2
Total Credit Hours		8

Communication

<http://www.com.miami.edu>

Departments

The School of Communication offers:

- the Master of Arts in the Department of Communication Studies (M.A. in Communication Studies), and
- the Master of Arts in the Department of Journalism and Media Management (M.A. in Journalism), and
- the Master of Arts in the Department of Strategic Communication (M.A. in Public Relations), and
- the Master of Science in the Department of Journalism and Media Management (M.S. in Media Management), and
- the Master of Fine Arts in the Department of Cinema and Interactive Media (M.F.A. in Motion Pictures and M.F.A. in Interactive Media).

The School also offers a Ph.D. in Communication.

Admission Requirements

Admission to Graduate Studies at the Master's Level

The following is a list of the required conditions as well as the required documents/fees for your application for admission to the Master of Arts, Master of Science, or Master of Fine Arts degree in Communication:

- A baccalaureate degree from an accredited institution
- The School's official application
- A \$85.00 non-refundable application fee
- Three letters of recommendation
- 500 word typed statement of academic and professional goals.
 - Note: for the Interactive Media M.F.A., please visit this web site (<http://com.miami.edu/interactive-media-mfa>) for specific instructions about the statement
- Official transcripts of all college work, both undergraduate and graduate
 - Note: In addition, international applicants must send an official copy of your diploma for all degrees earned, and all documentation that confers your degree, with English translation for all degrees earned.
 - Note: All transcripts must be the original document, forwarded directly from the university; Xerox copies, true copies, notarized copies and other types of copies are not acceptable.
- Official TOEFL or IELTS scores
 - Note: Only for international applicants
- Copy of current passport
 - Note: Only for international applicants. The name entered on the graduate application must exactly match your name as it appears on your passport.
- Official Graduate Record Examination (GRE) scores
 - Note: Required for M.A. applicants in Communication Studies and Public Relations.
 - Note: Journalism M.A. and Interactive Media M.F.A. applicants may send GRE scores or a portfolio

- Note: Journalism M.S. applicants may send the official Graduate Record Examination (GRE) or Graduate Management Admission Test (GMAT) scores. Those applicants with at least three years of relevant professional media or business work experience (by the time they apply) may be eligible for a waiver. Eligibility for a waiver depends on the quality and type of professional experience and remains at the discretion of the Department of Journalism and Media Management Chairperson.
- Portfolio
 - Note: Required for Motion Pictures M.F.A. applicants

Contact the Office of Graduate Studies, call 305-284-5236 or email (socgrad@miami.edu), for information.

Admission to Graduate Studies for the Juris Doctor/Master of Arts in Communication Joint Degree

Requirements for admission to graduate studies for the Juris Doctor/Master of Arts in Communication joint degree are:

- Students must be admitted to the Law School first, prior to enrollment in the School of Communication, checking a box on their application indicating their interest in the joint degree program. Once accepted to the Law School, the student's law school application including LSAT score, undergraduate transcript, and letters of recommendation (two of them required for the J.D. program) will be sent to the School of Communication for review. The student will then receive notification from the School of Communication regarding his/her admission to the joint degree program.
- The LSAT score may be submitted in lieu of the GRE score.

General notes

- Students will be admitted to the Law School J.D. program and the School of Communication (SoC) master's program separately.
- Students in this joint degree program must commence law study first.
- Students who have already commenced work on the SoC MA are not eligible for the joint program.

Admission to Graduate Studies at the Doctoral Level

The following is a list of the required conditions as well as the required documents/fees for your application for admission to the Doctor of Philosophy in Communication program:

- A master's degree in communication or another appropriate field. The degree must be in addition to a bachelor's degree. All degrees must be from accredited institutions.
- The School's official application
- A \$85.00 non-refundable application fee
- Three letters of recommendation
- Official transcripts of all college work, both undergraduate and graduate
 - Note: In addition, international applicants must send an official copy of your diploma for all degrees earned, and all documentation that confers your degree, with English translation for all degrees earned.
 - Note: All transcripts must be the original document, forwarded directly from the university; Xerox copies, true copies, notarized copies and other types of copies are not acceptable.
- Official TOEFL or IELTS scores
 - Note: Only for international applicants
- Copy of current passport
 - Note: Only for international applicants. The name entered on the graduate application must exactly match your name as it appears on your passport.
- Official Graduate Record Examination (GRE) scores
- Current Curriculum Vitae (CV)
- 500-word typed statement of your academic and professional goals, research area you want to pursue and why, and how your background has prepared you for this. A copy of the completed master's thesis if it has been completed. If the master's thesis is in progress, submit completed chapters. If a thesis is not required by your master's program, submit comparable scholarly work.

Degree Programs

The School of Communication offers graduate programs leading to the Master of Arts, Master of Science, Master of Fine Arts, and the Doctor of Philosophy degrees.

Communication Studies (M.A.)

COMMUNICATION STUDIES (M.A.) is a program designed to provide students with a rigorous educational experience, to develop an advanced understanding of the human communication process, to increase awareness of the interdisciplinary nature of the communication field, and to develop oral, written, critical thinking, and research skills. The 30 credit hour thesis track program emphasizes the student's development of research skills. The 36 credit hour non-thesis track program focuses on a theoretical foundation with emphasis on applied communication. Students have the option to concentrate in Communication Studies, Health Communication, Intercultural Communication, or Organizational Communication.

Journalism (M.A.)

JOURNALISM (M.A.) is an intensive program of academic study and hands-on practice designed to develop competitive, high-level, cross-platform digital media skills appropriate for today's media landscape. Students take a common core of courses designed to provide a foundation in all aspects of contemporary journalism (e.g., writing, reporting, multimedia, data visualization, broadcasting, media law and ethics). In addition, students have the opportunity to focus their work in various areas of study, including broadcast journalism, news and feature writing and various aspects of multimedia journalism. Through a combination of journalism courses and related courses offered by other programs, students may also concentrate some of their work in particular areas of interest (e.g., sports reporting, travel and features). The program begins in the fall semester and lasts for 18 months. No prior training or experience in journalism is required.

Public Relations (M.A.)

PUBLIC RELATIONS (M.A.) offers two tracks. The 30 credit hour thesis track program provides an opportunity to supplement a working foundation and knowledge with pertinent theory and research methodologies. A second 36 credit hour, coursework-only non-thesis track program builds from a foundation of public relations and communication courses.

Media Management (M.S.)

Media Management (M.S.) is a 32-credit interdisciplinary graduate program designed for students who seek new or advanced opportunities in the various and expanding areas of the media industry, such as content distribution, news and entertainment programming, research, and analytics. Students complete courses in the Business School to learn or strengthen their knowledge about business fundamentals, including managerial strategy, economics, accounting, and marketing. At the same time, students take courses in the Department of Journalism and Media Management to apply business principles to media situations and evaluate critically how technological and regulatory trends, changing business models, emergent content applications, and new audience measurement techniques influence decision-making in media operations. Students can also customize their coursework by selecting electives in the School of Communication that best match their personal or career interests.

Required classes are held on Saturdays and weekday evenings to provide flexibility for working professionals. Students can study full-time or part-time. The program begins every fall and lasts one year for full-time students or two years for part-time students. No prior business or media management experience or education is required.

Joint Degree Juris Doctor (J.D.)/M.A. in Communication

JOINT DEGREE JURIS DOCTOR (J.D.)/M.A. IN COMMUNICATION. A powerful background in law and in communication can be a launching pad for a career in law, business, entertainment or government. For this reason, the University of Miami School of Law and School of Communication have brought together these two dynamic fields to offer a joint degree program. Through this joint program, students can acquire a law degree and a master's degree in communication in less time (3 to 3½ years). The joint degree program is intended for students with a variety of goals including students who plan to practice professionally in a communication field such as journalism or strategic communication with a law-related emphasis. Graduates of these programs may also work as in-house counsel for new communication technology companies, or serve with government agencies concerned with communication law or with law firms practicing in that field. This program also provides a solid foundation for future journalists who wish to report on legal affairs, and offers ideal preparation for the rapidly growing field of public affairs management, in which practitioners work in business, government and non-profits to communicate with key audiences.

The School of Communication M.A. degree programs participating in the joint J.D. program are:

- Communication Studies (Communication Studies, Health Communication, Intercultural Communication, Organizational Communication)
- Public Relations
- Journalism

Motion Pictures (M.F.A.)

MOTION PICTURES (M.F.A.) The Motion Picture graduate program provides a student-centered learning experience within a globally diverse moving image context. The M.F.A. curriculum emphasizes the relationship between theory and practice and encourages both creative collaboration and independent thinking as it prepares motion picture professionals and artists. M.F.A. candidates are expected to follow a set sequence of courses during the first two semesters of their studies. During the second year of studies, candidates are strongly encouraged to explore not only a primary but also a secondary area of specialization in the program and develop a minimum of two creative projects consistent with their areas of primary interest and secondary specialization. A minimum of 6 credit hours in each area of specialization is required. Under faculty committee supervision, students will develop one or two creative projects in the third year of their studies. This three-year program culminates with a thesis portfolio that demonstrates, not only skillful execution of craft, but strong conceptual development rooted in collaborative work and innovative uses of technology.

Graduate students are encouraged to pursue independent and critical thinking, research and creative work as appropriate to the fulfillment of the requirements of their degree. In addition, the graduate program seeks to support innovative approaches and ideas and to aid in the pursuit of relevant scholarly and creative endeavors.

Interactive Media (M.F.A.)

INTERACTIVE MEDIA (M.F.A.) The Interactive Media graduate program aims to prepare a new generation of innovators and leaders in the field of interaction design. The M.F.A. curriculum emphasizes exploration of the use of technology, design, and human behavior, to impact, augment, and influence how people communicate. The multidisciplinary curriculum brings together students from different backgrounds to learn about interaction

design, gaming, mobile, data visualization, human computer interaction, and other emerging technologies. The program trains students to research, prototype, design, and build projects in business, social, academic, and cultural contexts.

Communication

COMMUNICATION (Ph.D.) provides students with the theory and research skills required to use communication to make positive change in society, community, and individuals. Possible areas of specialization, within this overarching framework of social and behavioral change, include health communication (broadly defined), intercultural communication, organizational communication, international communication, advocacy, and journalism studies and accompanying new/digital media foundations and skills.

Cinema and Interactive Media

The Cinema and Interactive Media Department offers a complete curricular experience in critical understanding and effective creation of contemporary moving image media and interactive design. With two programs, the M.F.A. in Motion Pictures and the M.F.A. in Interactive Media, our mission is to explore the creative uses of narrative, documentary, technology, design and human behavior in order to entertain, impact, augment, and influence how people communicate. We prepare a new generation of innovators, storytellers and leaders in the fields of cinema, transmedia and interaction design.

The M.F.A. in Motion Pictures program requires that students complete a minimum of 66 credit hours. At least 24 of these credit hours must be at or above the 700-level. At least 12 credit hours must be earned at the 800-level for thesis work. Motion Picture students must maintain an overall minimum GPA of 3.0 or above for all courses. By the end of the second year, students are required to achieve a minimum 3.0 score on the program's film and television literacy test.

Students in the Motion Picture program are strongly encouraged to explore not only a primary but also a secondary area of specialization and develop a minimum of 2 creative projects in consultation with their faculty advisory committee. The 3 year program culminates in a thesis portfolio. Students need to work closely with their primary advisor and committee to ensure they are fulfilling their degree expectations, which typically include a short motion picture project abroad and a summer internship.

The M.F.A. in Interactive Media program requires that students complete a minimum of 45 credit hours at the graduate level with an average of "B" and no grade lower than a "C-". Prior written approval is required from both the chair of the CIM department and the director of graduate studies for transfer of credit hours, for course substitutions, as well as for taking a course at another university.

Interactive Media students are required to register for a capstone project seminar. To register for this course, students must complete all courses with a standing of 3.0 GPA. The capstone course is designed to help students define and execute their final projects. To graduate, students must complete and present a fully articulated capstone project and related documentation. Students must complete all degree requirements within 6 years.

Masters Programs in Cinema and Interactive Media

- M.F.A. in Motion Pictures (p. 1034)
- M.F.A. in Interactive Media (p. 1033)

M.F.A. in Interactive Media

Curriculum Requirements

Code	Title	Credit Hours
Core Courses (Year One)		
CIM 640	Intro to Creative Coding	3
CIM 643	Designing Innovation	3
CIM 690	Prototyping Techniques	3
Choose One (Year One)		
JMM 622	Infographics and Data Visualization	3
CIM 631	Human Computer Interaction	3
CIM 692	Advanced Systems: Designing Playful Experiences	3
Other Required Courses		
CIM 622	UX Research	3
CIM 636	Collaborative Innovation Laboratory	3
CIM 645	Managing Interactive Media Projects	3
CIM 691	Capstone ²	3
Specializations ⁴		
Interaction Design Sequence		
CIM 613	Mobile Application Development	3

CIM 635	Human Centered Design	
CIM 639	Front End Fundamentals	
CIM 642	Physical Computing	
Game Design Sequence		
CIM 615	2D Character Design	
CIM 616	Building Virtual Worlds	
CIM 623	Advanced 3D Character Design	
CIM 721	Game Development Studio	
Interactive Storytelling		
CIM 610 or CIM 611	Foundation of Screenwriting Writing the Short Film	
CIM 616	Building Virtual Worlds	
CIM 624	Augmented Reality	
CIM 661	360 Immersive Storytelling	
Data Journalism and Visualization		
CIM 693	Dynamic Data	
JMM 629	Interactive Data Visualization	
JMM 631	Database Journalism	
GEG 680 or COM 602	Spatial Data Analysis I Methods of Communication Research	
Electives		9
Students will be able to take 12 elective credits (four classes) of their choice under guidance of their advisor.		
Total Credit Hours		45

- 1 Students must complete a minimum of 45 credit hours at the graduate level with an average of B and no grade lower than a C-. Prior written approval is required from both the chair of the interactive media program and the director of graduate studies for transfer credit hours, for course substitutions as well as for taking a course at another university.
- 2 Students are required to register for a capstone project seminar. To register for this course, students must complete all courses with a standing 3.0 GPA. The capstone course is designed to help students define and execute their final projects. To graduate, students must complete and present a fully articulated capstone project and related documentation.
- 3 Students must complete all master's degree requirements within 6 years.
- 4 Specializations are recommended, but students have the flexibility to design their own specialization.

M.F.A. in Motion Pictures

Students must complete a minimum of 66 credit hours with the approval of the faculty advisor. At least 24 must be at or above the 700-level and at least 12 must be earned for thesis. Motion Picture students must maintain an overall minimum GPA of 3.0 for all courses.

M.F.A. candidates are expected to follow a set sequence of courses during the first two semesters of their studies. Several courses are required during the second year of studies. Candidates are strongly encouraged to explore not only a primary but also a secondary area of specialization in the program and develop a minimum of two creative projects consistent with their areas of primary interest and secondary specialization. A minimum of 6 credit hours in each area of specialization is required. Under faculty committee supervision, students will develop one or two creative projects in the third year of their studies.

All M.F.A. students must demonstrate deeper, critical understanding of motion picture practice in diverse social and cultural contexts. To this end, students are encouraged to take advantage of available study abroad programs. Students are also encouraged to participate in an internship during the summer of the first year or second year of studies.

By the end of the second year, students must complete a film and television literacy test, based on a list of 150 culturally and historically significant titles compiled by the faculty. The list is circulated to each student upon entrance into the program. The test is administered annually in the spring semester. Students are required to earn 85/100% on the test in order to complete the degree.

This three-year program culminates with a thesis portfolio that demonstrates, not only skillful execution of craft, but strong conceptual development rooted in collaborative work and innovative uses of technology.

Curriculum Requirements

Code	Title	Credit Hours
CIM 601	Principles of Aesthetics and Analysis	3
CIM 610	Foundation of Screenwriting	3
CIM 611	Writing the Short Film	3
CIM 620	Cinematography	3
CIM 621	Narrative Production	3
CIM 630	Introduction to Editing	3
CIM 660	Directing the Actor	3
CIM 670	The Independent Producer	3
CIM 707	Pedagogy and Film	3
CIM 750	From Script to Screen	3
CIM 815	MFA Thesis	12
Select two of the following:		6
CIM 602	Global Issues and Filmmaking	
CIM 612	Writing for Episodic Television	
CIM 651	Motion Graphics and Compositing	
CIM 655	Science Documentary: Autism	
CIM 696	Directing Techniques	
CIM 710	Writing the Feature-Length Screenplay	
CIM 752	Advanced Cinematography	
CIM 795	Special Topics in Cinema and Interactive Media	
Select four of the following:		12
CIM 658	Documentary Production	
CIM 697	Topics in Film Analysis	
CIM 730	Advanced Editing	
CIM 740	Sound Design	
CIM 761	Directing the Camera	
CIM 795	Special Topics in Cinema and Interactive Media	
Select one of the following:		3
CIM 613	Mobile Application Development	
CIM 661	360 Immersive Storytelling	
CIM 705	Production Management	
CIM 750	From Script to Screen	
CIM 795	Special Topics in Cinema and Interactive Media	
Select one of the following:		3
CIM 694	Motion Picture Marketing and Distribution	
CIM 795	Special Topics in Cinema and Interactive Media	
Total Credit Hours		66

Suggested Plan of Study

Course	Title	Credit Hours
First Year		
Fall		
CIM 601	Principles of Aesthetics and Analysis	3
CIM 611	Writing the Short Film	3
CIM 620	Cinematography	3
CIM 660	Directing the Actor	3
	Credit Hours	12
Spring		
CIM 610	Foundation of Screenwriting	3

CIM 621	Narrative Production	3
CIM 630	Introduction to Editing	3
CIM 670	The Independent Producer	3
	Credit Hours	12
Second Year		
Fall		
Required Course Work:		
CIM 707	Pedagogy and Film (Select two of the following:)	3
CIM 750	From Script to Screen	3
Select two of the following:		6
CIM 602	Global Issues and Filmmaking	
CIM 612	Writing for Episodic Television	
CIM 651	Motion Graphics and Compositing	
CIM 655	Science Documentary: Autism	
CIM 696	Directing Techniques	
CIM 710	Writing the Feature-Length Screenplay	
CIM 752	Advanced Cinematography	
CIM 795	Special Topics in Cinema and Interactive Media	
	Credit Hours	12
Spring		
Select four of the following:		12
CIM 658	Documentary Production	
CIM 697	Topics in Film Analysis	
CIM 730	Advanced Editing	
CIM 740	Sound Design	
CIM 761	Directing the Camera	
CIM 795	Special Topics in Cinema and Interactive Media	
	Credit Hours	12
Third Year		
Fall		
Required course work:		
CIM 815	MFA Thesis	1-6
Select one of the following:		3
CIM 613	Mobile Application Development	
CIM 661	360 Immersive Storytelling	
CIM 705	Production Management	
CIM 750	From Script to Screen	
CIM 795	Special Topics in Cinema and Interactive Media	
	Credit Hours	9
Spring		
Required course work:		
CIM 815	MFA Thesis	1-6
Select one of the following:		3
CIM 694	Motion Picture Marketing and Distribution	
CIM 795	Special Topics in Cinema and Interactive Media	
	Credit Hours	9
	Total Credit Hours	66

No more than 9 credit hours will be allowed for graduate internships and advanced projects and directed research. Courses may be taken, with program director approval, from other programs or departments within the University of Miami.

Communication Studies

Two programs are offered in Communication Studies.

- The thesis program emphasizes the student's development of research skills under faculty supervision (30 credit hours).
- The non-thesis program focuses on a theoretical foundation with emphasis on applied communication (36 credit hours).

Students will be prepared for leadership positions in public or private organizations at the national or international level, or pursue advanced degrees.

Thesis students must complete a minimum of 30 credit hours at the graduate level with the approval of a faculty advisor or department chair. Non-thesis students must complete a minimum of 36 credit hours at the graduate level with the approval of a faculty advisor or department chair. Communication Studies students must maintain an overall minimum GPA of 3.0 for all courses. Core courses must be completed during the first year of study, or by completion of 18 credit hours. No more than 6 credit hours will be allowed for advanced projects and directed research. Only one intercession course (3 credit hours) can be counted towards the degree. Electives credits must be chosen with prior approval of a Communication Studies advisor.

Masters Programs in Communication Studies

- M.A. in Communication Studies - Communication Studies Track (p. 1037)
- M.A. in Communication Studies - Health Communication Track (p. 1038)
- M.A. in Communication Studies - Intercultural Communication Track (p. 1040)
- M.A. in Communication Studies - Organizational Communication Track (p. 1041)

M.A. in Communication Studies - Communication Studies Track

The goals of the Master of Arts program in Communication Studies are to provide students with a rigorous educational experience, to develop an advanced understanding of the human communication process, to increase awareness of the interdisciplinary nature of the communication field, and to develop oral, written, critical thinking, and research skills. Students may complete coursework in persuasion, and interpersonal, intercultural, organizational, and health communication together with research methods applicable to these areas. Two programs are offered. The thesis track emphasizes student development of research skills under faculty supervision (30 credit hours). The non-thesis track emphasizes a theoretical foundation based on application of communication courses (36 credit hours).

Curriculum Requirements - Thesis

Code	Title	Credit Hours
Required Communication Core		
COM 601	Theories of Communication	3
COM 602	Methods of Communication Research	3
COM 603	Qualitative Research Methodologies	3
Communication Electives		
Select 3 - 5 of the following:		9-15
COM 604	Advanced Communication Research Methods and Statistics	
COM 609	Special Topics in Communication	
COM 672	Seminar in Persuasive Communication	
COS 616	Small Group Processes	
COS 620	Gender Issues in Leadership	
COS 630	Conflict Management	
COS 645	Intercultural Communication: International Perspectives	
COS 646	Intercultural Communication: Domestic Perspectives	
COS 647	Culture and Organizations	
COS 651	Survey of Health Communication	
COS 652	Culture and Health	
COS 653	Organizations, Communication, and Health	
COS 654	Risk Communication	
COS 655	Health Communication Interventions	
COS 660	The Executive Communicator	
COS 674	Seminar in Interpersonal Communication	
COS 682	Seminar in Organizational Communication	

COS 690	Communication Studies Practicum	
COS 691	Advanced Special Topics in Communication Studies	
COS 699	Advanced Projects and Directed Research	
Outside Electives ¹		0-6
Thesis		
COM 810	Master's Thesis	1-6
Total Credit Hours		30

¹ A maximum of 6 credit hours thesis track may come from outside the Department of Communication Studies (COS or COM courses). Elective credits must be chosen with prior approval from a Communication Studies advisor.

Curriculum Requirements - Non-Thesis

Code	Title	Credit Hours
Required Communication Core		
COM 601	Theories of Communication	3
COM 602	Methods of Communication Research	3
COM 603	Qualitative Research Methodologies	3
Communication Electives		
Select 6 - 9 of the following:		18 - 27
COM 604	Advanced Communication Research Methods and Statistics	
COM 609	Special Topics in Communication	
COM 672	Seminar in Persuasive Communication	
COS 616	Small Group Processes	
COS 620	Gender Issues in Leadership	
COS 630	Conflict Management	
COS 645	Intercultural Communication: International Perspectives	
COS 646	Intercultural Communication: Domestic Perspectives	
COS 647	Culture and Organizations	
COS 651	Survey of Health Communication	
COS 652	Culture and Health	
COS 653	Organizations, Communication, and Health	
COS 654	Risk Communication	
COS 655	Health Communication Interventions	
COS 660	The Executive Communicator	
COS 674	Seminar in Interpersonal Communication	
COS 682	Seminar in Organizational Communication	
COS 690	Communication Studies Practicum	
COS 691	Advanced Special Topics in Communication Studies	
COS 699	Advanced Projects and Directed Research	
Outside Electives ¹		0 - 6
Total Credit Hours		36

¹ A maximum of 9 credit hours non-thesis track may come from outside the Department of Communication Studies (COS or COM courses). Elective credits must be chosen with prior approval from a Communication Studies advisor.

M.A. in Communication Studies - Health Communication Track

Health Communication is an emerging specialty in the field of communication. This graduate program is designed to provide a broad introduction to human communication in a health-care context. Career opportunities in this area include public health leaders, practitioners, and researchers who design, evaluate, and disseminate health communication messages for private and governmental organizations, advertising, public relations and marketing agencies, and journalists. Students will explore the roles of patients and caregivers, social and cultural issues, communication in health organizations, and the role of mass media. Two programs are offered. The thesis track emphasizes student development of research skills under faculty supervision (30 credit hours). The non-thesis track emphasizes a theoretical foundation based on application of communication courses (36 credit hours).

Curriculum Requirements - Thesis Program

Code	Title	Credit Hours
Required Communication Core		
COM 601	Theories of Communication	3
COM 602	Methods of Communication Research	3
COM 603	Qualitative Research Methodologies	3
Communication Electives		
Select 3 - 5 of the following:		9-15
COM 604	Advanced Communication Research Methods and Statistics	
COM 672	Seminar in Persuasive Communication	
COS 651	Survey of Health Communication	
COS 652	Culture and Health	
COS 653	Organizations, Communication, and Health	
COS 654	Risk Communication	
COS 655	Health Communication Interventions	
COS 674	Seminar in Interpersonal Communication	
COS 690	Communication Studies Practicum	
COS 691	Advanced Special Topics in Communication Studies	
COS 699	Advanced Projects and Directed Research	
Thesis		
Outside Electives ¹		0-6
COM 810	Master's Thesis	1-6
Total Credit Hours		30

¹ A maximum of 6 credit hours thesis track may come from outside the Department of Communication Studies (COS or COM courses). Elective credits must be chosen with prior approval from a Communication Studies advisor.

Curriculum Requirements - Non-Thesis Program

Code	Title	Credit Hours
Required Communication Core		
COM 601	Theories of Communication	3
COM 602	Methods of Communication Research	3
COM 603	Qualitative Research Methodologies	3
Communication Electives		
Select 6 - 9 of the following:		18-27
COM 604	Advanced Communication Research Methods and Statistics	
COM 672	Seminar in Persuasive Communication	
COS 651	Survey of Health Communication	
COS 652	Culture and Health	
COS 653	Organizations, Communication, and Health	
COS 654	Risk Communication	
COS 655	Health Communication Interventions	
COS 674	Seminar in Interpersonal Communication	
COS 690	Communication Studies Practicum	
COS 691	Advanced Special Topics in Communication Studies	
COS 699	Advanced Projects and Directed Research	
Outside Electives ¹		0-9
Total Credit Hours		36

¹ A maximum of 9 credit hours non-thesis track may come from outside the Department of Communication Studies (COS or COM Courses). Elective credits must be chosen with prior approval from a Communication Studies advisor.

M.A. in Communication Studies - Intercultural Communication Track

The Intercultural Communication Track is designed to provide students with an understanding of the way communication functions in intercultural settings, how culture affects the communication process, and the reciprocal effects of intercultural perceptions on policy in the history of Eastern-Western relations. Career opportunities in this field include corporate diversity trainer, communication director, human resource manager, international service representative, negotiator, and foreign correspondent with government and business organizations. Two programs are offered. The thesis track emphasizes student development of research skills under faculty supervision (30 credit hours). The non-thesis track emphasizes a theoretical foundation based on application of communication courses (36 credit hours).

Curriculum Requirements - Thesis Program

Code	Title	Credit Hours
Required Communication Core		
COM 601	Theories of Communication	3
COM 602	Methods of Communication Research	3
COM 603	Qualitative Research Methodologies	3
Communication Electives		
Select 3 - 5 of the following:		9-15
COM 604	Advanced Communication Research Methods and Statistics	
COM 609	Special Topics in Communication	
COM 672	Seminar in Persuasive Communication	
COS 645	Intercultural Communication: International Perspectives	
COS 646	Intercultural Communication: Domestic Perspectives	
COS 647	Culture and Organizations	
COS 652	Culture and Health	
COS 660	The Executive Communicator	
COS 674	Seminar in Interpersonal Communication	
COS 682	Seminar in Organizational Communication	
COS 690	Communication Studies Practicum	
COS 691	Advanced Special Topics in Communication Studies	
COS 699	Advanced Projects and Directed Research	
Outside Electives ¹		0-6
Thesis		
COM 810	Master's Thesis	1-6
Total Credit Hours		30

¹ A maximum of 6 credit hours thesis track may come from outside the Department of Communication Studies (COS or COM courses). Elective credits must be chosen with prior approval from a Communication Studies advisor.

Curriculum Requirements - Non-Thesis Program

Code	Title	Credit Hours
Required Communication Core		
COM 601	Theories of Communication	3
COM 602	Methods of Communication Research	3
COM 603	Qualitative Research Methodologies	3
Communication Electives		
Select 6 - 9 of the following:		18-27
COM 604	Advanced Communication Research Methods and Statistics	
COM 609	Special Topics in Communication	
COM 672	Seminar in Persuasive Communication	
COS 645	Intercultural Communication: International Perspectives	
COS 646	Intercultural Communication: Domestic Perspectives	
COS 647	Culture and Organizations	
COS 652	Culture and Health	

COS 660	The Executive Communicator	
COS 674	Seminar in Interpersonal Communication	
COS 682	Seminar in Organizational Communication	
COS 690	Communication Studies Practicum	
COS 691	Advanced Special Topics in Communication Studies	
COS 699	Advanced Projects and Directed Research	
Outside Electives ¹		0-9
Total Credit Hours		36

¹ A maximum of 9 credit hours non-thesis track may come from outside the Department of Communication Studies (COS or COM courses). Elective credits must be chosen with prior approval from a Communication Studies advisor.

M.A. in Communication Studies - Organizational Communication Track

Organizational Communication is designed to provide students with a comprehensive and advanced understanding of communication in the organizational environment. Courses are designed to extend oral, written, and critical thinking skills through application of concepts using practical challenges in organizations. Students have the opportunity to explore essential areas of organizational communication, presentational skills, leadership styles, interpersonal and small group interaction, decision making, persuasion, conflict management, and diversity training. Two programs are offered. The thesis track emphasizes student development of research skills under faculty supervision (30 credits). The non-thesis track emphasizes a theoretical foundation based on application of communication courses (36 credits).

Curriculum Requirements - Thesis Program

Code	Title	Credit Hours
Required Communication Core		
COM 601	Theories of Communication	3
COM 602	Methods of Communication Research	3
COM 603	Qualitative Research Methodologies	3
Communication Electives		
Select 3 - 5 of the following:		9-15
COM 604	Advanced Communication Research Methods and Statistics	
COM 609	Special Topics in Communication	
COM 672	Seminar in Persuasive Communication	
COS 616	Small Group Processes	
COS 620	Gender Issues in Leadership	
COS 630	Conflict Management	
COS 645	Intercultural Communication: International Perspectives	
COS 647	Culture and Organizations	
COS 653	Organizations, Communication, and Health	
COS 660	The Executive Communicator	
COS 674	Seminar in Interpersonal Communication	
COS 680	Organizational Training and Development	
COS 682	Seminar in Organizational Communication	
COS 690	Communication Studies Practicum	
COS 691	Advanced Special Topics in Communication Studies	
COS 699	Advanced Projects and Directed Research	
Outside Electives ¹		0-6
Thesis		
COM 810	Master's Thesis	1-6
Total Credit Hours		30

¹ A maximum of 6 credit hours thesis track may come from outside the Department of Communication Studies (COS or COM courses). Elective credits must be chosen with prior approval from a Communication Studies advisor.

Curriculum Requirements - Non-Thesis Program

Code	Title	Credit Hours
Required Communication Core		
COM 601	Theories of Communication	3
COM 602	Methods of Communication Research	3
COM 603	Qualitative Research Methodologies	3
Communication Electives		
Select 6 - 9 of the following:		18-27
COM 604	Advanced Communication Research Methods and Statistics	
COM 609	Special Topics in Communication	
COM 672	Seminar in Persuasive Communication	
COS 616	Small Group Processes	
COS 620	Gender Issues in Leadership	
COS 630	Conflict Management	
COS 645	Intercultural Communication: International Perspectives	
COS 647	Culture and Organizations	
COS 653	Organizations, Communication, and Health	
COS 660	The Executive Communicator	
COS 674	Seminar in Interpersonal Communication	
COS 680	Organizational Training and Development	
COS 682	Seminar in Organizational Communication	
COS 690	Communication Studies Practicum	
COS 691	Advanced Special Topics in Communication Studies	
COS 699	Advanced Projects and Directed Research	
Outside Electives ¹		0-9
Total Credit Hours		36

¹ A maximum of 9 credit hours non-thesis track may come from outside the Department of Communication Studies (COS or COM courses). Elective credits must be chosen with prior approval from a Communication Studies advisor.

Doctor of Philosophy in Communication

The doctoral program is designed to provide students with the requisite foundation in theory as well as research skills for using communication to make positive change at the societal, community, and individual levels. The program allows learning across content and creative areas, methodological orientations, and platforms of expression for engaged scholarship and immersive experience, globally and locally. You will engage with communication theory, research, and practice using advocacy and storytelling, with particular attention to new and social media for social and behavioral change. This will be your niche: conducting research, engaging in immersive experience, and translating these into evaluation-based practice for the well being of community, society and the world.

The program includes field research experience and the teaching, writing, and media skills necessary for a career in higher education, research institutions, non-profits, government organizations, media, business, and industry. You may choose from health, environmental, international, intercultural and organizational communication as well as from journalism studies and media development to create an appropriate combination for your career goals.

Curriculum Requirements

For the doctoral program, students must complete 57 credit hours of course work beyond the master's degree; 12 of the 57 credit hours must be dissertation credit hours. Doctoral students cannot take intersession courses.

Code	Title	Credit Hours
Required Core Courses		
COM 601	Theories of Communication	3
COM 602	Methods of Communication Research	3
COM 603	Qualitative Research Methodologies	3
COM 604	Advanced Communication Research Methods and Statistics	3
COM 609	Special Topics in Communication ¹	3

COM 695	Directed Readings ¹	3
COM 698	Independent Research ¹	3
School of Communication Electives		9-12
Courses outside the School of Communication		12-15
Dissertation ²		
COM 830	Doctoral Dissertation	1-12
Oral Qualifying Examinations ³		
Total Credit Hours		57

¹ Students must take a minimum of 9 credit hours in COM 609 and/or COM 695/COM 698 or any combination of the three. Students are allowed to take up to 6 credit hours of Directed Readings/Independent Research in total.

² The dissertation committee may be the same as the student's qualifying exams committee. The guidelines for the composition of the dissertation committee are the same as those for the qualifying exams committee. Students must complete 12 dissertation credit hours. These credit hours begin after students have successfully completed their qualifying exams. Students are required to defend a dissertation proposal to the dissertation committee. Students may proceed with the dissertation once the proposal has been approved by the committee and accepted by the director of graduate studies. The dissertation must be an investigation of a substantial scholarly topic and must be defended orally in the presence of the dissertation committee. Students should note that they cannot conduct human subjects research without approval from the University of Miami's Institutional Review Board.

³ All School of Communication Ph.D. students will take written and oral qualifying examinations following the conclusion of all course work prior to being admitted to candidacy for the Ph.D. degree. A student who fails the exam is given one opportunity to retake it with the permission of the exam committee and must pass it within one calendar year of failing the first exam. Any student who fails to be admitted to candidacy for the degree within this one-year period will be dismissed from the program. To be admitted to candidacy, students must have successfully completed qualifying exams and received approval from the department chair, have a minimum GPA of 3.0, and have submitted all original transcripts and standardized test results. A qualifying exams committee consists of a minimum of four members including the chair.

J.D./M.A. in School of Communication

This program allows students to earn a J.D. and an M.A. in Communication in 3 to 3½ years. The three School of Communication programs participating in the joint J.D./M.A. program are Communication Studies, Journalism, and Public Relations. This joint degree program will allow 9 J.D. credit hours to be applied to the M.A. degree and 6 M.A. credit hours to be applied to the J.D. degree, saving the student 15 credit hours between the two programs.

In the J.D. program, students will complete 82 credit hours in the School of Law. Additionally, 6 credit hours from the School of Communication program will be applied to their Law School transcript, for a total of 88 required J.D. credit hours. In the M.A. program, students will complete 27 credit hours in the School of Communication. Additionally, 9 law school credit hours will be applied toward their master's degree, for a total of 36 required M.A. credit hours. As defined above, 15 credit hours will be counted toward both degrees: 6 credit hours from the School of Law and 9 credit hours from the School of Communication. During the first year of the joint program, students will be required to attend the J.D. program full-time. Students will be able to take courses in the School of Communication beginning in the fall of their 2L year. Students must complete all J.D. requirements and all M.A. requirements as defined by their programs. Participants in the joint J.D./M.A. program are not required to complete the M.A. capstone project. The thesis-track is not open to students in the J.D./M.A. joint program without specific approval of the School of Communication. Students may take summer law courses, which may reduce the length of the joint degree program by up to one semester. Students may not take more than 16 credit hours each semester, excluding summer sessions. 17 credit hours per semester may be taken with permission from the Associate Dean, Academic Affairs, School of Law.

Law School Requirements

9 Law School credit hours should come from the following courses:

- Administrative Law
- Communications law
- Constitutional Law II
- Copyright Law
- First amendment Law
- Intellectual Property Law
- Internet Law
- Mass Media Law

Additional law courses to be considered (depending on the student's particular area of interest) are: Antitrust, Art and the Law, Bankruptcy Law, BA, Civil Procedure, Commercial Law, Consumer Law, Corporate Finance, Criminal Law, Cultural Property & Heritage, Elder Law, Election Law, Employment Law, Environmental Law, EU Law, Evidence, Family Law, Financial Regulation, Florida Con Law, Florida Criminal Procedure, Immigration

Law, International Finance, International Human Rights, International Law, Latin American Law, Law & Economics, Law & Medicine, Legal Research Techniques, Media & the Law, Mortgage Law, National Security Law, Press Freedoms in the Americas, Public Education Law, Race and the Constitution, Securities Regulation, Sports Law, State & Local Government, Substantive Criminal Law, and Trademark Law.

The Law School will accept 6 credit hours from School of Communication courses: (the courses selected will depend on the specific program, e.g., Communication Studies, Journalism, or Public Relations, though following consultation with, and approval by, a faculty advisor, substitutions may be allowed). Examples include:

Code	Title	Credit Hours
COM 601	Theories of Communication	3
COM 602	Methods of Communication Research	3
COM 603	Qualitative Research Methodologies	3
COM 605	Theories and Methods for Mass Communication Research	3
JMM 614	Law and Ethics in Journalism and Media Management	3
JMM 615	Writing and Reporting Across Platforms	3
JMM 637	The Business of Modern Journalism	3
STC 620	Public Relations Fundamentals	3

J.D./M.A. in Communication Studies

Communication Studies (M.A.)

The program has four tracks, each with 9 credits of required courses and 27 credits of elective courses but students in the joint program take 18 credits of electives and transfer 9 credit from the School of Law to make 27 credits. Communication Studies students must receive a "B" or higher in core courses (COM 601, COM 602, and COM 603), as well as maintain an overall minimum GPA of 3.0 for all courses. Core courses must be completed during the first year of study, or by completion of 18 credits.

Communication Studies Track - Non-Thesis

This program focuses on developing a theoretical foundation with emphasis on applied communication.

Code	Title	Credit Hours
Required Communication Core Courses		
COM 601	Theories of Communication	3
COM 602	Methods of Communication Research	3
COM 603	Qualitative Research Methodologies	3
Communication Electives		
Elective credits must be chosen with prior approval from a Communication Studies advisor.		
COM 604	Advanced Communication Research Methods and Statistics	
COM 609	Special Topics in Communication	
COM 672	Seminar in Persuasive Communication	
COS 616	Small Group Processes	
COS 620	Gender Issues in Leadership	
COS 630	Conflict Management	
COS 645	Intercultural Communication: International Perspectives	
COS 646	Intercultural Communication: Domestic Perspectives	
COS 647	Culture and Organizations	
COS 651	Survey of Health Communication	
COS 652	Culture and Health	
COS 653	Organizations, Communication, and Health	
COS 654	Risk Communication	
COS 655	Health Communication Interventions	
COS 660	The Executive Communicator	
COS 674	Seminar in Interpersonal Communication	
COS 682	Seminar in Organizational Communication	
COS 690	Communication Studies Practicum	
COS 691	Advanced Special Topics in Communication Studies	

COS 699	Advanced Projects and Directed Research	
Law School Credits		9
Total Credit Hours		36

Health Communication Track - Non-Thesis

This program focuses on human communication in a health-care context.

Code	Title	Credit Hours
Required Communication Core Courses		
COM 601	Theories of Communication	3
COM 602	Methods of Communication Research	3
COM 603	Qualitative Research Methodologies	3
Communication Electives		18
Elective credits must be chosen with prior approval from a Communication Studies advisor.		
COM 604	Advanced Communication Research Methods and Statistics	
COM 672	Seminar in Persuasive Communication	
COS 651	Survey of Health Communication	
COS 652	Culture and Health	
COS 653	Organizations, Communication, and Health	
COS 654	Risk Communication	
COS 655	Health Communication Interventions	
COS 674	Seminar in Interpersonal Communication	
COS 690	Communication Studies Practicum	
COS 691	Advanced Special Topics in Communication Studies	
COS 699	Advanced Projects and Directed Research	
Law School Credits		9
Total Credit Hours		36

Intercultural Communication Track - Non-Thesis

This program focuses on the way communication functions in intercultural settings, how culture affects the communication process, and the reciprocal effects of intercultural perceptions on policy in the history of East-West relations.

Code	Title	Credit Hours
Required Communication Core Courses		
COM 601	Theories of Communication	3
COM 602	Methods of Communication Research	3
COM 603	Qualitative Research Methodologies	3
Communication Electives		18
Elective credits must be chosen with prior approval from a Communication Studies advisor.		
COM 604	Advanced Communication Research Methods and Statistics	
COM 609	Special Topics in Communication	
COM 672	Seminar in Persuasive Communication	
COS 645	Intercultural Communication: International Perspectives	
COS 646	Intercultural Communication: Domestic Perspectives	
COS 647	Culture and Organizations	
COS 652	Culture and Health	
COS 660	The Executive Communicator	
COS 674	Seminar in Interpersonal Communication	
COS 682	Seminar in Organizational Communication	
COS 690	Communication Studies Practicum	
COS 691	Advanced Special Topics in Communication Studies	
COS 699	Advanced Projects and Directed Research	

Law School Credits	9
Total Credit Hours	36

Organizational Communication Track - Non-Thesis

This program focuses on communication in the organizational context.

Code	Title	Credit Hours
Required Communication Core Courses		
COM 601	Theories of Communication	3
COM 602	Methods of Communication Research	3
COM 603	Qualitative Research Methodologies	3
Communication Electives		18
Elective credits must be chosen with prior approval from a Communication Studies advisor.		
COM 604	Advanced Communication Research Methods and Statistics	
COM 609	Special Topics in Communication	
COM 672	Seminar in Persuasive Communication	
COS 616	Small Group Processes	
COS 620	Gender Issues in Leadership	
COS 630	Conflict Management	
COS 645	Intercultural Communication: International Perspectives	
COS 647	Culture and Organizations	
COS 653	Organizations, Communication, and Health	
COS 660	The Executive Communicator	
COS 674	Seminar in Interpersonal Communication	
COS 680	Organizational Training and Development	
COS 682	Seminar in Organizational Communication	
COS 690	Communication Studies Practicum	
COS 691	Advanced Special Topics in Communication Studies	
COS 699	Advanced Projects and Directed Research	
Law School Credits		9
Total Credit Hours		36

J.D./M.A. in Journalism

Journalism (M.A.)

The program in journalism has 15 credits of required courses and 12 credits of elective courses (plus 9 credits that will be transferred from the School of Law). Law students with particular areas of interest may consult with a faculty advisor in Journalism to request course substitutions. As journalism evolves, the core and list of electives will evolve as well.

Code	Title	Credit Hours
Required Communication and Journalism Core Courses		
COM 605	Theories and Methods for Mass Communication Research	3
JMM 614	Law and Ethics in Journalism and Media Management	3
JMM 615	Writing and Reporting Across Platforms	3
JMM 692	Special Topics in Journalism and Media Management (Online Journalism)	3
Journalism Electives		15
Select five of the following:		
JMM 610	Comparative Media Systems	
JMM 617	Television News Reporting	
JMM 620	Reporting and the Internet	
JMM 622	Infographics and Data Visualization	
JMM 623	Sports Reporting	

JMM 627	Television News Producing	
JMM 628	Seminar in Visual Storytelling	
JMM 641	Advanced Audio Video Narratives	
JMM 644	Feature Writing	
JMM 650	3D Design and Graphics	
JMM 699	Advanced Projects and Directed Research	
CIM 645	Managing Interactive Media Projects	
Law School Credits		9
Total Credit Hours		36

J.D./M.A. in Public Relations

Public Relations (M.A. - Non-Thesis)

This program is focused on public relations with 15 credit hours of required courses and 12 credit hours of elective courses (plus 9 credit hours that will be transferred from the School of Law.) Public Relations students must receive a "B" or higher in core courses (COM 601, COM 602 OR COM 603, STC 620, STC 621, STC 622).

Code	Title	Credit Hours
Required Communication and Public Relations Core Courses		
COM 601	Theories of Communication	3
COM 602	Methods of Communication Research	3
or COM 603	Qualitative Research Methodologies	
STC 620	Public Relations Fundamentals	3
STC 621	Writing for Public Relations	3
STC 622	Design for Public Relations	3
Public Relations Electives		12
Select four of the following:		
STC 623	Crisis Communication and Management	
STC 624	Media Relations	
STC 625	Cases in Public Relations Administration	
STC 626	Sports, Publicity, and Promotions	
STC 628	Public Relations Management	
STC 629	Special Topics Seminar in Public Relations	
STC 632	Seminar in Public Relations and Political Campaigns	
STC 634	Non-Profit and Public Information Campaigns	
STC 635	Seminar in Public Relations Measurement	
STC 644	Seminar in Public Relations Ethics	
STC 650	Strategic Communication in Health Care	
STC 660	Corporate Communication and Public Relations	
STC 681	Public Relations Experience Program (Prep)	
STC 682	International Public Relations	
STC 690	Public Relations Practicum I	
Law School Credits		9
Total Credit Hours		36

Journalism and Media Management

Journalism (M.A.)

Journalism is an intensive program of academic study and hands-on practice designed to develop competitive, high-level, cross-platform digital media skills appropriate for today's media landscape. Students take a common core of courses designed to provide a foundation in all aspects of contemporary journalism (e.g., writing, reporting, multimedia, data visualization, broadcasting, media law and ethics). In addition, students have the opportunity to focus their work in various areas of study, including broadcast journalism, news and feature writing and various aspects of multimedia journalism. Through a combination of journalism courses and related courses offered by other programs, students may also concentrate some of their

work in particular areas of interest (e.g., sports reporting and, travel and features). The program begins in the fall semester and lasts 18 months. No prior training or experience in journalism is required.

Media Management (M.S.)

This 32-credit interdisciplinary graduate program is designed for students who seek new or advanced opportunities in the various and expanding areas of the media industry, such as content distribution, news and entertainment programming, research, and analytics. Students complete courses in the Business School to learn, or strengthen their knowledge of business fundamentals, including managerial strategy, economics, accounting, and marketing. At the same time, students take courses in the Department of Journalism and Media Management to apply business principles to media situations and evaluate critically how technological and regulatory trends, changing business models, emergent content applications, and new audience measurement techniques influence decision-making in media operations. Students can also customize their coursework by selecting electives in the School of Communication that best match their personal and career interests.

Students can study full time or part time. The program begins every fall and lasts one year for full-time students or two years for part-time students. No prior business or media management experience or education is required.

Masters Program in Journalism and Media Management

- M.A. in Journalism (p. 1048)
- M.S. in Media Management (p. 1049)

M.A. in Journalism

The Journalism M.A. program is designed to prepare students for professional participation in a number of digital and multimedia news environments, including television, online, mobile, magazine, and newspaper. Coursework stresses journalistic values, critical thinking, and storytelling, combined with the digital and technical skills to create content in the context of today's dynamic and evolving media landscape. In consultation with faculty advisors, students are strongly encouraged to develop areas of special interest, and are required to complete an individually produced, in-depth Qualifying Project.

Journalism M.A. students must complete a minimum of 36 credit hours at the graduate level with the approval of the Chair of the Department of Journalism and Media Management or Director of the Graduate Program in Journalism. Of the 36 credit hours, all must be at or above the 600 level. Students with strong prior experience in a particular area may request a written waiver of a required course from the department chair, upon the demonstration of sufficient expertise in that subject. The program begins in the fall semester with a mandatory bootcamp one week before classes begin and the program typically lasts 18 months, unless the student is attending on a part-time basis. Prior training or experience in journalism is preferred, but not required or necessary. As journalism evolves, the core and list of electives will evolve as well.

Curriculum Requirements

Code	Title	Credit Hours
Required Communication and Journalism Core Courses		
COM 605	Theories and Methods for Mass Communication Research	3
JMM 614	Law and Ethics in Journalism and Media Management	3
JMM 615	Writing and Reporting Across Platforms	3
JMM 628	Seminar in Visual Storytelling	3
JMM 692	Special Topics in Journalism and Media Management (ONLINE JOURNALISM)	3
Electives		18
Electives are chosen with the approval of a faculty advisor. These courses may come from either within or outside the School of Communication. It is highly recommended that students consider pursuing a professional internship for one of these electives.		
Select six of the following:		
JMM 610	Comparative Media Systems	
JMM 617	Television News Reporting	
JMM 619	Interactive Storytelling	
JMM 620	Reporting and the Internet	
JMM 622	Infographics and Data Visualization	
JMM 623	Sports Reporting	
JMM 627	Television News Producing	
JMM 630	Programming for Interactivity	
JMM 631	Database Journalism	
JMM 633	Social Media	

JMM 637	The Business of Modern Journalism	
JMM 640	Web Design	
JMM 641	Advanced Audio Video Narratives	
JMM 644	Feature Writing	
JMM 646	Travel Writing	
JMM 647	Magazine Planning	
JMM 648	Sports and the Media	
JMM 650	3D Design and Graphics	
JMM 695	Special Topics in Journalism	
JMM 699	Advanced Projects and Directed Research	
CIM 636	Collaborative Innovation Laboratory	
CIM 640	Intro to Creative Coding	
CIM 645	Managing Interactive Media Projects	
CIM 651	Motion Graphics and Compositing	
CIM 661	360 Immersive Storytelling	
CIM 740	Sound Design	
Final Qualifying Project		
Students, in consultation with a faculty committee of their choosing, will complete a final reporting project that reflects in-depth knowledge and analysis of a subject and professional competence in reporting and presenting it for the appropriate medium.		
JMM 815	Multimedia Project	3
Total Credit Hours		36

M.S. in Media Management

Created in partnership with the Miami Business School, the Master of Science in Media Management is designed to prepare students for careers on the business side of the industry, such as content distribution and audience research. Students will acquire a solid background to understand and operate in the different segments of the rapidly changing media industry by being exposed to both business principles and key aspects of media management, technology, economics, programming, distribution, measurement, and law. The program allows students to cultivate their own topical interests in required media management courses and electives.

Curriculum Requirements - Full-Time (One Year) Study

Code	Title	Credit Hours
Fall Semester		
JMM 632	Current Issues in Media Management	3
MGT 620	Managing Through People	2
MAS 631	Statistics for Managerial Decision Making	2
ACC 670	Financial Reporting and Analysis	2
BUS 610	Critical Thinking and Persuasion for Business	2
Communication Elective		3
Spring Semester		
JMM 636	Content Strategy in the Media Industry	3
FIN 641	Valuation and Financial Decision Making	2
MKT 640	Foundations of Marketing Management	2
MGT 677	Corporate Strategy and Organization	2
Communication Elective		3
Summer I		
JMM 614	Law and Ethics in Journalism and Media Management	3
JMM 642	Audience Research and Analysis	3
Communication Electives		
JMM 609	Internship in Journalism and Media Management	
JMM 610	Comparative Media Systems	
JMM 616	Evolution and Impact of Television Content: The American Sitcom	

JMM 633	Social Media
JMM 634	Media Distribution for Film and Television
JMM 637	The Business of Modern Journalism
JMM 643	Media Industry Trends
JMM 647	Magazine Planning
JMM 648	Sports and the Media
JMM 655	Media Technology
JMM 657	Media Entrepreneurship
CIM 609	Legal Aspects of Motion Pictures
CIM 622	UX Research
CIM 643	Designing Innovation
CIM 645	Managing Interactive Media Projects
CIM 670	The Independent Producer
COS 630	Conflict Management
STC 623	Crisis Communication and Management
STC 628	Public Relations Management
Total Credit Hours	32

Curriculum Requirements - Part-Time (Two Years) Study

Code	Title	Credit Hours
Fall Semester - Year One		
JMM 632	Current Issues in Media Management	3
MGT 620	Managing Through People	2
MAS 631	Statistics for Managerial Decision Making	2
Spring Semester - Year One		
JMM 636	Content Strategy in the Media Industry	3
MGT 677	Corporate Strategy and Organization	2
Summer I Semester - Year One		
JMM 614	Law and Ethics in Journalism and Media Management	3
Fall Semester - Year Two		
ACC 670	Financial Reporting and Analysis	2
BUS 610	Critical Thinking and Persuasion for Business	2
Communication Elective		3
Spring Semester - Year Two		
FIN 641	Valuation and Financial Decision Making	2
MKT 640	Foundations of Marketing Management	2
Communication Elective		3
Summer I Semester - Year Two		
JMM 642	Audience Research and Analysis	3
Communication Electives		
JMM 609	Internship in Journalism and Media Management	
JMM 610	Comparative Media Systems	
JMM 616	Evolution and Impact of Television Content: The American Sitcom	
JMM 633	Social Media	
JMM 634	Media Distribution for Film and Television	
JMM 637	The Business of Modern Journalism	
JMM 643	Media Industry Trends	
JMM 647	Magazine Planning	
JMM 648	Sports and the Media	
JMM 655	Media Technology	
JMM 657	Media Entrepreneurship	
CIM 609	Legal Aspects of Motion Pictures	

CIM 622	UX Research	
CIM 643	Designing Innovation	
CIM 645	Managing Interactive Media Projects	
CIM 670	The Independent Producer	
COS 630	Conflict Management	
STC 623	Crisis Communication and Management	
STC 628	Public Relations Management	
Total Credit Hours		32

Strategic Communication

Public Relations (M.A.)

The program offers two tracks. The 30-credit thesis track program provides an opportunity to supplement a working foundation and knowledge with pertinent theory and research methodologies. A second 36-credit, coursework-only non-thesis track program builds from a foundation of public relations and communication courses.

Masters Programs in Strategic Communication

- M.A. in Public Relations (p. 1051)

M.A. in Public Relations

Curriculum Requirements - Thesis Track

Code	Title	Credit Hours
Required Communication and Public Relations Core Courses ¹		
COM 601	Theories of Communication	3
COM 602 or COM 603	Methods of Communication Research Qualitative Research Methodologies	3
STC 620	Public Relations Fundamentals	3
STC 621	Writing for Public Relations	3
Public Relations Electives		
Select four of the following:		12
STC 622	Design for Public Relations	
STC 623	Crisis Communication and Management	
STC 624	Media Relations	
STC 625	Cases in Public Relations Administration	
STC 626	Sports, Publicity, and Promotions	
STC 628	Public Relations Management	
STC 629	Special Topics Seminar in Public Relations	
STC 632	Seminar in Public Relations and Political Campaigns	
STC 634	Non-Profit and Public Information Campaigns	
STC 635	Seminar in Public Relations Measurement	
STC 644	Seminar in Public Relations Ethics	
STC 650	Strategic Communication in Health Care	
STC 660	Corporate Communication and Public Relations	
STC 681	Public Relations Experience Program (Prep)	
STC 682	International Public Relations	
STC 690	Public Relations Practicum I	
STC 699	Advanced Projects and Directed Research in Public Relations ²	
Thesis		
COM 810	Master's Thesis	1-6
Total Credit Hours		30

¹ Public Relations students must receive a "B" or higher in core courses.

- 2 No more than 6 credit hours will be allowed for advanced projects and directed research (699).
 3 Students must complete a minimum of 30 credit hours at the graduate level with the approval of a faculty advisor.
 4 No comprehensive examinations are required for this degree.

Curriculum Requirements - Professional (Non-thesis) Track

Code	Title	Credit Hours
Required Communication and Public Relations Core Courses ¹		
COM 601	Theories of Communication	3
COM 602 or COM 603	Methods of Communication Research Qualitative Research Methodologies	3
STC 620	Public Relations Fundamentals	3
STC 621	Writing for Public Relations	3
STC 622	Design for Public Relations	3
Public Relations Electives		
Select five of the following:		15
STC 623	Crisis Communication and Management	
STC 624	Media Relations	
STC 625	Cases in Public Relations Administration	
STC 626	Sports, Publicity, and Promotions	
STC 628	Public Relations Management	
STC 629	Special Topics Seminar in Public Relations	
STC 632	Seminar in Public Relations and Political Campaigns	
STC 634	Non-Profit and Public Information Campaigns	
STC 635	Seminar in Public Relations Measurement	
STC 644	Seminar in Public Relations Ethics	
STC 650	Strategic Communication in Health Care	
STC 660	Corporate Communication and Public Relations	
STC 681	Public Relations Experience Program (Prep)	
STC 682	International Public Relations	
STC 690	Public Relations Practicum I	
STC 699	Advanced Projects and Directed Research in Public Relations	
Electives		
6 elective credit hours must be taken outside the School of Communication's Public Relations program, with approval of the program's graduate coordinator.		6
COM 825	Continuous Registration–Master's Study	
Total Credit Hours		36

- 1 Public Relations students must receive a "B" or higher in core courses.
 2 Students must complete a minimum of 36 credit hours at the graduate level with the approval of a faculty advisor.
 3 No comprehensive examinations are required for this degree.

Education and Human Development

<http://www.education.miami.edu>

Departments

- Educational and Psychological Studies (EPS)
- Kinesiology and Sport Sciences (KIN)
- Teaching and Learning (TAL)

Degree Programs

Doctor of Philosophy in Education (Ph.D.)

The Doctor of Philosophy degree with a major in education is designed to develop personnel competent to conduct research in a particular field of education or behavioral sciences. Concentrations are offered in:

- Community Well-Being (EPS)
- Counseling Psychology (EPS)
- Exercise Physiology (KIN)
- Research, Measurement, and Evaluation (EPS)
- Teaching and Learning (TAL)

Doctor of Education (Ed.D.)

The Doctor of Education degree is designed to develop personnel in education competent to utilize the results of research in practical situations. Concentrations are offered in:

- Applied Learning Sciences (TAL)
- Higher Education Leadership (EPS)

Specialist in Education (Ed.S.)

The Specialist in Education degree is an advanced terminal, practice-oriented degree that is designed to prepare recipients to assume positions of leadership within educational and affiliated settings. Concentrations are offered in:

- Early Childhood Special Education (TAL)

Master of Science in Education (M.S.Ed.)

The Master of Science in Education degree is a practice-oriented degree that is designed to prepare its recipients to assume professional positions that require advanced course work and post-graduate degrees. Concentrations are offered in:

- Applied Learning Sciences (TAL)
- Community and Social Changes (EPS)
- Counseling: Marriage and Family Therapy (EPS)
- Counseling: Mental Health (EPS)
- Early Childhood Special Education (TAL)
- Education and Social Change (TAL)
- Exercise Physiology: Clinical and Applied Exercise Physiology (KIN)
- Exercise Physiology: Nutrition for Health and Human Performance (KIN)
- Exercise Physiology: Strength and Conditioning/Fitness Entrepreneurship (KIN)
- Higher Education: Enrollment Management (EPS)
- Higher Education: Institutional Research and Policy Analysis (EPS)
- Higher Education: Student Life and Development (EPS)
- Research, Measurement and Evaluation (EPS)
- Special Education (TAL)
- Sport Administration (KIN)
- STEM Education (TAL)
- TESOL (TAL)

NOTE: The School of Education and Human Development's graduate programs are governed by the rules, regulations and policies of the larger University and Graduate School. In places where what appears in the following is judged to be in conflict with these other policies, the University and/or Graduate School's policies will take precedence.

Application Requirements

Admission to all graduate-degree concentrations in the School of Education and Human Development is based on the recommendation of the faculty. Admissions decisions are based on faculty review of the following general requirements that apply to **all** Graduate Programs in the School as well as specific documents listed under each concentration. Applicants must:

- achieve acceptable scores on the Graduate Record Exam (GRE) taken within the past five years. International applicants whose native language is not English or applicants whose degrees are from a non-U.S. University must pass the Test of English as a Foreign Language (TOEFL) and the GRE;
- provide official transcripts showing completion of a bachelor's degree from an accredited institution and an acceptable undergraduate grade point average. A minimum of 3.0 undergraduate GPA is required. Official transcripts from every institution attended by an applicant, whether or not the applicant completed a degree program at the institution, are required;
- provide three letters of recommendation that address the issues and meet the criteria established by the program being applied to;
- provide a personal statement that addresses the mission and purpose of the program being applied to;
- resume;
- take part in an admissions interview (required by some programs); and
- exhibit personal and professional experiences and characteristics that are relevant to the profession and/or field and/or degree program for which the application is being submitted.

Doctor of Philosophy (Ph.D.)

In addition to the factors listed as general requirements for all applications to the SEHD's graduate programs, consideration for admission to the Ph.D. program will include the following:

- letters of recommendation should address the applicant's *academic* potential;
- available student space in program;
- For TAL: availability of faculty advisor willing to mentor the student.
- For EPS: Counseling: receipt of completed applications by predetermined cut-off date. Please reference the SEHD web site, as doctoral applications are reviewed once each year.

Doctor of Education (Ed.D.)

In addition to the factors listed as general requirements for all applications to the SEHD's graduate programs, consideration for admission to the Ed.D. program will include the following:

- letters of recommendation should address the applicant's academic potential;
- available student space in program; and
- admissions interview.

Specialist in Education (Ed.S.)

In addition to the factors listed as general requirements for all applications to the SEHD's graduate programs, consideration for admission to the Ed.D. program will include the following:

- completion of a master's degree with an outstanding record from an accredited institution;
- adequacy of previous study in the field for which the Ed.S. is being requested;
- an appropriate period of successful teaching experience (TAL only);
- acceptable scores on the Graduate Record Examination (GRE); or in the case of TAL only, approval of a GRE waiver. Applicants who seek a GRE waiver must have taught for a minimum of three years in a full-time capacity, fill out and submit a GRE waiver form, and submit a 3-page essay on an important educational.

Master of Science in Education (M.S.Ed.)

In addition to the factors listed as general requirements for all applications to the SEHD's graduate programs, consideration for admission to the M.S.Ed. program will include the following:

- For some M.S.Ed. programs in TAL: Teachers with **at least** three years full-time teaching experience may apply for a GRE waiver for programs in the Department of Teaching and Learning. An application for waiver of the GRE requirement may be found on the SEHD web site. Teachers who apply for a GRE waiver must submit a 3-page essay on an important topic in education.
- For Community and Social Change (EPS): Professionals who have worked full-time for at least three years in a not-for-profit setting may apply for a waiver of the GRE requirement. Please contact the program directly for conditions governing this waiver.

- For Sport Administration (KIN): Applicants with 3-years of professional work experience may apply for a GRE waiver. Please contact the program directly for specific waiver criteria.

International Applications

All international applications must provide additional information and meet additional requirements as required by the UM Graduate School and the UM Office of International Admissions. For an appropriate link to these requirements, please visit the Graduate School website.

Admission Decision

Once an applicant has been admitted to graduate study, that individual should meet with the faculty advisor who was appointed to serve in that capacity and whose name appears in the admissions letter. This advisor will help the student enroll in courses that are appropriate to the program; to develop and to refine a Program of Study or Course Sequence Plan that must be on file in the Senior Associate Dean's Office by the end of the first semester of study.

Honor Code/Handbook of Policies and Procedures

The School of Education and Human Development follows the Graduate School's Honor Code. All students are required to submit a signed Acknowledgement of Receipt and the Graduate Student Honor Code by the end of their first semester of enrollment.

Continuous Enrollment

The School of Education and Human Development adheres to the Graduate School's continuous enrollment requirement.

Financial Assistance

In addition to University-wide fellowships and the availability of student loans, the School of Education and Human Development provides many forms of financial assistance for students enrolled in its graduate programs. These include tuition-based scholarships (including federally funded scholarships), teacher-tuition scholarships, training fellowships, graduate student assistantships, and other forms of help.

Notwithstanding a student's time to completion, the SEHD limits a student's eligibility for scholarships and other financial assistance that is under its control to five years from the time of initial enrollment.

Scholarship-based financial assistance is to be used only for courses that define each student's program of study. Students who enroll in courses outside of their programs of study will be charged full tuition for those courses.

Teacher Tuition Scholarships do not apply to doctoral (Ph.D. and Ed.D.) programs.

Tuition scholarship assistance may not be applied to the retaking of courses for any reason whatsoever.

Financial assistance whose sources of funding are outside of the School of Education and Human Development, for example, Federal loans provided by the University of Miami, shall be governed by all applicable rules, regulations, and policies. Specifically, many federal loans and grants have conditions limiting the programs and/or courses to which they may be applied. Some federal loans are restricted to graduate courses only; some fellowships, grants or traineeships may entail post-graduation employment commitments. Alternatively, private scholarships or fellowships may have their own conditions. Before accepting any form of financial assistance, please be sure to ask about and to fully understand the conditions that govern whatever type of financial assistance you are offered.

Degree Requirements

In addition to the formal academic requirements (as outlined below), the School of Education and Human Development requires its students to demonstrate personal qualities that, in the judgment of the faculty, would permit them to function effectively in their professional roles. The School of Education and Human Development reserves the right to dismiss any students who are academically or personally unwilling or unable to carry out the professional responsibilities of the respective profession for which they are being trained. Conduct which may be considered unprofessional may include, but is not limited to, research or professional misconduct; dishonesty, cheating, plagiarism; exercise of professionally poor judgment; sexual harassment, discrimination on the basis of race, ethnicity, religion, or sexual orientation; and inappropriate interpersonal behavior. It is up to all students to fulfill their responsibilities in a timely and professional manner, to represent themselves and the University with honesty, and to treat others with dignity and respect.

Doctor of Philosophy (Ph.D.)

Upon admission to graduate study, a supervisory committee, consisting of at least four members (composed as per UM Graduate School regulations), will be appointed by the School of Education and Human Development.

The student will meet with the chairperson of this committee to design a Program of Study/Residency Plan.

The Program of Study/Residency Plan must be approved by the supervisory committee, the department chairperson, and the Senior Associate Dean of Graduate Studies in the School of Education and Human Development.

The Program of Study/Residency Plan must be filed with both the Graduate School and the School of Education and Human Development by the end of the second semester of enrollment or future registration will not be permitted.

All students are required to submit a signed Student Responsibility Checklist and the Graduate Student Honor Code by the end of their first semester of enrollment.

The residence requirement is two full-time consecutive semesters of coursework at the University of Miami.

The minimum total credit hours required beyond the Bachelor's are 60, plus a minimum of 12 dissertation-research credit hours.

15 credit hours of statistics and research methods are required as prescribed by the supervisory committee.

A student must pass a Qualifying exam before being admitted to candidacy for a doctorate. The content and conditions for administering the Qualifying examination are defined by the program area in which a student is enrolled.

A student's score on the Qualifying Examination is the professional judgment of the committee that was appointed to score that examination. As such, no academic appeals of scores on qualifying examination are possible.

If a student fails an initial attempt at passing a program's Qualifying examination, the student's advisory committee may allow a student a second opportunity to pass a new qualifying examination that is administered within a year of the original, *at its sole discretion*.

A student who fails a program's qualifying examination may not proceed any farther in the program and is, instead, dismissed at the end of then-current term. Beyond the then-current term in which a student's qualifying examination is scored, no additional financial assistance will be provided to a student who is scheduled to be dismissed from the program for failure in the qualifying examination.

Students are required to complete all Ph.D. requirements within eight years of initial enrollment.

Doctor of Education (Ed.D.)

Upon admission to graduate study, a supervisory committee, consisting of at least four members (composed as per UM Graduate School regulations), will be appointed by the School of Education and Human Development.

The student will meet with the chairperson of this committee to design a Program of Study/Residency Plan.

The Program of Study/Residency Plan must be approved by the supervisory committee, the department chairperson, and the Senior Associate Dean of Academic Studies in the School of Education and Human Development.

The Program of Study/Residency Plan must be filed with both the Graduate School and the School of Education and Human Development by the end of the second semester of enrollment or future registration will not be permitted.

All students are required to submit a signed Student Responsibility Checklist and the Graduate Student Honor Code by the end of their first semester of enrollment.

The minimum total credit hours required beyond the bachelors are 60, including a minimum of 12 dissertation credit hours.

A supporting area consisting of at least 12 credit hours is required; the student must be qualified for admission to graduate status in this area, and receive approval for enrollment from the appropriate department and from the School of Education and Human Development.

A minimum of 12 credit hours of statistics and research methods are required as prescribed by the supervisory committee.

Students are required to complete all Ed.D. requirements within eight years of initial enrollment.

Specialist in Education (Ed.S.)

The Specialist in Education is a terminal degree that is independent of both doctoral degrees (Ph.D. and Ed.D.) that are offered by the SEHD. Although there is normally some overlap in coursework, admission to a specialist program does not imply that the student has been or will be admitted to a doctoral program.

A supervisory committee consisting of three faculty members in the student's area of study will be appointed by the School of Education and Human Development.

Upon admission to the specialist program, a formal program of study is approved by the Supervisory Committee.

A minimum of 60 graduate credit hours, (or 30 credit hours after completion of the Master's program) is required. The program must include at least 30 graduate credit hours earned at the University of Miami and at least 18 graduate credit hours earned following admission to the specialist program. The specialist program of study is developed in consultation with the Supervisory Committee that consists of 3 faculty members (a chairperson and 2 other members).

Students must pass a comprehensive written examination, portfolio (with an oral examination as a possible additional requirement), capstone course, project, thesis, or requirement specified by the program. When a thesis is chosen, a maximum of 6 credit hours may be counted toward the total

degree requirements, and an oral examination in defense of the thesis will be required. The written comprehensive examination will cover the student's program of study. The examination must be taken during or after the final semester in which the student is enrolled for coursework in the program. The project will be directed by the Chairperson of the Specialist Supervisory Committee.

All specialist students must engage in teaching and/or research appropriate to their degree program.

All work for the degree of Specialist in Education must be completed within six years of initial enrollment.

Master of Science in Education (M.S.Ed.)

A minimum of 30 graduate credit hours is required.

TAL: Students enrolled in any certification program that has been approved by Florida Department of Education (e.g., the Professional Training Option) must fulfill any and all additional requirements (e.g., passing state teacher tests) that are specified by the program approval.

EPS: Students enrolled in any counseling program must complete the required "Personal Growth Experience" form.

Students must pass a comprehensive written examination, portfolio (with an oral examination as a possible additional requirement), capstone course, project, thesis, or requirement specified by the program. When a thesis is chosen (in the KIN Dept. or EPS Dept.), a maximum of 6 credit hours may be counted toward the total degree requirements, and an oral examination in defense of the thesis will be required. The written comprehensive examination will cover the student's program of study. The examination must be taken during or after the final semester in which the student is enrolled for coursework in the program. The project will be directed by the student's advisor.

All work towards the Master's degree must be completed within six years of initial enrollment.

Educational and Psychological Studies

<http://sites.education.miami.edu/eps/>

Dept. Code: EPS

Programs

Doctor of Philosophy (Ph.D.)

- Community Well-Being
- Counseling Psychology
- Research, Measurement, and Evaluation

Doctor of Education (Ed.D.)

- Higher Education Leadership

Master of Science in Education (M.S.Ed.)

- Community and Social Change
- Counseling:
 - Marriage and Family Therapy
 - Mental Health Counseling
- Higher Education Administration:
 - Enrollment Management
 - Institutional Research and Policy Analysis
 - Student Life and Development
- Research, Measurement, and Evaluation

Certificates (Non-Degree Programs)

- Higher Education Administration/Enrollment Management
- Higher Education Administration/Student Life and Development
- Latino Mental Health Counseling

Masters Programs in Educational and Psychological Studies

- M.S.Ed. in Community and Social Change (p. 1061)
- M.S.Ed. in Counseling - Marriage and Family Therapy Concentration (p. 1062)
- M.S.Ed. in Counseling - Mental Health Counseling Concentration (p. 1062)

- M.S.Ed. in Higher Education Administration - Enrollment Management Concentration (p. 1063)
- M.S.Ed. in Higher Education Administration - Institutional Research and Policy Analysis (p. 1064)
- M.S.Ed. in Higher Education Administration - Student Life and Development Concentration (p. 1065)
- M.S.Ed. in Research, Measurement (p. 1066) and (p. 1066) Evaluation (p. 1066)

Doctoral Programs in Educational and Psychological Studies

- Ed.D. in Higher Education Leadership (p. 1060)
- Ph.D. in Community Well-Being (p. 1067)
- Ph.D. in Counseling Psychology (p. 1068)
- Ph.D. in Research, Measurement, and Evaluation (p. 1068)

Certificates in Educational and Psychological Studies

- Higher Education Administration/Enrollment Management (p. 1058)
- Higher Education Administration/Student Life and Development (p. 1059)
- Latino Mental Health Counseling (p. 1060)

Certificate in Higher Education Administration/Enrollment Management

<http://sites.education.miami.edu/higher-education-administrationenrollment-management-cert/>

College and universities are complex institutions that constantly need skilled administrators who understand all aspects of the ever-shifting higher education environment. The certificate in enrollment management is a 12-credit minimum program designed for working professionals who already have master's degrees and seek career-enhancing skills and credentials.

The certificate can be integrated into the Master of Science in Higher Education Administration Program (for a total of 39 credits). It can be completed in addition to or after completion of a master's program in higher education administration or related field.

Curriculum Requirements

Code	Title	Credit Hours
Core Courses		6
EPS 748	Enrollment Management: Theory and Practice	
EPS 749	Advanced Seminar in Enrollment Management	
Electives		6
Select a minimum of 6 credit hours from the following courses divided into three areas, or as otherwise approved by an advisor:		
Education		
EPS 737	Organization and Administration of Higher Education I	
EPS 739	The Community College	
EPS 740	Administration of Student Affairs	
EPS 742	Higher Education in the United States: From Harvard to Present	
EPS 744	Student Diversity in American Higher Education	
EPS 745	Organization of Higher Education II: Governance, Leadership and Finance	
EPS 746	College Student Development: Theory, Research and Practice	
EPS 747	Critical Issues in Student Affairs	
EPS 751	Seminar in Higher Education Administration: Contemporary Issues	
EPS 754	Practicum: Administration of Higher Education	
Business		
ECO 690	Essentials of Economic Theory	
MGT 603	Leading Teams	
MKT 660	Foundations of Marketing Management	
POL 601	Budget and Financial Management and Administration	
Research		
EPS 624	Essentials of Research in Social and Behavioral Sciences	
EPS 625	Program Evaluation	

EPS 700	Quantitative Methods I	
EPS 714	Qualitative Methods I	
EPS 717	Survey Research Methods	
Total Credit Hours		12

Certificate in Higher Education Administration/Student Life and Development

<http://sites.education.miami.edu/higher-education-administrationstudent-life-development-cert/>

The certificate in student life and development is a 12-credit minimum program designed for working professionals who already have master's degrees and seek career-enhancing insights, skills, and credentials. The program is focused on students' transition and adjustment to college and on elements of the college environment that enhance their academic achievement and personal development and well-being.

The certificate can be integrated into the Master of Science in Higher Education Administration Program (for a total of 39 credits). It can be completed in addition to or after completion of a master's program in higher education administration or related field.

Curriculum Requirements

Code	Title	Credit Hours
Core Courses		6
Select a minimum of 6 credit hours from the following:		
EPS 740	Administration of Student Affairs	
EPS 744	Student Diversity in American Higher Education	
EPS 746	College Student Development: Theory, Research and Practice	
Electives		6
Select a minimum of 6 credit hours from the following courses divided into three areas, or as otherwise approved by an advisor:		
Counseling and Advising		
EPS 676	Counseling Process and Practice	
EPS 741	Basic skills in Counseling and Interviewing	
EPS 755	Group Dynamics and Communication Skills	
Foundations of Higher Education		
EPS 737	Organization and Administration of Higher Education I	
EPS 739	The Community College	
EPS 740	Administration of Student Affairs	
EPS 742	Higher Education in the United States: From Harvard to Present	
EPS 744	Student Diversity in American Higher Education	
EPS 745	Organization of Higher Education II: Governance, Leadership and Finance	
EPS 746	College Student Development: Theory, Research and Practice	
EPS 747	Critical Issues in Student Affairs	
EPS 748	Enrollment Management: Theory and Practice	
EPS 749	Advanced Seminar in Enrollment Management	
EPS 751	Seminar in Higher Education Administration: Contemporary Issues	
EPS 754	Practicum: Administration of Higher Education	
Research		
EPS 624	Essentials of Research in Social and Behavioral Sciences	
EPS 625	Program Evaluation	
EPS 700	Quantitative Methods I	
EPS 714	Qualitative Methods I	
EPS 717	Survey Research Methods	
Total Credit Hours		12

Certificate in Latino Mental Health Counseling

<http://sites.education.miami.edu/latino-mental-health-counseling-cert/>

This Certificate requires previous graduate training. It can be acquired after graduation from the Master's Program in Counseling or can be integrated into the Doctoral Program in Counseling Psychology. It can be completed in addition to or after completion of a degree program in counseling, psychology or a related field.

Curriculum Requirements

Code	Title	Credit Hours
Core Courses		
EPS 687	Latino Youth and Families	3
EPS 688	Spanish for Mental Health Professionals	3
EPS 689	Psychological Interventions with Hispanic/Latino Populations	3
Total Credit Hours		9

Executive Ed.D. in Higher Education Leadership

<http://sites.education.miami.edu/higher-education-leadership-et-ed-d/>

The Higher Education Leadership program, which offers a Doctor of Education degree (Ed.D.), is committed to preparing students for senior leadership positions in colleges and universities, state and federal agencies, and other educational organizations. The Executive Ed.D. program is guided by a practitioner-scholar model that combines theoretical offerings with application to practical higher education problems. Students focus on areas of special interest and choose dissertation projects that address issues confronting the contemporary higher education workplace.

The Executive Ed.D. is designed to meet the needs of working professionals. Courses are offered on weekends, and a cohort design allows students to develop meaningful relationships, support one another, and learn from the diverse experiences of fellow educators.

The curriculum emphasizes the impact of theory and empirical evidence on administrative, organizational, and policy contexts in postsecondary education. Unique to the University of Miami's Executive Ed.D. program is its component in enrollment management, a comprehensive strategy that promotes the seamless integration of administrative responsibilities to efficiently and effectively meet institutional needs and promotes student success.

Curriculum Requirements

Code	Title	Credit Hours
Higher Education Foundations		24
EPS 737	Organization and Administration of Higher Education I	
EPS 742	Higher Education in the United States: From Harvard to Present	
EPS 744	Student Diversity in American Higher Education	
EPS 745	Organization of Higher Education II: Governance, Leadership and Finance	
EPS 746	College Student Development: Theory, Research and Practice	
EPS 748	Enrollment Management: Theory and Practice	
EPS 749	Advanced Seminar in Enrollment Management	
EPS 751	Seminar in Higher Education Administration: Contemporary Issues	
Research		9
Select 9 credit hours from the following or as otherwise approved:		
EPS 625	Program Evaluation	
EPS 700	Quantitative Methods I	
EPS 701	Introduction to Research Methods	
EPS 702	Quantitative Methods II	
EPS 703	Applied Multivariate Statistics	
EPS 704	Computer Applications in Educational and Behavioral Science Research	
EPS 705	Measurement and Psychometric Theory	
EPS 706	Categorical Data Analysis	

EPS 708	An Introduction to Structural Equation Modeling for Multivariable Data	
EPS 714	Qualitative Methods I	
EPS 715	Qualitative Methods II: Case Studies and Grounded Theory	
Electives		12
Select 12 credit hours from the following or as otherwise approved:		
EPS 738	Effective Teaching, Learning, Assessment, and Curriculum in Higher Education	
EPS 739	The Community College	
EPS 740	Administration of Student Affairs	
EPS 741	Basic skills in Counseling and Interviewing	
EPS 743	Psychological Bases of Education	
EPS 747	Critical Issues in Student Affairs	
EPS 750	Seminar in Higher Education/Enrollment Management: Contemporary Issues	
EPS 753	Internship in College Teaching	
EPS 754	Practicum: Administration of Higher Education	
EPS 755	Group Dynamics and Communication Skills	
EPS 764	Workshop in Education	
EPS 765	Workshop in Education	
Dissertation Proposal Seminar (Required)		3
EPS 752	Dissertation Seminar	
Dissertation		12
EPS 830	Pre-Candidacy Dissertation Research	
EPS 835	Doctor of Education Dissertation	
EPS 840	Post-Candidacy Dissertation Research	
Total Credit Hours		60

M.S.Ed. in Community and Social Change

<http://sites.education.miami.edu/community-and-social-change-m-s-ed/>

The Community and Social Change Master's program is designed to prepare a new generation of creative leaders for the not-for-profit sector who are knowledgeable in the research, theories, and practice of individual and social well-being. The vision of the program is to be a hub for innovative and applied leadership in community well-being and social change. The mission of the program is to prepare globally aware leaders, researchers, and agents of change who create, inspire, and engage community organizations to foster well-being in diverse community settings. The program is designed to develop community leaders who can help understand and address the real challenges faced by local communities in a multi-cultural and global context. The program is designed to accommodate a variety of students by offering courses in a unique format that incorporates the following domains;

1. Core theory and skill-building coursework,
2. Core research coursework,
3. Experiential field experience (practicum), and
4. Capstone requirement (Independent project or Master's Thesis).

Curriculum Requirements

Code	Title	Credit Hours
Core Courses		
EPS 622	Community Well-being and Change: Theory and Practice	3
EPS 623	Development and Change in Community Organizations: Theory and Practice	3
EPS 624	Essentials of Research in Social and Behavioral Sciences	3
EPS 625	Program Evaluation	3
EPS 626	Multicultural Communities in a Globalized Society	3
EPS 628	Social Change Praxis	3

Practicum Field Experience		
EPS 629	Seminar in Community and Social Change	3
Electives/Cognate		
Select 9 credit hours of electives ^{1, 2, 3}		9
EPS 627	Community Youth Development	
EPS 810	Master's Thesis (Optional)	
Total Credit Hours		30

¹ See Academic Advisor for a full list of eligible electives.

² A total of 6-credits of EPS 810 is required if thesis track is chosen.

³ If electives are not specified (to be determined) when Course Sequence Plan (CSP) is submitted to the Senior Associate Dean's Office, then you should complete a Course Substitution form before you register for the approved elective(s).

M.S.Ed. in Counseling - Marriage and Family Therapy

<http://sites.education.miami.edu/marriage-family-therapy-m-s-ed/>

Programs offered in counseling are characterized by intensive clinical supervision by faculty members in an on-campus clinic, by strengths in the areas of family systems and couples' therapy, and by the rich multi-ethnic composition of the community, students and clients.

Curriculum Requirements

This variable 60 credit hour program provides the academic and pre-degree supervision requirements for licensing as a Marriage and Family Therapist in the State of Florida.

Code	Title	Credit Hours
Core Courses		
EPS 667	Professional, Legal and Ethical Issues in Counseling	3
EPS 668	Social and Cultural Diversity and Counseling	3
EPS 669	Psychopathology for Counselors	3
EPS 676	Counseling Process and Practice	3
EPS 677	Assessment Strategies for Counselors I	3
EPS 678	Counseling Theories and Practice	3
EPS 679	Lifespan Human Development	3
EPS 680	Theory and Practice with Children and Adolescents	3
EPS 681	Counseling and Sexuality	3
EPS 684	Research and Program Evaluation in Counseling	3
EPS 685	Substance Abuse and Addictions: Theories and Counseling	3
Marriage and Family Therapy Specialty		
EPS 670	Dynamics of Marriage and Family Systems	3
EPS 671	Family Therapy	3
EPS 672	Therapy for Couples	3
Elective		3
Select 3 credit hours to fulfill elective requirement ¹		
Practicum		15
EPS 682	Practicum in Counseling I	
EPS 683	Practicum Laboratory I	
Total Credit Hours		60

¹ See Graduate Academic Advisor for guidance.

M.S.Ed. in Counseling - Mental Health

<http://sites.education.miami.edu/mental-health-counseling-m-s-ed/>

Programs offered in counseling are characterized by intensive clinical supervision by faculty members in an on-campus clinic, by strengths in the areas of mental health counseling, and by the rich multi-ethnic composition of the community, students and clients.

Curriculum Requirements

This variable 60 credit hour program provides the academic and pre-degree supervision requirements for licensing as a Mental Health Counselor in the State of Florida.

Code	Title	Credit Hours
Core Courses		
EPS 667	Professional, Legal and Ethical Issues in Counseling	3
EPS 668	Social and Cultural Diversity and Counseling	3
EPS 669	Psychopathology for Counselors	3
EPS 676	Counseling Process and Practice	3
EPS 677	Assessment Strategies for Counselors I	3
EPS 678	Counseling Theories and Practice	3
EPS 679	Lifespan Human Development	3
EPS 680	Theory and Practice with Children and Adolescents	3
EPS 681	Counseling and Sexuality	3
EPS 684	Research and Program Evaluation in Counseling	3
EPS 685	Substance Abuse and Addictions: Theories and Counseling	3
Mental Health Counseling Specialty		
EPS 673	Counseling in Community Settings	3
EPS 674	Lifestyle and Career Counseling	3
EPS 675	Therapeutic Group Procedures	3
Elective		
Select 3 credit hours to fulfill elective requirement ¹		3
Practicum		15
EPS 682	Practicum in Counseling I	
EPS 683	Practicum Laboratory I	
Total Credit Hours		60

¹ See Graduate Academic Advisor for guidance.

M.S.Ed. in Higher Education Administration - Enrollment Management

<http://sites.education.miami.edu/higher-education-administration-enrollment-management-m-s-ed/>

The Higher Education Administration Program, which offers a Master of Science in Education with concentrations in Enrollment Management, Student Life and Development, and Institutional Research and Policy Analysis, is designed to produce skilled and versatile higher education administrators who understand all aspects of their professional environment. Our graduates enter a variety of roles in college and university administration with the ability to consider today's challenges from a broad-based, highly informed perspective.

Also offered is a Certificate Program for working professionals who already have master's degrees and seek career-furthering credentials and skills.

Curriculum Requirement

The Enrollment Management concentration (33 credit hours), the product of a unique collaboration between the School of Education and Human Development and the Division of Enrollment Management, integrates theory, research, teamwork, and effective communication. It is an interdisciplinary program, with courses also required in the Miami Business School. Opportunities abound for integrating research and theory in daily practice.

Code	Title	Credit Hours
Core Courses		
EPS 748	Enrollment Management: Theory and Practice	6
EPS 749	Advanced Seminar in Enrollment Management	
Higher Education Foundations		12
EPS 737	Organization and Administration of Higher Education I	
EPS 742	Higher Education in the United States: From Harvard to Present	
EPS 744	Student Diversity in American Higher Education	
EPS 751	Seminar in Higher Education Administration: Contemporary Issues	

Business		3
May select 1 graduate business course from the following or as approved by an advisor:		
MGT 603	Leading Teams	
MKT 660	Foundations of Marketing Management	
POL 601	Budget and Financial Management and Administration	
Research		6
EPS 700	Quantitative Methods I (required)	
Select 3 credit hours from the following or as otherwise approved:		
EPS 624	Essentials of Research in Social and Behavioral Sciences	
EPS 625	Program Evaluation	
EPS 714	Qualitative Methods I	
EPS 717	Survey Research Methods	
Electives		6
Select 6 credit hours from the following or as otherwise approved:		
ECO 690	Essentials of Economic Theory	
EPS 739	The Community College	
EPS 740	Administration of Student Affairs	
EPS 741	Basic skills in Counseling and Interviewing	
EPS 743	Psychological Bases of Education	
EPS 745	Organization of Higher Education II: Governance, Leadership and Finance	
EPS 746	College Student Development: Theory, Research and Practice	
EPS 747	Critical Issues in Student Affairs	
EPS 754	Practicum: Administration of Higher Education	
EPS 755	Group Dynamics and Communication Skills	
EPS 764	Workshop in Education	
EPS 765	Workshop in Education	
KIN 615	Practical Approach to Motivation and Ethical Decision Making	
KIN 617	Creative Approaches to Problem Solving and Conflict Management	
Total Credit Hours		33

M.S.Ed. in Higher Education Administration - Institutional Research and Policy Analysis

<http://sites.education.miami.edu/higher-education-administration-institutional-research-and-policy-analysis-m-s-ed/>

The Higher Education Administration Program, which offers a Master of Science in Education with concentrations in Enrollment Management, Student Life and Development, and Institutional Research and Policy Analysis, is designed to produce skilled and versatile higher education administrators who understand all aspects of their professional environment.

Our graduates enter a variety of roles in college and university administration with the ability to consider today's challenges from a broad-based, highly informed perspective.

Curriculum Requirements

The Institutional Research and Policy Analysis concentration (33 credits) focuses on the skills necessary to conduct applied research that supports the effective functioning of postsecondary institutions. Areas of study extend beyond integrating research into effective administrative and policy initiatives to include understanding state and federal policies, higher education foundations, statistics, and data analytics.

Code	Title	Credit Hours
Core Courses in Higher Education		12
EPS 737	Organization and Administration of Higher Education I	
EPS 744	Student Diversity in American Higher Education	
EPS 748	Enrollment Management: Theory and Practice	
EPS 764	Workshop in Education	
Core Courses in Research		12

EPS 700	Quantitative Methods I	
EPS 702	Quantitative Methods II	
EPS 703	Applied Multivariate Statistics	
EPS 704	Computer Applications in Educational and Behavioral Science Research	
Electives		6
Select 6 credit hours from the following or as otherwise advised:		
EPS 705	Measurement and Psychometric Theory	
EPS 706	Categorical Data Analysis	
EPS 707	Item Response Theory	
EPS 708	An Introduction to Structural Equation Modeling for Multivariable Data	
EPS 709	Introduction to Multilevel Modeling	
EPS 710	Meta-analytic methods for research synthesis.	
EPS 745	Organization of Higher Education II: Governance, Leadership and Finance	
EPS 746	College Student Development: Theory, Research and Practice	
EPS 747	Critical Issues in Student Affairs	
EPS 749	Advanced Seminar in Enrollment Management	
EPS 751	Seminar in Higher Education Administration: Contemporary Issues	
EPS 754	Practicum: Administration of Higher Education	
EPS 765	Workshop in Education	
Practicum		3
EPS 712	Field Experience in Educational Research	
Total Credit Hours		33

M.S.Ed. in Higher Education Administration - Student Life and Development

<http://sites.education.miami.edu/higher-education-administration-student-life-development-concentration-m-s-ed/>

The Higher Education Administration Program, which offers a Master of Science in Education with concentrations in Enrollment Management, Student Life and Development, and Institutional Research and Policy Analysis, is designed to produce skilled and versatile higher education administrators who understand all aspects of their professional environment. Our graduates enter a variety of roles in college and university administration with the ability to consider today's challenges from a broad-based, highly informed perspective.

Also offered is a Certificate Program for working professionals who already have master's degrees and seek career-furthering credentials and skills.

Curriculum Requirements

The Student Life and Development concentration (36 credit hours) provides knowledge and skills necessary to facilitate undergraduate students' transition, adjustment, and involvement in college, in ways that enhance their academic achievement and lead to persistence and graduation.

Code	Title	Credit Hours
Core Courses		9
EPS 740	Administration of Student Affairs	
EPS 744	Student Diversity in American Higher Education	
EPS 746	College Student Development: Theory, Research and Practice	
Higher Education Foundations		12
EPS 737	Organization and Administration of Higher Education I	
EPS 742	Higher Education in the United States: From Harvard to Present	
EPS 748	Enrollment Management: Theory and Practice	
EPS 751	Seminar in Higher Education Administration: Contemporary Issues	
Counseling and Advising		3
Select 3 credit hours from the following or as otherwise advised:		
EPS 676	Counseling Process and Practice	
EPS 741	Basic skills in Counseling and Interviewing	

EPS 755	Group Dynamics and Communication Skills	
Research		3
Select 3 credit hours from the following or as otherwise advised:		
EPS 624	Essentials of Research in Social and Behavioral Sciences	
EPS 625	Program Evaluation	
EPS 700	Quantitative Methods I	
EPS 714	Qualitative Methods I	
EPS 717	Survey Research Methods	
Electives		3
Select 3 credit hours from the following or as otherwise advised:		
EPS 739	The Community College	
EPS 743	Psychological Bases of Education	
EPS 745	Organization of Higher Education II: Governance, Leadership and Finance	
EPS 747	Critical Issues in Student Affairs	
EPS 749	Advanced Seminar in Enrollment Management	
EPS 764	Workshop in Education	
EPS 765	Workshop in Education	
KIN 615	Practical Approach to Motivation and Ethical Decision Making	
KIN 617	Creative Approaches to Problem Solving and Conflict Management	
Practicum		6
EPS 754	Practicum: Administration of Higher Education	
Total Credit Hours		36

M.S.Ed. in Research, Measurement and Evaluation

<http://sites.education.miami.edu/research-measurement-evaluation-m-s-ed/>

The curriculum of the M.S. Ed. in RME is structured around three components: (A) a core set of 24 credits (8 courses of 3 credits each) of required coursework covering the fundamentals of research design, measurement, and statistical analysis; (B) 6 credits of elective course-work; and (C) a comprehensive exam occurring upon the completion of the 24 credits of required coursework. The specific details of the curriculum are given below.

Curriculum Requirements

Code	Title	Credit Hours
Core Courses		24
EPS 700	Quantitative Methods I	
EPS 701	Introduction to Research Methods	
EPS 702	Quantitative Methods II	
EPS 703	Applied Multivariate Statistics	
EPS 704	Computer Applications in Educational and Behavioral Science Research	
EPS 705	Measurement and Psychometric Theory	
EPS 706	Categorical Data Analysis	
EPS 708	An Introduction to Structural Equation Modeling for Multivariable Data	
Electives ^{1,2}		6
Select 2 courses from the following for a total of 6 credit hours:		
EPS 699	Advanced Individual Study	
EPS 707	Item Response Theory	
EPS 709	Introduction to Multilevel Modeling	
EPS 710	Meta-analytic methods for research synthesis.	
EPS 711	Advanced Topics in Research, Measurement, and Evaluation	
EPS 712	Field Experience in Educational Research	
EPS 714	Qualitative Methods I	

EPS 715	Qualitative Methods II: Case Studies and Grounded Theory
EPS 716	Qualitative Methods II: Interviews and Content Analysis
Comprehensive Exam	
Each student must successfully pass a comprehensive exam that covers the content of the core 24 credits. This exam assesses the student's competency in these core areas of research methodology and use of statistical software, and is based on content that is aligned with the material covered in the core 24 credits.	
Total Credit Hours	30

¹ Students work with faculty member(s) to select from a large number of graduate courses relevant to the students' interests and professional goals. Appropriate courses may be related to advanced statistical modeling or other content areas.

² Upon the approval of your academic advisor, you can take the classes from other departments.

Ph.D. in Community Well-Being

<http://sites.education.miami.edu/community-well-being-ph-d/>

The program in Community Well-Being trains community-engaged action-researchers committed to promoting social justice through rigorous theoretical analysis and community-based research. The program is grounded in the discipline of community psychology and focuses on community-engaged scholarship that involves the researcher in a mutually beneficial partnership with the community. The program prepares scholars for careers in academia, research, and public policy.

Curriculum Requirements

Code	Title	Credit Hours
Foundational Courses		
EPS 622	Community Well-being and Change: Theory and Practice	3
EPS 623	Development and Change in Community Organizations: Theory and Practice	3
EPS 624	Essentials of Research in Social and Behavioral Sciences	3
EPS 625	Program Evaluation	3
EPS 626	Multicultural Communities in a Globalized Society	3
EPS 628	Social Change Praxis	3
EPS 629	Seminar in Community and Social Change	3
EPS 700	Quantitative Methods I	3
Electives ¹		
EPS-600, 700 or 800 level courses		6
Core Courses		
EPS 725	Seminar in Community Well-Being	6
EPS 731	Theories of Community Research and Action	3
EPS 732	Community Based Participatory Action Research	3
SOC 601	Classical Sociological Theory	3
Research Competencies		
EPS 701	Introduction to Research Methods	3
EPS 702 or EPS 703	Quantitative Methods II Applied Multivariate Statistics	3
EPS 708	An Introduction to Structural Equation Modeling for Multivariable Data	3
EPS 714	Qualitative Methods I	3
EPS 715	Qualitative Methods II: Case Studies and Grounded Theory	3
Dissertation		
EPS 830	Pre-Candidacy Dissertation Research	6
EPS 840	Post-Candidacy Dissertation Research	6
Total Credit Hours		72

¹ See Graduate Program Director for assistance.

Ph.D. in Counseling Psychology

<http://sites.education.miami.edu/counseling-psychology/>

The Counseling Psychology Program has been fully accredited by The American Psychological Association since 1989 and has a proud tradition of preparing students as scholars, clinicians. The program is firmly committed to the foundational values of the discipline of counseling psychology, including its emphasis on prevention, optimal human development, and the promotion of individual, family, and community well-being. The program strives to prepare students who will make a difference in the world through research, scholarship, and reflective practice. The mission of the program is to nurture the development of counseling psychology graduate students and faculty as reflective researchers and scientist-practitioners committed to promoting psychological well-being in a multicultural complex world.

Curriculum Requirements

Code	Title	Credit Hours
Prerequisite Counseling Courses		
EPS 667	Professional, Legal and Ethical Issues in Counseling	3
EPS 675	Therapeutic Group Procedures	3
EPS 676	Counseling Process and Practice	3
EPS 679	Lifespan Human Development	3
EPS 683	Practicum Laboratory I	2
EPS 700	Quantitative Methods I	3
EPS 705	Measurement and Psychometric Theory	3
Counseling Psychology Specialty Courses		
EPS 767	Counseling Psychology: Theory, Research and Practice I	3
EPS 768	Counseling Psychology: Theory, Research and Practice II	3
EPS 770	Psychological Appraisal I	3
EPS 771	Psychological Appraisal II	3
EPS 775	Doctoral Practicum I	2
EPS 776	Doctoral Practicum II	2-3
EPS 779	Vocational Psychology and Career Development	3
EPS 780	Cultural Diversity and Mental Health	3
EPS 782	Supervision in Counseling Psychology	3
EPS 785	Preparing Future Faculty Seminar	1-3
EPS 803	Internship in Counseling Psychology	2
Basic Content in Scientific Psychology		
PSY 604	Cognition and Emotion	3
PSY 605	Cognitive Neuroscience	3
PSY 640	Adult Psychopathology	3
EPS 781	The Social Bases of Human Activity and Flourishing	3
Research Competencies		
EPS 701	Introduction to Research Methods	3
EPS 702	Quantitative Methods II	3
EPS 703	Applied Multivariate Statistics	3
EPS-600, 700 or 800 level course ¹		3
EPS-600, 700 or 800 level course ¹		3
Dissertation		12
EPS 830	Pre-Candidacy Dissertation Research	
EPS 840	Post-Candidacy Dissertation Research	
Total Credit Hours		87-90

¹ Please see Program Director for guidance.

Ph.D. in Research, Measurement, and Evaluation

<http://sites.education.miami.edu/research-measurement-evaluation-ph-d/>

The curriculum of the Ph.D. in RME is structured around six components: (A) a core set of 36 credits (12 courses of 3 credits each) of required coursework covering the fundamentals of research design, measurement, and statistical analysis; (B) 6 credits of a research apprenticeship, in which students conduct mentored research under the supervision of RME faculty members; (C) 6 credits of field experience in educational research, in which students play active roles in the design and analysis of an applied research or evaluation projects; (D) the doctoral qualifying exam; (E) 12 credits of the doctoral dissertation and (F) 6 credits of electives (12 credits of electives for students who do not hold a master degree).

Curriculum Requirements

Code	Title	Credit Hours
Core Courses		36
EPS 700	Quantitative Methods I	
EPS 701	Introduction to Research Methods	
EPS 702	Quantitative Methods II	
EPS 703	Applied Multivariate Statistics	
EPS 704	Computer Applications in Educational and Behavioral Science Research	
EPS 705	Measurement and Psychometric Theory	
EPS 706	Categorical Data Analysis	
EPS 707	Item Response Theory	
EPS 708	An Introduction to Structural Equation Modeling for Multivariable Data	
EPS 709	Introduction to Multilevel Modeling	
EPS 710	Meta-analytic methods for research synthesis.	
EPS 711	Advanced Topics in Research, Measurement, and Evaluation	
Research Apprenticeship		6
EPS 799	Advanced Individual Study ¹	
For a minimum of 6 research apprenticeship credits, students work under the mentorship of RME faculty members (or approved faculty members outside of RME) on original studies pertinent to research, measurement, and evaluation. It is expected that the work completed during the apprenticeship culminates in a manuscript that is suitable for publication in an academic journal. The 6 credits of apprenticeship are documented as two 3-credit blocks of EPS799 (Advanced Individual Study, Form for registering for EPS799 can be found on the SEHD website under the resource tab; and the research apprenticeship must be completed prior to the commencement of dissertation hours (EPS830).		
Field Experience in Educational Research		6
EPS 712	Field Experience in Educational Research ¹	
Students must complete a minimum of 6 credits in field experience related to educational research. The field experience involves providing methodological assistance to a research or evaluation project at the University of Miami or other approved organization (e.g., the evaluation division of Miami-Dade County Public Schools). The nature of the field experience must be approved by the student's advisor prior to commencing the credit hours. The field experience credits are currently documented as EPS712.		
Doctoral Qualifying Exam		
Students must successfully pass the doctoral qualifying exam prior to the commencement of the doctoral dissertation.		
Dissertation Hours		12
EPS 830	Pre-Candidacy Dissertation Research	
EPS 840	Post-Candidacy Dissertation Research	
Electives ^{1 2 3 4}		6-12
Upon the approval of academic advisor, courses outside program may be taken for a minimum of 6 credit hours (course examples are shown below).		
EPS 712	Field Experience in Educational Research	
EPS 714	Qualitative Methods I	
EPS 715	Qualitative Methods II: Case Studies and Grounded Theory	
EPS 716	Qualitative Methods II: Interviews and Content Analysis	
EPS 799	Advanced Individual Study	
Total Credit Hours		66-72

¹ EPS 799 (Advanced Individual Study) and EPS 712 (Field Experience in Educational Research) can be repeated over and above the credits fulfilling a student's apprenticeship (6 credits) and field experience (6 credits) requirements.

- 2 6 credits for students with a Master degree; 12 credits for students without a Master degree
- 3 Upon the approval of your academic advisor, you can take the classes from other departments.
- 4 Additional courses may be substituted upon approval from a student's academic advisor. These options include a variety of graduate courses in the fields of computer science, psychology, education, and other areas of interest.

Kinesiology and Sport Sciences

<http://sites.education.miami.edu/kin/>

Dept. Code: KIN

Programs

Doctor of Philosophy (Ph.D.)

- Exercise Physiology

Master of Science in Education (M.S.Ed.)

- Exercise Physiology (NOTE: accelerated tracks are offered in each of the following, pursuant to a BS degree in Exercise Physiology or Athletic Training from the University of Miami.)
 - Clinical and Applied Exercise Physiology
 - Nutrition for Health and Human Performance
 - Strength and Conditioning/Fitness Entrepreneurship
- Sport Administration

Masters Programs in Kinesiology and Sport Sciences

- M.S.Ed. in Clinical and Applied Exercise Physiology (p. 1070)
- M.S.Ed. in Exercise Physiology: Strength and Conditioning/Fitness Entrepreneurship (p. 1071)
- M.S.Ed. in Nutrition for Health and Human Performance (p. 1072)
- M.S.Ed. in Sport Administration (p. 1073)

Doctoral Programs in Kinesiology and Sport Sciences

- Ph.D. in Exercise Physiology (p. 1074)

M.S.Ed. in Exercise Physiology

<http://sites.education.miami.edu/exercise-physiology-m-s-ed/>

Curriculum Requirements

Code	Title	Credit Hours
Required Core in the Major		
KIN 621	Advanced Systemic Exercise Physiology	3
KIN 630	Cellular Exercise Physiology	3
KIN 631	Laboratory Techniques in Functional Evaluation of Skeletal Muscle	3
KIN 679	Principles of Exercise Prescription/Assessment: Cardiovascular	3
KIN 686	Exercise Prescription/Assessment Laboratory	3
KIN 735	Methods in Biomechanical Analysis	3
KIN 740	Neurophysiology in Exercise Science	3
Restricted Electives		
Select 6 credit hours of graduate KIN courses. ¹		6
Research Competencies (9 credit hours)		
KIN 746	Research Methods in Kinesiology and Sport Sciences	3
EPS 700	Quantitative Methods I	3
	or EPS 702 Quantitative Methods II	
KIN 799	Special Project	3

or KIN-600, 700 or 800 level elective and Comprehensive Exam ²	
Total Credit Hours	36

¹ For further information, please contact the Graduate Program Director.

² Those students taking the comprehensive exam must enroll in another KIN elective course to complete their master's degree requirements in exercise physiology.

Accelerated Track

30 credit hours are to be taken from among the following courses:

Code	Title	Credit Hours
Required Core in the Major		
KIN 630	Cellular Exercise Physiology	3
KIN 631	Laboratory Techniques in Functional Evaluation of Skeletal Muscle	3
KIN 679	Principles of Exercise Prescription/Assessment: Cardiovascular	3
KIN 686	Exercise Prescription/Assessment Laboratory	3
KIN 740	Neurophysiology in Exercise Science	3
Restricted Electives		
Select 6 credit hours of graduate KIN courses. ¹		6
Research Competencies (9 credit hours)		
KIN 746	Research Methods in Kinesiology and Sport Sciences	3
EPS 700	Quantitative Methods I	3
or EPS 702 Quantitative Methods II		
EPS 799	Advanced Individual Study	3
or KIN-600, 700 or 800 level elective and Comprehensive Exam ²		
Total Credit Hours		30

¹ For further information, please contact the Graduate Program Director.

² Those students taking the comprehensive exam must enroll in another KIN elective course to complete their master's degree requirements in exercise physiology.

M.S.Ed. in Exercise Physiology - Strength and Conditioning/Fitness Entrepreneurship Track

<http://sites.education.miami.edu/exercise-physiology-strength-conditioningfitness-entrepreneurship-m-s-ed/>

This program is for persons interested in advanced skill in exercise programming and instruction, the fitness entrepreneur, and those looking for administrative positions in the fitness industry.

Curriculum Requirements - Regular Track

Code	Title	Credit Hours
Required courses		21
KIN 636	Strength and Conditioning I	
KIN 637	Strength and Conditioning II	
KIN 646	Elite Conditioning I	
KIN 647	Elite Conditioning II	
KIN 661	Facility Management	
KIN 662	Fitness Facility Management II	
KIN 670	Advanced Programming	
Choose 5 courses (15 credits) from the following:		15
KIN 621	Advanced Systemic Exercise Physiology	
KIN 630	Cellular Exercise Physiology	
KIN 634	Integrative and Functional Nutrition	
KIN 638	Nutrition during the Lifecycle	

KIN 639	Dietary Supplements and Human Performance	
KIN 645	Therapeutic Lifestyle to Combat Chronic Disease	
KIN 650	Nutritional Biochemistry	
KIN 669	The Foundations of Exercise Programming	
KIN 677	Advanced Nutrition for Health and Fitness	
KIN 679	Principles of Exercise Prescription/Assessment: Cardiovascular	
KIN 680	Principles of exercise Prescription: Neuromuscular	
KIN 686	Exercise Prescription/Assessment Laboratory	
KIN 690	Special Topics in Kinesiology and Sport Sciences	
KIN 699	Advanced Programming for Endurance Athletes	
KIN 746	Research Methods in Kinesiology and Sport Sciences	
KIN 795	Graduate/Clinical Field Experience in Kinesiology and Sport Sciences	
KIN 800	Kinesiology Practicum	
Total Credit Hours		36

Accelerated Track

Code	Title	Credit Hours
Required courses		21
KIN 636	Strength and Conditioning I	
KIN 637	Strength and Conditioning II	
KIN 646	Elite Conditioning I	
KIN 647	Elite Conditioning II	
KIN 661	Facility Management	
KIN 662	Fitness Facility Management II	
KIN 670	Advanced Programming	
Select 3 courses (9 credits) from the following:		9
KIN 630	Cellular Exercise Physiology	
KIN 634	Integrative and Functional Nutrition	
KIN 638	Nutrition during the Lifecycle	
KIN 639	Dietary Supplements and Human Performance	
KIN 641	Neurophysiology in Exercise Science	
KIN 645	Therapeutic Lifestyle to Combat Chronic Disease	
KIN 679	Principles of Exercise Prescription/Assessment: Cardiovascular	
KIN 686	Exercise Prescription/Assessment Laboratory	
KIN 690	Special Topics in Kinesiology and Sport Sciences	
KIN 699	Advanced Programming for Endurance Athletes	
KIN 746	Research Methods in Kinesiology and Sport Sciences	
KIN 795	Graduate/Clinical Field Experience in Kinesiology and Sport Sciences	
KIN 800	Kinesiology Practicum	
Total Credit Hours		30

M.S.Ed. in Nutrition for Health and Human Performance

<http://sites.education.miami.edu/nutrition-for-health-human-performance-m-s-ed/>

This program was designed to develop an interface between Exercise Physiology and Nutrition Science.

Curriculum Requirements

Code	Title	Credit Hours
Required courses		
KIN 634	Integrative and Functional Nutrition	3

KIN 638	Nutrition during the Lifecycle	3
KIN 639	Dietary Supplements and Human Performance	3
KIN 645	Therapeutic Lifestyle to Combat Chronic Disease	3
KIN 650	Nutritional Biochemistry	3
KIN 669	The Foundations of Exercise Programming	3
KIN 677	Advanced Nutrition for Health and Fitness	3
KIN 679	Principles of Exercise Prescription/Assessment: Cardiovascular	3
KIN 784	Energetics of Obesity	3
Choose 3 Courses (9 Credits) From the Following Electives		9
KIN 623	Food Science and Management Principles ¹	
KIN 655	Medical Nutrition Therapy ¹	
KIN 698	Professional Training and Counseling for Integrative Health ¹	
KIN 699	Advanced Programming for Endurance Athletes	
KIN 785	Neurological Mechanisms of Weight Regulation	
KIN 800	Kinesiology Practicum ²	
Total Credit Hours		36

¹ Required for Florida Licensed Dietitian/Nutritionist eligibility. Additionally, the State requires 900 hours of practicum experience, which can be taken outside the program.

² KIN 800 can be taken for additional practicum credit, ranging from 1-3 credits depending on the activity, research, or practicum experience.

Students can transfer up to 9 graduate credits into the 36-credit hour program. University of Miami Exercise Physiology bachelor degree students can transfer 6 graduate credits (taken their senior year) and can waive KIN 645 and KIN 677, to complete the program in 1 year.

M.S.Ed. in Sport Administration

<http://sites.education.miami.edu/sport-administration-m-s-ed/>

This is a 30-credit program for persons interested in sport administration or recreation and leisure sports administration.

Curriculum Requirements

Code	Title	Credit Hours
Core Courses (24 credits)		
KIN 602	Fiscal Management in Sport Administration	3
KIN 603	Principles of Sport Marketing	3
KIN 604	Essential Leadership Skills in Sport	3
KIN 605	Sport Sponsorship and Promotion	3
KIN 606	Ethical Decision Making in Sports	3
KIN 607	Legal Aspects of Sports	3
KIN 609	Advanced Sport Information Management	3
KIN 620	Contemporary Issues in Sport	3
Restricted Electives (6 credits)		6
KIN 601	Organization and Administration of Sport Programs	
KIN 608	Advanced Globalization in Sport	
KIN 610	Event Management	
KIN 611	Field Experience in Sport Administration I	
KIN 612	Field Experience in Sport Administration II	
KIN 613	Field Experience in Sport Administration III	
KIN 615	Practical Approach to Motivation and Ethical Decision Making	
KIN 616	Advanced Sport Governance	
KIN 617	Creative Approaches to Problem Solving and Conflict Management	
KIN 667	Elements of Sports Psychology	
KIN 690	Special Topics in Kinesiology and Sport Sciences	
KIN 746	Research Methods in Kinesiology and Sport Sciences	

KIN 799	Special Project	
KIN 800	Kinesiology Practicum	
KIN 810	Master's Thesis (A total of 6 credits are required for the thesis option)	
Total Credit Hours		30

Ph.D. in Exercise Physiology

<http://sites.education.miami.edu/exercise-physiology-ph-d/>

Curriculum Requirements

Code	Title	Credit Hours
Required Core in the Major		
KIN 621	Advanced Systemic Exercise Physiology	3
KIN 630	Cellular Exercise Physiology	3
KIN 631	Laboratory Techniques in Functional Evaluation of Skeletal Muscle	3
KIN 679	Principles of Exercise Prescription/Assessment: Cardiovascular	3
KIN 686	Exercise Prescription/Assessment Laboratory	3
KIN 735	Methods in Biomechanical Analysis	3
KIN 740	Neurophysiology in Exercise Science	3
Restricted Electives		9
Select 9 credit hours of graduate KIN courses. ¹		
Unrestricted Electives		3
Select 3 credit hours of graduate coursework. ¹		
Outside Supporting Field		12
Select 12 credit hours from relevant supportive field. ²		
Research Competencies (15 credit hours required)		
KIN 746	Research Methods in Kinesiology and Sport Sciences	3
EPS 702	Quantitative Methods II	3
EPS 703	Applied Multivariate Statistics	3
EPS 708	An Introduction to Structural Equation Modeling for Multivariable Data	3
EPS 7XX	Graduate Research Competency Elective	3
Dissertation		
Select 12 credit hours of Dissertation		
KIN 830	Pre-Candidacy to Dissertation Research	6
KIN 840	Post-Candidacy Dissertation Research	6
Total Credit Hours		72

¹ For further information, please contact the Graduate Program Director.

² For guidance, please contact the Graduate Program Director.

* Coursework specialization is available in this program for persons interested in clinical and research orientation in the area of exercise physiology.

** 2/3 of all coursework must be at or above the 700 level. Students entering with a Master's degree in Exercise Physiology or a related degree must take a minimum of 30-credit hours of graduate coursework at the University of Miami in addition to 12-credit hours of dissertation.

Teaching and Learning

<http://sites.education.miami.edu/tal/>

Dept. Code: TAL

Programs

Doctor of Philosophy (Ph.D.)

- Teaching and Learning

This individually-tailored program is designed to help students achieve their professional research-based career goals. A central component of the doctoral program in Teaching and Learning includes work on research projects that support collaboration with faculty and the application of course work as students develop their own research ideas. TAL's Ph.D. program emphasizes an understanding of theory in scholarly inquiry; the intellectual framing and conduct of empirical research; the placement of research within cultural contexts and policy settings; designing, implementing and testing of transformative learning-environments that promote deep learning; and critical analysis of policy, research and practice.

Doctor of Education (Ed.D.)

- Applied Learning Sciences

Master of Science in Education (M.S.Ed.)

- Applied Learning Sciences
- Education and Social Change
- Early Childhood Special Education
- Special Education
- TESOL

Specialist in Education (Ed.S.)

- Early Childhood Special Education

The Ed.S. degree is a terminal degree, for educators who already have a relevant Master's degree and who wish to increase their proficiency in their chosen field. The program requires 30 additional credit hours beyond the Master's Degree (minimum) and is individually designed after admission. Some programs for cohorts of teachers feature lock-step curricula. These programs typically combine students pursuing M.S.Ed. degrees with those pursuing Ed.S. degrees. While all students in these programs follow the same curriculum, students pursuing Ed.S. degrees receive additional or different assignments. Please contact the Department of Teaching and Learning for a program sheet and course listings for the above programs.

Certificates (Non-Degree Programs)

- Applied Learning Sciences

Masters Programs in Teaching and Learning

- M.S.Ed. in Applied Learning Sciences (p. 1077)
- M.S.Ed. in Education and Social Change (p. 1078)
- M.S.Ed. in Early Childhood Special Education (p. 1078)
- M.S.Ed. in Special Education (p. 1080)
- M.S.Ed. in TESOL (p. 1080)

Specialist Programs in Teaching and Learning

- Ed.S. (p. 1077) Early Childhood Special Education (p. 1077)

Doctoral Programs in Teaching and Learning

- Ed.D. in Applied Learning Sciences (p. 1076)
- Ph.D. in Teaching and Learning (p. 1081)

Certificate in Applied Learning Sciences

- Applied Learning Sciences (p. 1075)

Certificate in Applied Learning Sciences

The non-degree Certificate in Applied Learning Sciences is a 15-credit hour graduate program and is focused on human learning, whether alone or social settings. The program's three specific foci, which students are expected to integrate in a culminating applied project, are:

- **Learning:** how people, as individuals, groups, or parts of an organization, learn;
- **Design:** the design, implementation, and revision of learning environments that enhance human learning; and

- **Assessment:** the assessment of learning and the evaluation of individual, social, technological, and design factors that advance or impede learning.

Curriculum Requirements

Code	Title	Credit Hours
Cross-Cutting Courses		6
The following courses can be taken under any area because of their cross-cutting nature but will be completed just once.		
TAL 704	Introduction to the Learning Sciences	
TAL 709	Applied Research and Development in Learning Sciences - Seminar I	
Learning		3
TAL 600	Human Learning	
Design		3
Select 1 course from the following:		
TAL 705	Design of online learning environments	
TAL 706	Design of Formal Learning Environments	
TAL 707	Design for workplace related learning	
TAL 708	Design of Out-of-School, Informal Learning	
Assessment		3
TAL 652	Assessment of Human and Organizational Learning	
Total Credit Hours		15

Ed.D. in Applied Learning Sciences

The 45-credit post-Master's EDD in Applied Learning Sciences prepares students for careers that require expertise in multiple facets of human learning. The program's three specific foci, which students are expected to integrate in a culminating applied project, are:

- **Learning:** how people, as individuals, groups, or parts of an organization, learn;
- **Design:** the design, implementation, and revision of learning environments that enhance human learning; and
- **Assessment:** the assessment of learning and the evaluation of individual, social, technological, and design factors that advance or impede learning.

Curriculum Requirements

Code	Title	Credit Hours
Cross-Cutting Courses		9
The following courses can be taken under any area because of their cross-cutting nature but will be completed just once.		
TAL 704	Introduction to the Learning Sciences	
TAL 709	Applied Research and Development in Learning Sciences - Seminar I	
TAL 712	Applied Research and Development in the Learning Sciences - Seminar 2	
Learning		9
TAL 600	Human Learning	
TAL 602	Organizational Learning	
TAL 651	Affective, Relational, and Cultural Factors and Processes in Learning	
Design		6
TAL 705	Design of online learning environments	
Select 1 course from the following:		
TAL 706	Design of Formal Learning Environments	
TAL 707	Design for workplace related learning	
TAL 708	Design of Out-of-School, Informal Learning	
Assessment		12
EPS 624	Essentials of Research in Social and Behavioral Sciences	

or TAL 710	Introduction to Research	
EPS 700	Quantitative Methods I	
EPS 714	Qualitative Methods I	
TAL 652	Assessment of Human and Organizational Learning	
Cognate		6
6 credits of coursework in a related cognate must be approved by advisor.		
Electives		3
3 credits of elective coursework must be approved by advisor.		
Total Credit Hours		45

Ed.S. Early Childhood Special Education

<http://sites.education.miami.edu/early-childhood-special-education-ed-s/>

The Specialist in Education (Ed. S.) degree program with a concentration in Early Childhood Special Education includes coursework and practicum experiences that could lead to endorsement in Pre-Kindergarten Disabilities. Please contact the Florida Department of Education's Bureau of Educator Certificate for any questions regarding endorsement.

In addition to the required 30 credits listed below, students in this program (a) may be assigned advanced level assignments within courses; (b) may be required to complete additional graduate level coursework; (c) will be required to increase the level of implementation of the capstone project; and (d) will be required to write a publishable paper based on the advocacy project and submit it a practitioner special education journal.

Curriculum Requirements

Code	Title	Credit Hours
Core Courses		
TAL 640	Typical and Atypical Child Development	3
TAL 641	Working with Families of Young Children with Disabilities: Strategies and Medical Issues	3
TAL 642	Evaluation and Assessment in Infant and Early Childhood Special	3
TAL 643	Intervention Strategies in Infant and Early Childhood Special Education	3
TAL 644	Early Childhood Curriculum Development	3
TAL 645	Methods for Communications and Language in Young Children with Disabilities	3
TAL 646	Working with Children who Exhibit Challenging Behaviors	3
TAL 648	Practicum/Internship with Infants and Toddlers with Disabilities	3
TAL 649	Practicum/Internship with Children with Disabilities (3-5 yrs.)	3
TAL 650	Early Reading Instruction and Literature for Young Children	3
Total Credit Hours		30

M.S.Ed. in Applied Learning Sciences

The 30-credit MSED in Applied Learning Sciences focuses on human learning, whether alone or in social settings. The program's three specific foci, which students are expected to integrate in a culminating applied project, are:

- **Learning:** how people, as individuals, groups, or parts of an organization, learn;
- **Design:** the design, implementation, and revision of learning environments that enhance human learning; and
- **Assessment:** the assessment of learning and the evaluation of individual, social, technological, and design factors that advance or impede learning.

Curriculum Requirements

Code	Title	Credit Hours
Cross-Cutting Courses		
The following courses can be taken under any area because of their cross-cutting nature but will be completed just once.		
TAL 704	Introduction to the Learning Sciences	6

TAL 709	Applied Research and Development in Learning Sciences - Seminar I	
Learning		6
TAL 600	Human Learning	
TAL 602	Organizational Learning	
Design		9
TAL 705	Design of online learning environments	
Select 2 courses from the following:		
TAL 706	Design of Formal Learning Environments	
TAL 707	Design for workplace related learning	
TAL 708	Design of Out-of-School, Informal Learning	
Assessment		6
TAL 652	Assessment of Human and Organizational Learning	
Select 1 course from the following:		
EPS 624	Essentials of Research in Social and Behavioral Sciences	
EPS 700	Quantitative Methods I	
EPS 714	Qualitative Methods I	
TAL 710	Introduction to Research	
Elective		3
3 credits of coursework within the applied learning sciences; must be approved by advisor		
Total Credit Hours		30

M.S.Ed. in Early Childhood Special Education

<http://sites.education.miami.edu/early-childhood-special-education-m-s-ed/>

Early Childhood Special Education prepares students to work with young children with disabilities and their families in inclusive, collaborative, and natural environments. As part of the 30 credits of coursework, students complete 6 credits of practicum experiences in high-need urban settings involving collaborative partners within the UM as well as community agencies. The program culminates in the presentation of an Advocacy Capstone project. Coursework, practicum experiences and Capstone projects start scholars on a pathway to advocacy for high-need children and their families.

The program includes coursework and practicum experiences that could lead to endorsement in Pre-Kindergarten Disabilities. Please contact the Florida Department of Education's Bureau of Educator Certificate for any questions regarding endorsement.

Code	Title	Credit Hours
Core Courses		
TAL 640	Typical and Atypical Child Development	3
TAL 641	Working with Families of Young Children with Disabilities: Strategies and Medical Issues	3
TAL 642	Evaluation and Assessment in Infant and Early Childhood Special	3
TAL 643	Intervention Strategies in Infant and Early Childhood Special Education	3
TAL 644	Early Childhood Curriculum Development	3
TAL 645	Methods for Communications and Language in Young Children with Disabilities	3
TAL 646	Working with Children who Exhibit Challenging Behaviors	3
TAL 648	Practicum/Internship with Infants and Toddlers with Disabilities	3
TAL 649	Practicum/Internship with Children with Disabilities (3-5 yrs.)	3
TAL 650	Early Reading Instruction and Literature for Young Children	3
Total Credit Hours		30

M.S.Ed. in Education and Social Change

<http://sites.education.miami.edu/education-social-change-m-s-ed/>

The Education and Social Change program's conceptual framework focuses on the world of education beyond classroom walls, the classroom context of teaching, and the students in classrooms, comprising a holistic, developmental approach across the three areas. Overall, the goals of the program

track are to improve instruction for diverse populations, to prepare teachers for leadership roles within their schools, and to develop capacity to lead future change efforts in support of public education.

There are two tracks with three possible program plans: 1) Teaching Track and 2) Social Change Track. The Teaching Track includes a teaching methods course in the area of certification, the core classes, and two electives for those with or wishing to pursue a Florida Temporary or Full Teaching Certificate. There is also the Professional Training Option leading to a Florida Temporary Teaching Certificate (see below for required courses) upon completion of program requirements. The Social Change Track is made up of an additional Social Change course, the Core Classes, and two electives.

Curriculum Requirements

Code	Title	Credit Hours
Teaching Track or Social Change Track - 30 credit hours required		
Core Courses:		
TAL 601	Educational Assessment and Accountability	
TAL 627	Understanding Culture in the Classroom	
TAL 629	Educating Exceptional Students	
TAL 634	Language and Reading Instruction (or TAL 647 Language and Early Reading Instruction)	
TAL 666	Introduction to the Politics of Education, Teaching, and Learning	
TAL 668	Human Development, Learning and Schooling	
TAL 669	Teacher and Student Well-Being in Education	
Choose one of the following Tracks:		
Social Change Track		
TAL 667	Education Reform, Policy, and the Social Organization of Schooling	
Teaching Track		
Select one of the following:		
TAL 661	Instruction in Secondary English.	
TAL 662	Instruction in Secondary Mathematics	
TAL 663	Instruction in Secondary Science	
TAL 664	Instruction in Secondary Social Studies	
TAL 665	Methods of Teaching in the Elementary School	
Electives		
Electives (6 credits): With advisor approval, students may select up to 6 credits (2 courses) to be included in their program plans. -or- Professional Teaching Option: Leading to FL DOE Temporary Teaching Certification upon successful completion of the Teaching Track, along with: ¹		
Professional Teaching Option - 30 to 36 credit hours required		
Core Courses:		
A minimum of 18 credit hours (6 courses) to a maximum of 24 credit hours (8 courses) from among the following:		
TAL 601	Educational Assessment and Accountability	
TAL 606	Issues and Strategies for ESOL	
TAL 612	Building Positive Relationships with Diverse Learners	
TAL 627	Understanding Culture in the Classroom	
TAL 629	Educating Exceptional Students	
TAL 666	Introduction to the Politics of Education, Teaching, and Learning	
TAL 668	Human Development, Learning and Schooling	
TAL 669	Teacher and Student Well-Being in Education	
Select one of the following:		
TAL 660	Instruction and Assessment in the Secondary School.	
TAL 665	Methods of Teaching in the Elementary School	
Select one of the following:		
TAL 610	Literacy and Learning Strategies in the Content Area	
TAL 634	Language and Reading Instruction	
TAL 647	Language and Early Reading Instruction	
Electives		

Select 6 credits (2 courses) from the following:

TAL 616	Mathematics in the Elementary School
TAL 617	Science in the Elementary School
TAL 625	Online Teaching and Leadership
TAL 650	Early Reading Instruction and Literature for Young Children

¹ See Graduate Program Advisor for guidance.

M.S.Ed. in Special Education

<http://sites.education.miami.edu/special-education-m-s-ed/>

This degree prepares individuals to work with students with disabilities in collaborative school environments. The course of study consists of 30-36 credits over six terms (one year that includes two summers). The program accommodates both working teachers and individuals seeking initial teacher certification in special education.

The initial certification option includes 6-credit hours of student teaching. The State approved program provides competencies for initial certification in K-12 special education with reading and ESOL endorsement.

There is 70% scholarship opportunity sponsored by the School of Education and Human Development. The School makes these awards at the same time as final admissions decisions are made.

Curriculum Requirements

Code	Title	Credit Hours
TAL 606	Issues and Strategies for ESOL	3
or TAL 683 Introduction to Theories and Practice of TESOL		
TAL 608	Language Development for Linguistically and Culturally Diverse Students	3
or TAL 686 Principles of First and Second Language Acquisition		
TAL 614	Assessment in Special Education	3
TAL 629	Educating Exceptional Students	3
TAL 634	Language and Reading Instruction	3
or TAL 647 Language and Early Reading Instruction		
TAL 635	Inclusive Models of Teaching	3
TAL 636	Universal Design for Learning and Assistive Technology Strategies for Transition	3
TAL 654	STEM Methods for Diverse Learners	3
TAL 668	Human Development, Learning and Schooling	3
TAL 677	Applied Research in Education	3
Total Credit Hours		30
Students seeking initial teacher certification in Special Education		
TAL 621	Student Teaching in the Elementary School	6
or TAL 622		Student Teaching in the Secondary School.
Total Credit Hours		36

M.S.Ed. in TESOL

<http://sites.education.miami.edu/teaching-english-to-speakers-of-other-languages-tesol-m-s-ed/>

This program is for is teachers in Pre-K-16 contexts—English as a Second Language (ESL) specialists or mainstream content area teachers who work with emergent bilinguals or English language learners (ELLs) in the U.S. The Florida Department of Education ESOL Endorsement requirements are embedded within the program's courses. This is a hybrid program with face-to-face meetings for locals; those not able to join the local meetings would be able to join virtually.

Curriculum Requirements

Code	Title	Credit Hours
Core Courses		

TAL 627	Understanding Culture in the Classroom	3
TAL 655	Applied Linguistics	3
TAL 677	Applied Research in Education	3
TAL 680	Foundations of Bilingual Education	3
TAL 681	Principles of Curriculum Development and Engagement for TESOL	3
TAL 682	Methods of Teaching Content Areas in TESOL	3
TAL 683	Introduction to Theories and Practice of TESOL	3
TAL 684	Advances Techniques in TESOL	3
TAL 685	Language Assessment	3
TAL 686	Principles of First and Second Language Acquisition	3
Total Credit Hours		30

Concentration in Bilingual Education

<http://sites.education.miami.edu/bilingual-biliteracy-development-in-spanish-m-s-ed/>

This program is for U.S. teachers in Pre-K-12 settings who wish to boost their proficiency in Spanish and/or teach in dual language learning (DLL) or ESOL contexts. Typically DLL had ended in 5th or 6th grade; however, there is a recent and progressive push for biliteracy and bilingualism, which requires biliteracy in middle and high school grades, across content areas. Some Spanish language courses may be required, depending on proficiency. This is an hybrid program with face-to-face meetings for locals; those not able to join the local meetings would be able to join virtually.

Code	Title	Credit Hours
Core Courses		
TAL 627	Understanding Culture in the Classroom	3
TAL 655	Applied Linguistics	3
TAL 677	Applied Research in Education	3
TAL 680	Foundations of Bilingual Education	3
TAL 681	Principles of Curriculum Development and Engagement for TESOL	3
TAL 682	Methods of Teaching Content Areas in TESOL	3
TAL 683	Introduction to Theories and Practice of TESOL	3
TAL 684	Advances Techniques in TESOL	3
TAL 685	Language Assessment	3
TAL 686	Principles of First and Second Language Acquisition	3
TAL 691	Workshop in Education	3
TAL-600, 700 or 800 level course ¹		3
Total Credit Hours		36

¹ See Graduate Program Director for assistance.

Ph.D. in Teaching and Learning

The Ph.D. Program in the Department of Teaching and Learning prepares highly qualified individuals to serve as educational leaders, researchers, and teacher educators whose work will contribute to improving teaching and learning both in and out of schools. The program has a strong focus on diversity and equity and supports faculty and student research in areas such as early development, instructional interventions, multilingualism, teacher preparation, family engagement, disability, education policy, and science, technology and mathematics learning. Incoming students are assigned a Supervisory Committee to advise them in developing their Program of Study. With the approval of their Supervisory Committee, doctoral students may apply up to 30 credits from an earned Master's degree towards the 60 required credits of coursework. Students must also enroll in 12 dissertation credits.

Curriculum Requirements

Code	Title	Credit Hours
Educational Foundations		9
TAL 666	Introduction to the Politics of Education, Teaching, and Learning	
TAL 667	Education Reform, Policy, and the Social Organization of Schooling	
TAL 702	The Social and Cultural Foundation of Education	
TAL 703	Issues and Trends in Multicultural Education	

TAL 704	Introduction to the Learning Sciences	
Core Courses in the Area of Specialization ¹		12
TAL 655	Applied Linguistics	
TAL 731	Language Policy and Planning (K-12)	
TAL 734	Theory and Research in Reading	
TAL 735	Theory and Research in Writing	
TAL 752	Seminar in Reading/Learning Disabilities	
TAL 753	Cognitive Psychology in Special Education	
TAL 754	Disability and Diversity: Critical Views	
TAL 755	Current Issues in Special Education	
TAL 756	Research in Special Education	
TAL 772	Instructional Design and Technology in STEM Education	
TAL 773	STEM Teaching and Teacher Education	
TAL 774	STEM Learning	
TAL 775	STEM Curriculum and Policy	
TAL 776	Assessment in STEM Education	
TAL 777	STEM-Education Research Practicum	
TAL 778	Diversity and Equity in STEM Education	
Research Methods		15
TAL 710	Introduction to Research ²	
Select 12 additional credit hours of coursework in research methods. ³		
Diversity		6
Select 6 credit hours of coursework focusing on dimensions of diversity. ³		
Electives		15
These credits may be taken within or outside the Department of Teaching and Learning. ³		
Professional Seminar		3
TAL 700	Professional Seminar	
Dissertation		12
TAL 830	Pre-Candidacy Dissertation Research.	
TAL 840	Post-Candidacy Dissertation Research.	
Total Credit Hours		72

¹ Some core courses may also be counted towards fulfillment of the diversity requirement. See Academic Advisor.

² Required.

³ See Academic Advisor for course options.

Engineering

<http://www.miami.edu/engineering>

Degree Programs

The College of Engineering offers courses of graduate study leading to the degrees of:

- Master of Science (Environmental Health and Safety)
- Master of Science (Occupational Ergonomics and Safety)
- Master of Science (Construction Management)
- Master of Science (Management of Technology)
- Master of Science in Architectural Engineering
- Master of Science in Biomedical Engineering
- Master of Science in Biomedical Engineering (Medical Physics)
- Master of Science in Civil Engineering
- Master of Science in Electrical and Computer Engineering
- Master of Science in Industrial Engineering
- Master of Science in Mechanical Engineering

- Master of Science in Ocean Engineering

Ph.D. degrees are offered in the areas of:

- Biomedical Engineering
- Biomedical Engineering (Medical Physics)
- Civil Engineering
- Civil Engineering (Architectural or Environmental Emphasis)
- Electrical and Computer Engineering
- Industrial Engineering
- Mechanical Engineering

Admission Requirements

Students with an appropriate B.S. degree may seek direct entry to either the M.S. track or Ph.D. track. Admission guidelines for the various tracks are as follows. Please refer to program specific sections of the bulletin for more information with respect to admission and degree requirements or visit coe.miami.edu/apply

B.S. to M.S.

In engineering, the master's – not the bachelor's – degree is the first professional degree, so all engineers should seek to obtain an M. S. degree. In order to facilitate the obtainment of an M.S. degree, the University of Miami (UM) College of Engineering (CoE) offers the M.S. degree through a number of possible venues or entry points, as summarized below. Every one of our M.S. degree programs requires 10 courses or 30 credit hours to complete; this can be typically undertaken in one, 9-month academic year (i.e., by enrolling in 15 credit hours per semester).

General Admission Requirements

1. A B.S. degree from an accredited program.
2. Typically a cumulative grade point average of 3.0 on a 4.0 scale.
3. Typically a GRE score of 300 or higher (verbal + quantitative).
4. Most international students must provide a TOEFL iBT score of 80 or higher, or an IELTS score of 6.5 or higher to demonstrate English proficiency.

B.S. to Ph.D.

Direct admission to the Ph.D. track by students holding B.S. degrees is limited to students with exceptional credentials. These credentials typically include a minimum GPA of 3.5 on a 4.0 scale and a minimum GRE of 308 (verbal plus quantitative). After completion of the Departmental M.S. requirements, students enrolled in the direct B.S. to Ph.D. track may apply for an M.S. degree.

M.S. to Ph.D.

Criteria for admission into the Ph.D. program for students with an appropriate M.S. degree include a minimum GPA of 3.5 on a 4.0 scale within their M.S. degree program and a minimum GRE of 302 (verbal plus quantitative).

The College offers graduate programs leading to degrees in both traditional and interdisciplinary areas of study. The primary focus of the College lies in those areas and problems that cross traditional lines. Given the interdisciplinary nature of programs, flexibility is provided in course selection which allows each student to pursue a program especially tailored to the goals of the individual. Given the strengths of the University, graduate programs are offered in conjunction with other schools or units. These programs include:

- Biomedical Engineering in conjunction with the School of Medicine
- Engineering Management
Dual M.S. in Industrial Engineering and M.B.A. in conjunction with the Miami Business School
- M.S. program in Management of Technology in conjunction with the Miami Business School
- M.S. in Environmental Health and Safety in conjunction with the School of Medicine.

The M.S. and Ph.D. programs in Interdepartmental Graduate Studies permit, with approval of the Graduate Council, highly qualified students to pursue a privileged individualized program which cuts across disciplinary lines.

Further details on the various College of Engineering areas of specialization are given under the Departmental and Program headings that follow this section.

Students applying for graduate admission to the College must submit three letters of recommendation from individuals familiar with the applicant's abilities and background.

Students who hold a bachelor's degree in a field other than their proposed major may be admitted to the graduate program and to candidacy upon completion of appropriate undergraduate deficiency courses, in addition to the regular requirements for the graduate degree.

A student's overall program is planned by the student and the student's advisory committee. Requirements for the M.S. thesis and non-thesis options (not available in all areas of specialization) are shown below.

Accepted M.S. applicants can apply and be considered on a competitive basis for partial tuition scholarships. Need based aid also can be awarded, as determined through the financial aid process. A minimum graduate GPA of 3.0 must be maintained in order to maintain satisfactory progress.

Accepted Ph.D. applicants financial assistance is available in the form of fellowships, partial tuition scholarships, teaching and research assistantships, and graduate cooperative assistantships combining study and work assignments with private engineering and architectural firms and government agencies. A minimum graduate GPA of 3.3 must be maintained in order to maintain satisfactory progress.

Financial support is provided predominantly to students pursuing Ph.D. degrees.

For further information, contact Office of Admission, College of Engineering at gradadm.eng@miami.edu (dtpoole@miami.edu) or 305-284-2404, option 2.

Degree Requirements

Requirements for the Master of Science Degree (Thesis Option)

- An approved integrated program with a minimum of 30 credit hours with an average grade of B or better and no grade below C.
- At least 6 course credit hours must be at the 700-level.
- 6 credit hours of the required 30 must be earned in thesis work.
- An oral examination in defense of the thesis.

Requirements for the Master of Science Degree (Non-Thesis Option)

- An approved integrated program with a minimum of 30 credit hours with an average grade of B or better and no grade below C.
- At least 12 of the course credit hours must be at the 700 level.
- In most departments a 3 credit hour graduating project is required.

Requirements for the Doctor of Philosophy Degree

- The programs leading to the degree of Doctor of Philosophy comply in full with the regulations of the Graduate School concerning admission, residence requirements, qualifying and final examinations and dissertation.
- Applicants for admission to the Ph.D. program will be expected to have superior records in their M.S. and B.S. degree programs, well above average scores on the Graduate Record Examination, and strong letters of recommendation.
- At least 18 credit hours in courses must be taken beyond the requirements for the M.S. degree of which 6 credit hours must be at the 700 level.
- All candidates for the doctorate are expected to complete an appropriate integrated program of studies in preparation for the comprehensive Qualifying Examination.
- Students are expected to take their qualifying exams during the first year of enrollment. Admission to candidacy across College of Engineering Departments includes passing the qualifying exam and successful defense of a proposal for research.
- Minimum of one year beyond admission to candidacy is usually necessary for the completion of an acceptable dissertation (12 credit hours or more), whereupon the student is then expected to defend their Ph.D. thesis during the Final Oral Examination.
- Departments may have requirements in addition to the above general requirements for their own graduate programs.

For further information, contact Office of Admission, College of Engineering at gradadm.eng@miami.edu (dtpoole@miami.edu) or 305-284-2404, option 2.

Postgraduate Certificate Program

- A Postgraduate Certificate Program is available requiring the completion of a minimum of 15 credit hours of individually planned advanced course work in an area of engineering specialization, or interdisciplinary study.
- Course sequences culminate at an advanced level, but may begin at a basic level if a new area of specialization is to be undertaken.
- The Program must be completed with a grade average of at least C, within a period of five calendar years from the date of enrollment.
- No transfer credit hours will be accepted. International students requiring a student visa must be in a degree program, and cannot obtain a student visa for the Certificate Program; but international students with certain other types of visas may enroll in the Program.
- Basic admission requirement for the Program is a bachelor's degree in a recognized field of engineering or registration as a Professional Engineer by examination.
- Students demonstrating marked ability in the Program may be encouraged to apply for admission to study for the Master's Degree, and may apply up to 6 credit hours toward the M.S. degree.

Ph.D. Course Exchange with Florida International University

University of Miami Ph.D. students are eligible to enroll in courses at Florida International University for a maximum of 6 credit hours. Enrollment in FIU courses requires approval through the student's program of study committee. See FIU/UM Ph.D. exchange section of the Graduate School section of the bulletin for more details.

Biomedical Engineering

Dept. Code: BME

Degree Programs

The Department of Biomedical Engineering offers three different programs of graduate study leading to the degrees of Master of Science (MS) and Doctor of Philosophy (PhD) in Biomedical Engineering:

- BS/MS in Biomedical Engineering
- MS in Biomedical Engineering
- PhD in Biomedical Engineering (including MD/PhD).

The Bachelor of Science / Master of Science (BS/MS) program is available only to qualified undergraduate students enrolled within the Department of Biomedical Engineering. This program gives qualified internal undergraduate students the opportunity to receive a BS and MS degree in five years.

The graduate program in biomedical engineering includes a **medical physics program** accredited by the Commission on Accreditation of Medical Physics Educational Programs (CAMPEP). This program is coordinated by the Department of Biomedical Engineering and the Department of Radiation Oncology at the School of Medicine.

The graduate programs in Biomedical Engineering at the University of Miami provide a diverse interdisciplinary training experience through collaboration with clinical programs at the University of Miami School of Medicine.

Areas of Research

The broad areas of research in Biomedical Engineering include:

- Imaging, optics and lasers, diagnostic and surgical instrumentation
- Biomechanics, microfluidics, biomaterials and tissue engineering
- Neural engineering, brain-computer-interfaces
- Medical physics

Graduate students receive training and conduct research at the Department of Biomedical Engineering and at clinical departments and research centers at the School of Medicine, including the Bascom Palmer Eye Institute, the Miami Project to Cure Paralysis, the Diabetes Research Institute, the University of Miami Ear Institute, Biomedical Nanotechnology Institute, the Departments of Pathology, Radiology, Radiation Oncology, Otolaryngology, and Surgery, and the Miami Veterans Administration Research Service. Most of our graduate students work closely with physicians to develop and investigate new therapies, devices, and technologies that address real-world clinical problems.

Masters Programs in Biomedical Engineering

- B.S./M.S. Five-Year Program in Biomedical Engineering (p. 1085)
- M.S. in Biomedical Engineering (p. 1088)

Doctoral Program in Biomedical Engineering

- Ph.D. in Biomedical Engineering (p. 1095)

Certificate Program

- Medical Physics (p. 1087)

B.S./M.S. Five-Year Program in Biomedical Engineering

The Department of Biomedical Engineering offers a dual-degree program that culminates with students receiving both Bachelor of Science and Master of Science (BS/MS) in Biomedical Engineering concurrently. This program is available only to qualified students enrolled in the undergraduate program in Biomedical Engineering at the University of Miami. This program is intended to give qualified Biomedical Engineering students the opportunity to acquire both a baccalaureate degree (BSBE) and a Master of Science (MSBE) degree in five years rather than the 4 plus 2 years (approximately) that is traditionally expected. The two degrees are awarded simultaneously when the combined requirements have been met for both degrees.

Admission Requirements

The dual BS/MS program is available only to qualified undergraduate students enrolled in the Department of Biomedical Engineering, in any of the four Concentrations (Electrical, Mechanical, Biomaterials and Tissue, PreMed). Typically, students must have undergraduate student status and a cumulative G.P.A. of at least 3.0 at the time of application.

Undergraduate students must take the Graduate Record Examination (GRE) before the end of their classification as a senior and attain a combined score of more than 300 on the verbal and quantitative portions. Students must meet all other pertinent graduate school and College of Engineering requirements.

Qualified students must apply prior to the beginning of final exams in the second semester of their junior year. Students are strongly advised to apply to the BS/MS program as early as possible in their junior year to facilitate academic advising and course selection in the second semester of their junior year. Before submitting an application, interested students should discuss the program and the possibility of entering the program with an academic advisor.

The College of Engineering Office of Admission will carefully review academic credentials for admission into the program and will notify students of their acceptance into the program. All admitted students will have a special advising appointment with Dr. Narasimhan, Assistant Dean for Undergraduate Studies, to discuss academic issues specific to the BS/MS program.

Curriculum Guidelines

In the dual-degree BS/MS program in the Department of Biomedical Engineering, the first four years of the curriculum are altered as follows:

- The 3 credits of Senior Design Project (BME 402/BME 403) are eliminated.
- In Semester I of the senior year, one 3-credit Undergraduate Technical Elective is replaced with one 3-credit Graduate Technical Elective.
- In Semester II of the senior year, one 3-credit Undergraduate Technical Elective is replaced with BME 705 (MS Design Project I), or alternatively, one 3-credit Graduate Technical Elective.

Graduate Technical Electives taken in the senior year must be chosen from the BME graduate course offerings, with the approval of their academic advisor. The credits of Graduate Technical Electives completed in the fourth year are counted toward the 30 credits required for the MS degree.

Students admitted in the dual degree BS/MS program can take a maximum of six (6) graduate credits per semester in their senior year, for a maximum of twelve (12) graduate credits per year, without incurring additional costs if they are full-time undergraduate students during this period. Students should register for courses towards their graduate degree as "G" credits and not as "U" credits. These registrations must be completed prior to taking courses. Retroactive add/drops will not be processed.

To register for graduate credits during their senior year, students must be in senior status and must complete and submit the Graduate School's "Application for Undergraduates to Take Graduate Coursework (http://bulletin.miami.edu/graduate-academic-programs/engineering/biomedical-engineering/five-year-program-biomedical-engineering-bs-ms/undergrad_take_grad_course.pdf)" form. This form must accompany the Add/Drop and/or Course Request form to ensure that students are registered with the correct registration status.

In the Senior year, students must be registered for a minimum of 12 undergraduate credits each semester to maintain full-time status as an undergraduate student. After completing the senior year, students must register as graduate students.

BS/MS Design Project (BME 705/706)

General Description

In lieu of the 3-credit senior design project (BME 402/BME 403) students enrolled in the dual-degree BS/MS program register for 6 credits of Master Design Project (BME 705/BME 706). The 6 credits of BME 705/BME 706 satisfy the undergraduate senior design project requirements and the non-thesis Master's project requirement. The BME705/706 project must therefore include a significant capstone design component.

Project Mentor

The BME 705/BME 706 design project is monitored by one project mentor and one project coordinator. Students are encouraged to select a mentor and project topic as early as possible, preferably during the first semester of their senior year. The project mentor is generally a primary faculty member of the Department of Biomedical Engineering. The role of the project mentor is to help the student identify a suitable project, to monitor the progress of the student, to provide guidance and training in the relevant topics, and to review the final report and presentation.

Students may complete their project under the supervision of a faculty member from another Department at the University of Miami, or from the local biomedical industry, under the following conditions:

- The student must receive the approval of the Department Chairman and Graduate Program Director
- The student must identify a co-mentor who must be a primary faculty member of the Department of Biomedical Engineering. The co-mentor must be familiar with the topic of the proposed project. The role of the co-mentor will be to monitor the student progress and ensure that the Master's project report and presentation satisfy all of the relevant requirements.

Project Coordinator

The project coordinator is a member of the primary faculty of the Department of Biomedical Engineering who is responsible for teaching the BME705/706 course. The role of the project coordinator is to help students identify a project and mentor; ensure that the projects satisfy the program objectives; provide general guidance and biomedical design and graduate scholarship training; and ensure that the students are making suitable progress towards the project goals.

Project Report

Students will receive a grade for their project only after submission and acceptance of a detailed written report. The report must satisfy the requirements of the Senior Design Project report, and additionally satisfy the requirements of the non-thesis MS project report (See section titled, "Non-thesis MS project" (p. 1088)). The report must be reviewed and approved by the project mentor(s) and the project coordinator. Once the report is approved by the mentor(s), one printed copy and one electronic version in PDF format must be submitted to the Project Coordinator by the specified deadline. The final report must be approved and signed by the Project Mentor(s), Project Coordinator and Graduate Program Director or Department Chairman (Template signature page (http://bulletin.miami.edu/graduate-academic-programs/engineering/biomedical-engineering/five-year-program-biomedical-engineering-bs-ms/Signature_Page_Template.pdf)).

Project Presentation

Students must give an oral presentation of their project. The oral presentation is generally scheduled during the scheduled final examination time of BME 705 or BME 706 in the semester of graduation.

Project Grade

The final grade for the project is given by the Project Coordinator. The final grade is a combination of a grade submitted by the Project Mentor(s) assessing the overall performance of the student on the project, and a grade given by the Project Coordinator assessing the quality of the oral presentation and report.

Graduation Requirements

Students accepted into the dual degree program must maintain at least a 3.0 Cumulative GPA, and meet all other pertinent Graduate School requirements, including a minimum of 3.0 GPA in the credits applied toward the MS degree.

Curriculum Requirements

- B.S./M.S.- Biomaterials and Tissue Concentration (p. 614)
- B.S./M.S. - Electrical Concentration (p. 616)
- B.S./M.S.- Mechanical Concentration (p. 619)
- B.S./M.S.- Premed Concentration (p. 622)
- B.S./M.S.- Medical Physics

Certificate Program in Medical Physics

Associated with the Department of Biomedical Engineering's graduate program in Medical Physics, the University of Miami offers a Certificate Program in Medical Physics. The Certificate Program is accredited by CAMPEP (Commission on Accreditation of Medical Physics Educational Programs) and is a non-degree granting program. The objective of this two-semester program is to allow qualified individuals who have obtained PhD degrees in Physics, Engineering or a related field with a physics-minor-equivalent background to transition into a career in medical physics.

Curriculum Requirements

Code	Title	Credit Hours
BME 602	Unified Medical Sciences II	3
Select one of the following courses:		3
BME 620	Medical Imaging System	
BME 729	Advanced Medical Imaging	
BME 681	Radiation Biology and Physics	3
BME 682	Radiation Therapy Physics	3
BME 683	Radiation Protection	3
BME 781	Radiation Dosimetry and Physics	3
Optional Course		0-3
BME 783	Radiation Therapy Physics Clinical Rotation	
Total Credit Hours		18-21

¹ Credit hours completed by students enrolled in the certificate program are not eligible for degree application.

M.S. in Biomedical Engineering

Masters Program Objectives

The goal of the MS program in Biomedical Engineering at the University of Miami is to prepare students for successful careers in the biomedical industry, academia, or government (FDA, US Patent Office), or for further study in doctoral or health-related programs.

The educational objective of the program is to provide students with the technical and intellectual skills required to solve complex technical or scientific problems at the interface of engineering and medicine or biology.

Admission requirements

The qualifications and documentation required for admission to the MS program in Biomedical Engineering are the same as for the College of Engineering.

The Department of Biomedical Engineering admits four types of students to its MS program:

1. Graduates of BS programs in Biomedical Engineering or related engineering disciplines.
2. Graduates of BS or MS programs in other engineering disciplines.
3. Graduates of BS or MS programs in Physics, Mathematics, Computer Science, Chemistry, Biology or other fields of natural or health science.
4. Graduates of medical schools or other health-related professional schools.

Students in the last two groups are generally given conditional admission and required to take additional undergraduate courses in engineering, physics, and/or mathematics depending on their previous course work, as specified in the admission letter. The requisite courses will be prescribed by the Department Chair or Graduate Program Director during the first advising session.

Curriculum

The curriculum combines advanced coursework which provides depth in a specific area of concentration and advanced problem-solving skills, with supervised research or design in one of the laboratories of the faculty from the Department of Biomedical Engineering or the School of Medicine, or in the local biomedical industry.

Except for the Medical Physics program there are no formalized graduate curricular tracks in the MS program. Master's students select a course of study together with the graduate advisor and/or with their mentor and the thesis committee (for the thesis option) based on their own needs or interests. Students can choose from any of the graduate course offerings, as long as they satisfy the general course requirements and the course prerequisites.

Required Core Courses

All students enrolled in the MS program in Biomedical Engineering are required to complete the following core graduate courses:

- Unified Medical Sciences I/II/III (BME 601/BME 602/BME 603, 3 credits each). Students enrolled in the BS/MS program must take exactly two of these three courses, no more and no less. Other students can choose to complete all three courses.
- Regulatory Control of Biomedical Devices (BME 612, 3 credits)

The three courses of the Unified Medical Sciences sequence are designed to provide a basic understanding of human physiology and anatomy and cellular and molecular biology. Students with an MD from a medical school accredited by the World Health Organization are exempted from taking these courses. Students holding advanced degrees in the life sciences, or equivalent experience in the field, may also be exempt. Each such exception requires the approval of the Department Chairperson and Faculty member responsible for the course of concern.

Students with a background in an engineering or scientific field with no prior exposure to biology/medicine are required to complete all three Unified Medical Sciences courses.

Non-Thesis MS Program

The MS non-thesis option is intended for students with an undergraduate degree in biomedical engineering or related disciplines who seek advanced training or specialization in a specific area of biomedical engineering; for professional engineers with undergraduate degrees in other disciplines who want to enter the field of biomedical engineering; and for students who want to prepare for admission to advanced health-related or other professional programs.

Graduation Requirements

Graduation requirements for the MS Non-Thesis Option include:

Code	Title	Credit Hours
24 Graduate-Level Course Credits Including: †		24
BME 612	Regulatory Control of Biomedical Devices	3
At least 2 of the following 3:		
BME 601	Unified Medical Sciences I (Cellular/Molecular)	
BME 602	Unified Medical Sciences II (Human physiology)	
BME 603	Unified Medical Science III (Neuroscience)	
A minimum of 9 course credits at the 700 level		
MS Project		3
BME 706	Master's Design Project II	
Total Credit Hours		30

† Graduate-level courses are courses that are 600 and above.

Curriculum

A typical curriculum for the MS non-thesis option is shown in the following table. The course sequence and timeline can be adjusted based on individual needs. The minimum residence requirement for the MS degree is two semesters in full-time study or the equivalent in part-time work.

Course	Title	Credit Hours
First Semester		
Course Credits		12
Identify Mentor		
Submit Project Abstract		
	Credit Hours	12
Second Semester		
Course Credits		6
BME 706	Master's Design Project II	3
	Credit Hours	9
Third Semester		
Course Credits		9
	Credit Hours	9
	Total Credit Hours	30

Non-Thesis MS Project

General description

All students enrolled in the MS non-thesis program must complete a 3 credit Master's project (BME 706), under the supervision of a project mentor and departmental project coordinator. The project must demonstrate the candidate's ability to solve complex scientific or technical problems at the interface of engineering and medicine or biology.

The MS project can be a research or design project. The project must include a significant research or design component contributed by the M.S. student, including, but not limited to, the design of an experiment or process; the development of a device, instrument, or system; the development of a computer program; the analysis of experimental data. **Projects cannot be limited solely to the review of literature, the development of research or design proposals, or the collection of experimental data.**

At the completion of their project, students must submit a written project report and complete a public oral defense of their project.

Project Mentor

Students who select the MS non-thesis track must identify a project mentor and select a project before they register for their second semester of full-time study. The project mentor is generally a primary faculty member of the Department of Biomedical Engineering. The role of the project mentor is to help the student identify a suitable project, to monitor the progress of the student, to provide guidance and training in the relevant topics, and to review the final report and presentation.

Students may complete their project under the supervision of a faculty member from another Department at the University of Miami, or from the local biomedical industry, under the following conditions:

- The student must receive the approval of the Department Chairman and Graduate Program Director.

- The student must identify a co-mentor who must be a primary faculty member of the Department of Biomedical Engineering. The co-mentor must be familiar with the topic of the proposed project. The role of the co-mentor will be to monitor the student progress and ensure that the Master's project report and presentation satisfy all of the relevant requirements.

Project Coordinator

The project coordinator is a member of the primary faculty of the Department of Biomedical Engineering who is responsible for teaching the BME 706 course. The role of the project coordinator is to:

- Help students identify a project and mentor.
- Ensure that the projects satisfy the program objectives.
- Provide general guidance and graduate scholarship training.
- Ensure that the students are making suitable progress towards the project goals.

Project Abstract

Non-Thesis MS students must submit a one-page project abstract to the Department Chairman or Graduate Program Director and to the MS Project Coordinator at the time when they register for BME 706. The abstract must include the name of the project mentor (and co-mentor, if any), the title of the proposed project, and a brief description of the goals of the project and proposed methods. The abstract must be approved by the mentor, MS Project Coordinator, and Department Chairman or Graduate Program Director before the student can start work on the project. (Project Abstract Template (http://bulletin.miami.edu/graduate-academic-programs/engineering/biomedical-engineering/biomedical-engineering-ms/Abstract_Template.pdf))

Project Report

Non-thesis MS students must submit a detailed report describing the work completed during the project. The report must describe the objectives and significance of the work, and summarize the activities completed by the student as part of the MS project. The report must demonstrate that the work performed by the student satisfies the general project criteria. The typical length of non-thesis M.S. project reports is 20 to 30 pages. If the project resulted in the submission of a full-length peer-reviewed scientific article, the article can be submitted in lieu of a report, as long as the following conditions are satisfied:

- The student must be the first author of the article.
- The article must reflect the work performed by the student as part of the project.
- The article must be submitted for publication in a peer-reviewed journal or conference proceedings volume.
- A one to two page introduction must be submitted to summarize the project goals and main outcomes.

The report must be reviewed and approved by the project mentor (and co-mentor, if any). Once the report is approved by the mentor(s), one printed copy and one electronic version in PDF format must be submitted to the Project Coordinator by the specified deadline. The final report must be approved and signed by the Project Mentor(s), Project Coordinator and Graduate Program Director or Department Chairman. (Signature Page Template (http://bulletin.miami.edu/graduate-academic-programs/engineering/biomedical-engineering/biomedical-engineering-ms/Signature_Page_Template.pdf))

Project presentation

Non-thesis MS students must give an oral presentation of their project. The oral presentation is generally scheduled during the scheduled final examination time of BME 706 in the semester of graduation.

Project grade

The final grade for the project is given by the Project Coordinator. The final grade is a combination of a grade submitted by the Project Mentor(s) assessing the overall performance of the student on the project, and a grade given by the Project Coordinator assessing the quality of the oral presentation and report.

MS Thesis Program

The thesis option is typically selected by students who are oriented towards a career in academic or industrial research and development, or students who want to acquire an initial independent biomedical research experience before seeking admission to doctoral programs.

Graduation Requirements

Graduation requirements for the MS Thesis Option include:

Code	Title	Credit Hours
21 Graduate-Level Course Credits Including: †		21
BME 612	Regulatory Control of Biomedical Devices	3
At least 2 of the following 3:		
BME 601	Unified Medical Sciences I (Cellular/Molecular)	
BME 602	Unified Medical Sciences II (Human physiology)	

BME 603	Unified Medical Science III (Neuroscience)	
A minimum of 6 course credits at the 700 level		
Thesis Work		6
BME 810	Master's Thesis	
Total Credit Hours		30

† Graduate-level courses are courses that are 600 and above.

Curriculum

A typical curriculum for the MS thesis option is shown in the following table. The course sequence and timeline can be adjusted based on individual needs. The minimum residence requirement for the MS degree is two semesters in full-time study or the equivalent in part-time work.

Course	Title	Credit Hours
First Semester		
Course Credits		12
Identify Mentor & Project		
	Credit Hours	12
Second Semester		
Course Credits		9
BME 810	Master's Thesis	3
	Credit Hours	12
Third Semester		
Course Credits		3
BME 810	Master's Thesis	3
	Credit Hours	6
	Total Credit Hours	30

Students who are not able to complete their thesis during the 3rd semester and have completed all 30 required credits of graduate work, must enroll in 0 credits of Research in Residence (BME 820) to maintain full-time student status.

MS Thesis

General Description

The Master's thesis is a research monograph which describes the significance of the research and summarizes the research activities completed as part of the MS degree requirements. The objective of the thesis is to evaluate the candidate's competence in the area of the MS research. The thesis must demonstrate that the research is original and that the candidate has the ability to solve complex scientific and/or technical problems at the interface of engineering and medicine or biology.

Thesis Mentor

Students who select the MS thesis track must identify a thesis mentor before they register for their second semester of full-time study. The thesis mentor must hold a primary or secondary faculty appointment in the Department of Biomedical Engineering. Exceptions can be made only with approval of the Graduate Program Director and Department Chairman.

The thesis mentor supervises the research work of the student and provides training and guidance in the relevant research topics, including design of experiments, experimental techniques, and scholarship activities. The mentor helps the student select a thesis topic and develop a plan, and chairs or co-chairs the thesis committee. The mentor works closely with the student to ensure that there is satisfactory progress towards the thesis goals.

Thesis Committee

The thesis must be approved by a thesis committee. The duties of the thesis committee are:

- to consult with and to advise students on their research;
- to meet, at intervals, to review progress and expected results;
- to read and comment upon the draft thesis;
- to meet, when the thesis is completed, to conduct the final oral examination and to satisfy itself that the thesis work is original; that it demonstrates the candidate's ability to solve complex scientific and/or technical problems at the interface of engineering and medicine or biology; that it is written in lucid and correct English; and that it is submitted in approved format.

The thesis committee will consist of not less than three members, with the following requirements:

- The committee chair shall be a Primary Faculty member of the Department of Biomedical Engineering, as well as a regular member of the Graduate Faculty. The Committee Chair is generally also the thesis mentor.
- A thesis mentor who is not a member of the Primary Faculty of the Department of Biomedical Engineering, can serve as Co-Chair of the Thesis Committee, together with a second Co-Chair who shall be a member of the primary faculty of the Department of Biomedical Engineering.
- It is an additional requirement of the Department of Biomedical Engineering that at least two committee members should be primary Faculty members from the Department.
- One committee member must be from outside the Department. Outside members of the thesis committee can include part-time faculty that teach within the Department.
- At least one committee member must be a regular member of the Graduate Faculty of the University of Miami.

The committee is nominated by the Graduate Program Director. Usually, the student consults with his/her research mentor and with the Chairperson or Graduate Program Director to select the Committee members.

Thesis Format and Deadlines

It is the duty of the student to ensure that the thesis defense is scheduled and that a final version of the thesis approved by the Dissertation Editor is submitted to the Dissertation Editor by the required deadlines set by the Graduate School. All information pertaining to the formatting and electronic guidelines for electronic thesis submission can be found on the Graduate School website (<https://grad.miami.edu>).

Each thesis must be accompanied by a Certificate of Defense Approval for Master's Thesis (<https://grad.miami.edu/policies-and-forms/forms>) signed by all members of the Committee. Forms can be downloaded from the Graduate School website.

Evaluation Forms

The student is responsible for distributing dissertation evaluation forms (http://bulletin.miami.edu/graduate-academic-programs/engineering/biomedical-engineering/biomedical-engineering-ms/SACS_Graduate_Rating_Grid_Rubric_2016.pdf) to the members of the Thesis Committee for the final oral examination. The evaluation forms are used to assess the overall quality of the graduate program at the Department, College, and University level. The evaluation forms are available on the Graduate School and Department of Biomedical Engineering websites. The completed forms must be collected by the Thesis Mentor and forwarded to the Office Manager at the Department of Biomedical Engineering.

Transfer to MS Non-Thesis Program

Students enrolled in the MS thesis program who do not wish to complete their thesis can transfer to the MS non-thesis program and graduate from the MS program under the following conditions:

- The transfer must be approved by the Department Chair or Graduate Program Director.
- All requirements of the MS non-thesis option must be satisfied, including completion of a 3 credit MS project (BME 706), submission of a project report, and oral defense of project. Completed thesis credits may count towards the three credit MS project requirement.

MS in Medical Physics

The Department of Biomedical Engineering at the University of Miami offers a special MS program in Medical Physics. The objective of the Medical Physics program is to provide advanced knowledge in the field of therapeutic medical physics, and to provide the training required for students to become licensed medical physicists. This program is coordinated by the Department of Biomedical Engineering and the Department of Radiation Oncology at the School of Medicine.

The program is opened to students enrolled in the regular MS program, as well as the dual degree (BS/MS) program. Candidates are required to have completed a 3 credit course in Modern Physics (PHY 360 or equivalent) and a 3 credit course covering the physical foundations of medical imaging (BME 330 or equivalent) before they start their course work in the Medical Physics program.

Students in the Medical Physics Program must complete Unified Medical Sciences II (BME 602) and one of the remaining two courses from the Unified Medical Sciences (BME 601 or BME 603) course series, and the following 22-credit core curriculum in the area of medical physics:

Code	Title	Credit Hours
BME 620	Medical Imaging System	3
BME 681	Radiation Biology and Physics	3
BME 682	Radiation Therapy Physics	3
BME 683	Radiation Protection	3
BME 729	Advanced Medical Imaging	3
BME 781	Radiation Dosimetry and Physics	3
BME 783	Radiation Therapy Physics Clinical Rotation	3
BME 784	Medical Physics Journal Club	1
Total Credit Hours		22

Any remaining credits required to complete the degree must satisfy the general requirements of the MS program. Students enrolled in the MS program in Medical Physics may require a total of 31 credits (non-thesis option) or 34 credits (BS/MS and thesis option) to complete the program requirements.

The topic of the BS/MS project (BME 705/BME 706), MS project (BME 706, non-thesis option), or MS thesis must be related to medical physics. In general, the project is co-supervised by Faculty from the Department of Biomedical Engineering and the Department of Radiation Oncology.

Curriculum

Typical curricula for each option of the MS program in Medical Physics are shown in the following tables. The curriculum for the BS/MS in Medical Physics can be found in the BS/MS section of the bulletin. The course sequence and timeline can be adjusted based on individual needs. The minimum residence requirement for the MS degree is two semesters in full-time study or the equivalent in part-time work.

MS without Thesis

Course	Title	Credit Hours
Year One		
First Semester		
BME 602	Unified Medical Sciences II	3
BME 620	Medical Imaging System	3
BME 682	Radiation Therapy Physics	3
	Credit Hours	9
Second Semester		
Choose One of the Following		3
BME 601	Unified Medical Sciences I	
BME 603	Unified Medical Science III	
BME 781	Radiation Dosimetry and Physics	3
BME 729	Advanced Medical Imaging	3
Identify Co-Mentors		
Submit Project Abstract		
	Credit Hours	9
Year Two		
First Semester		
BME 681	Radiation Biology and Physics	3
BME 706	Master's Design Project II	3
BME 683	Radiation Protection	3
	Credit Hours	9
Second Semester		
BME 783	Radiation Therapy Physics Clinical Rotation	3
BME 784	Medical Physics Journal Club	1
	Credit Hours	4
	Total Credit Hours	31

MS with Thesis*

Course	Title	Credit Hours
Year One		
First Semester		
BME 602	Unified Medical Sciences II	3
BME 620	Medical Imaging System	3
BME 682	Radiation Therapy Physics	3
	Credit Hours	9
Second Semester		
Choose One of the Following		3
BME 601	Unified Medical Sciences I	
BME 603	Unified Medical Science III	
BME 781	Radiation Dosimetry and Physics	3
BME 729	Advanced Medical Imaging	3

Identify Co-Advisors & Project		
	Credit Hours	9
Year Two		
First Semester		
BME 681	Radiation Biology and Physics	3
BME 683	Radiation Protection	3
BME 810	Master's Thesis	3
	Credit Hours	9
Second Semester		
BME 783	Radiation Therapy Physics Clinical Rotation	3
BME 784	Medical Physics Journal Club	1
BME 810	Master's Thesis	3
	Credit Hours	7
	Total Credit Hours	34

*Students who are not able to complete their thesis during the 3rd semester and have completed all 30 required credits of graduate work, must enroll in 0 credits of Research in Residence (BME 820) to maintain full-time student status.

BS/MS - Medical Physics Program BS/MS

Students must complete a total of 34 graduate credits in the BS/MS program in Medical Physics. Students who take 6 credits per semester in the senior year only need to register for 22 credits in the fifth year.

Course	Title	Credit Hours
Year Four		
Fall		
Same as BS Degree Except		6
BME 402 (2 cr) is not required		
1 Undergraduate Technical Elective (3 cr) is replaced with BME 681		
Students are advised to take BME 620 as a Graduate Technical Elective		
	Credit Hours	6
Spring		
Same as BS degree except:		6
BME 403 (1 cr) is not required.		
1 Undergraduate Technical Elective (3 cr) is replaced with BME705 (3 cr, Graduate)		
Students are advised to take BME729 as a credit Graduate Technical Elective (3 cr)		
	Credit Hours	6
Year Five		
Fall		
BME 602	Unified Medical Sciences II	3
BME 682	Radiation Therapy Physics	3
BME 683	Radiation Protection	3
BME 706	Master's Design Project II	3
	Credit Hours	12
Spring		
Choose One of the Following:		3
BME 601	Unified Medical Sciences I	
BME 603	Unified Medical Science III	
BME 781	Radiation Dosimetry and Physics	3
BME 783	Radiation Therapy Physics Clinical Rotation	3
BME 784	Medical Physics Journal Club	1
	Credit Hours	10
	Total Credit Hours	34

Ph.D. in Biomedical Engineering

Program Objectives

The goal of the PhD program in Biomedical Engineering at the University of Miami is to train students for independent research and innovation in biomedical engineering. The program is designed to prepare graduates for careers in academia, industrial research and development, or government (FDA, US Patent Office).

PhD students conduct research at the Department of Biomedical Engineering and at clinical departments and research centers at the School of Medicine, including the Bascom Palmer Eye Institute, the Miami Project to Cure Paralysis, the Diabetes Research Institute, the University of Miami Ear Institute, Biomedical Nanotechnology Institute, the Departments of Pathology, Radiology, Radiation Oncology, Otolaryngology, and Surgery, and the Miami Veterans Administration Research Service. Many of our doctoral students work closely with physicians to develop and investigate new therapies, devices, and technologies that address real-world clinical problems.

Admission Requirements

The qualifications and documentation required for admission to the PhD program in Biomedical Engineering are the same as for the College of Engineering.

In general, the Department admits three types of students to its PhD program:

- Students with MS degrees in Biomedical Engineering or related science and engineering fields.
- Students with MD degrees with undergraduate degrees in sciences or engineering.
- Highly qualified students with BS degrees in engineering or sciences.

Students admitted with non-engineering degrees are generally given conditional admission and required to take additional undergraduate courses in engineering, physics, and/or mathematics depending on their previous course work, as specified in the admission letter. The requisite courses will be prescribed by the Department Chair or Graduate Program Director during the first advising session.

The PhD program in biomedical engineering is also a degree-granting program of the University of Miami's MD-PhD program.

Internal M.S. students (thesis or non-thesis) who wish to pursue a doctoral degree can transfer from the MS program to the doctoral degree program under the following general requirements:

- Submission of an application for admission to the PhD program. The application must be submitted on paper to the BME Department Chair.
- Submission of a letter of support by a faculty member who agrees to serve as the student's Ph.D. dissertation advisor.
- Approval of the application by the Department's Graduate Admissions Committee.

Graduation requirements

The general requirements for award of the Doctor of Philosophy include:

- Completion of a minimum of 60 course credits beyond the BS degree.
- Satisfactory completion of a written qualifying examination.
- The submission, oral defense, and approval of a dissertation proposal.
- The submission, oral defense and approval of a dissertation.
- Completion of the publication requirements.

All work, including credit transferred from other institutions, must be completed within 8 years of the time of admission to graduate work, and/or within four years of approval of the dissertation proposal. An average of B (3.0) is required for a graduate degree, and no "D" credit may be counted toward the degree. A C- is the lowest passing grade for graduate students.

Curriculum

The PhD curriculum was designed to provide the technical and intellectual skills required to identify and solve complex scientific or technical problems at the interface of engineering and medicine or biology. The curriculum combines advanced coursework which provides depth in a specific area of concentration, with independent original research in one of the laboratories of the faculty from the Department of Biomedical Engineering or the School of Medicine.

Except for the Medical Physics program there are no formalized graduate curricular tracks in the PhD program. The student's mentor and supervisory committee work with the student to develop a personalized course plan, based on the student's own needs and interests. The personalized course plan is designed to ensure that the student is prepared for advanced independent research and technical innovation in biomedical engineering. The course plan can include any of the graduate course offerings, as long as the student satisfies the course pre-requisites.

The proposed individualized course curriculum must be submitted to the Graduate Program Director for final approval or to the Department Chairperson when the Graduate Program Director is the student's mentor.

Required Core Courses

There are four core graduate courses: Unified Medical Sciences I/II/III (BME 601/BME 602/BME 603, 3 credits each) and a Graduate Scholarship course (BME 780, 3 credits).

The three courses of the Unified Medical Sciences sequence are designed to provide a basic understanding of human physiology and anatomy and cellular and molecular biology. Students admitted to the PhD program with a BS degree are required to take all three courses. Students admitted to the PhD program with an MS degree only need to complete 2 of the 3 courses. Students enrolled in the MD-PhD program and students with an MD from a medical school accredited by the World Health Organization are exempted from taking these 3 courses. With the permission of the graduate advisor, students who have completed these courses or similar coursework in a previous graduate course of study may substitute technical electives for this requirement.

The Graduate Scholarship course provides training in grant proposal writing, manuscript preparation and other doctoral-level research and professional skills. The Graduate Seminars course is a seminar series on research and professional topics in Biomedical Engineering. To receive credit for the Biomedical Engineering Seminars course, students must attend a minimum of 4 seminars each semester during their first 4 semesters.

MD-PhD program

Students enrolled in the MD-PhD program start the PhD program after completion of the first two years of medical school.

MD-PhD students who choose BME as their degree-granting program can count up to 15 credits of work completed during the first two years of medical school towards their PhD degree requirements (See: Credit Requirements). To receive credit, students enroll in the following courses:

- BME 711- Accelerated Basic Science Medical Curriculum (9 credits). BME 711 satisfies the Unified Medical Sciences (9 credits) requirement.
- PIB 731 - Laboratory Research (1-6 credits). Students receive up to 3 credits for each research rotation that they complete during their first two years of medical school, up to a maximum total of 6 credits. To receive credit, students must submit a report for each rotation, following the guidelines for BME Independent Study reports.

All MD PhD students must complete a 3-credit biostatistics course. Students who have successfully completed equivalent coursework in a previous course of study can be exempted from this requirement.

Medical Physics Program

The Department of Biomedical Engineering at the University of Miami offers a special PhD program in Medical Physics accredited by CAMPER. The objective of the Medical Physics program is to provide advanced knowledge in the field of therapeutic medical physics, and to provide the training required for students to become licensed medical physicists. This program is coordinated by the Department of Biomedical Engineering and the Department of Radiation Oncology at the School of Medicine.

Candidates are required to have completed a 3 credit course in Modern Physics (PHY 360 or equivalent) and a 3 credit course covering the physical foundations of medical imaging (BME 330 or equivalent) before they start their course work in the Medical Physics program.

Students enrolled in the Medical Physics Program must follow the general requirements of the PhD program and must complete the following courses:

Code	Title	Credit Hours
BME 602	Unified Medical Sciences II	3
BME 620	Medical Imaging System	3
BME 681	Radiation Biology and Physics	3
BME 682	Radiation Therapy Physics	3
BME 683	Radiation Protection	3
BME 729	Advanced Medical Imaging	3
BME 781	Radiation Dosimetry and Physics	3
BME 783	Radiation Therapy Physics Clinical Rotation	3
BME 784	Medical Physics Journal Club	1

Students enrolled in the Medical Physics program must complete their PhD dissertation project on a topic related to medical physics. In general, the project is co-supervised by Faculty from the Department of Biomedical Engineering and the Department of Radiation Oncology.

Students enrolled in the Medical Physics program must also complete an additional separate qualifying examination focused on the medical physics curriculum (see below section on qualifying examination).

Credit Requirements

The credit requirements are summarized below. Students admitted with non-engineering degrees are generally accepted conditionally, with the requirement to complete a set of undergraduate courses in engineering and/or mathematics before gaining full admission into the PhD program. The list of pre-requisite courses is defined before the start of the first semester of study by the Graduate Program Director and Department Chairperson, in consultation with the student mentor. Course pre-requisites are not counted towards the degree requirements.

Direct BS to PhD Track

Total of 60 Course & Dissertation Credits

Code	Title	Credit Hours
Course Credits		27-48
The following three courses: ¹		9
BME 601	Unified Medical Sciences I (Cellular/Molecular)	
BME 602	Unified Medical Sciences II (Human physiology)	
BME 603	Unified Medical Science III (Neuroscience)	
Graduate Scholarship Course		3
A minimum of 15 credits of additional courses ²		15+
Responsible Conduct of Research Training ³		0
RST 611	Responsible Conduct of Research	
RST 612	Responsible Conduct of Research	
Dissertation Work ⁴		12+
BME 830	Pre-candidacy Doctoral Dissertation	
BME 840	Post-Candidacy Doctoral Dissertation	
Total Credits		60

¹ If the student has completed equivalent coursework, this requirement can be waived. However, these courses must be substituted with another 9 credits of coursework.

² A minimum of 15 credits of additional courses to be selected by the student in consultation with his/her mentor and the supervisory committee. Beyond the minimum requirement of 24 course credits, the supervisory committee shall decide which additional courses, if any, will be required to ensure that the student is prepared for advanced independent research and technical innovation in biomedical engineering. A three credit advanced biostatistics course is strongly recommended.

³ More information about these courses can be found on the CoE website (<http://www.coe.miami.edu>) and the UM RCR website. (<http://www.coe.miami.edu/research-2/responsible-conduct-of-research>)

⁴ A minimum of 12 credits of dissertation work must be completed. Students should enroll into BME 830 before admission to candidacy and BME 840 after admission to candidacy.

MS to PhD Track

Total of 30 Course & Dissertation Credits

Code	Title	Credit Hours
Course Credits		9-18
At least two of the following three courses: ¹		6
BME 601	Unified Medical Sciences I (Cellular/Molecular)	
BME 602	Unified Medical Sciences II (Human physiology)	
BME 603	Unified Medical Science III (Neuroscience)	
Graduate Scholarship Course		3
Additional Courses ²		
Responsible Conduct of Research Training ³		0
RST 611	Responsible Conduct of Research	
RST 612	Responsible Conduct of Research	
Dissertation Work ⁴		12+
BME 830	Pre-candidacy Doctoral Dissertation	
BME 840	Post-Candidacy Doctoral Dissertation	
Total Credits		30

¹ If the student has completed equivalent coursework, this requirement can be waived. However, these courses must be substituted with another 6 credits of coursework.

- ² Beyond the minimum requirement of 9 course credits, the supervisory committee shall decide which additional courses, if any, will be required to ensure that the student is prepared for advanced independent research and technical innovation in biomedical engineering. A three credit advanced biostatistics course is strongly recommended.
- ³ More information about these courses can be found on the CoE website (<http://www.coe.miami.edu>) and the UM RCR website. (<http://www.coe.miami.edu/research-2/responsible-conduct-of-research>)
- ⁴ A minimum of 12 credits of dissertation work must be completed. Students should enroll into BME 830 before admission to candidacy and BME 840 after admission to candidacy.

MD-PhD Track

Total of 60 Course & Dissertation Credits

Code	Title	Credit Hours
Course Credits		21-47
Accelerated Basic Science Medical Curriculum		up to 9
Graduate Biostatistics Course		3
Graduate Scholarship Course		3
A minimum of 15 credits of additional courses ¹		15+
Journal Club ²		1
PIB 700	Journal Club	
Responsible Conduct of Research Training ³		0
RST 611	Responsible Conduct of Research	
RST 612	Responsible Conduct of Research	
Dissertation Work ⁴		12+
BME 830	Pre-candidacy Doctoral Dissertation	
BME 840	Post-Candidacy Doctoral Dissertation	
Total Credits		60

- ¹ A minimum of 15 credits of additional courses to be selected by the student in consultation with his/her mentor and the supervisory committee. Of these credits, up to 6 credits can be satisfied by PIB 731. Beyond the minimum requirement of 24 course credits, the supervisory committee shall decide which additional courses, if any, will be required to ensure that the student is prepared for advanced independent research and technical innovation in biomedical engineering.
- ² This course is not counted towards the minimum of 21 course credit requirement.
- ³ More information about these courses can be found on the CoE website (<http://www.coe.miami.edu>) and the UM RCR website (<http://www.coe.miami.edu/research-2/responsible-conduct-of-research>).
- ⁴ A minimum of 12 credits of dissertation work must be completed. Students should enroll into BME 830 before admission to candidacy and BME 840 after admission to candidacy.

Medical Physics Program

Students enrolled in the Medical Physics Program must follow the general requirements of the PhD program and must complete the following classes as part of their course curriculum:

Code	Title	Credit Hours
BME 602	Unified Medical Sciences II	3
BME 620	Medical Imaging System	3
BME 681	Radiation Biology and Physics	3
BME 682	Radiation Therapy Physics	3
BME 683	Radiation Protection	3
BME 729	Advanced Medical Imaging	3
BME 781	Radiation Dosimetry and Physics	3
BME 783	Radiation Therapy Physics Clinical Rotation	3
BME 784	Medical Physics Journal Club	1

Research in Residence

Once a student has completed all required course and dissertation credits, he or she must enroll in Research in Residence status (BME 850, 0 credit) until the degree has been granted. Research in Residence status is considered full time enrollment. Credit is not granted for research in residence, but a fee is charged for each enrollment.

Qualifying Examination

General Description

All students in the PhD program must pass a Comprehensive Qualifying Examination, which consists of two parts:

- A written examination which serves to assess proficiency in the core disciplines.
- The defense of a dissertation proposal

Upon completion of the examination process, the Supervisory Committee shall notify the Graduate School and the department that the student has passed or failed the examination.

Written Qualifying Examination

Format

The written examination is administered once a year (August) over a period of 1.5 days. The examination consists of three written tests on the topics of basic engineering, applied mathematics and computer science, and applied physiology and medical science. Each test lasts 2.5 hours and consists of a minimum of 12 independent questions or problems assigned by the primary faculty of the BME Department. In each test, students must select and satisfactorily answer 6 problems. Students enrolled in the MD-PhD program are exempt from taking the applied physiology and medical science section of the qualifying examination.

Schedule:

The examination must be taken the first time it is scheduled after completion of the first two semesters. The Graduate School will not, ordinarily, approve the taking of the qualifying examination until the student has had a minimum of one continuous academic year of graduate work in courses, seminars, and directed or tutorial study. In the Department of Biomedical Engineering, a student in good academic standing may take the examination after completing only one full semester of classes, with approval of his/her mentor, Graduate Program Director and Department Chairperson.

Repeat:

A student who fails the examination might be given the opportunity to repeat any or all parts of the examination once. Permission to retake the examination is not automatic. It requires approval of the program faculty. Under exceptional conditions, students may be allowed to repeat a single section a second time. Students who fail the qualifying examination are dropped from the program. Students admitted to the doctoral program with a BS degree that do not pass the qualifying examination may complete the MS degree.

Medical Physics Qualifying Examination

Students enrolled in the Medical Physics program must pass an additional written examination focused on topics covered in the Medical Physics curriculum. The examination is typically scheduled the semester following the regular BME screening examination, and consists of 6 separate written tests on the following topics, corresponding to courses in the curriculum: Anatomy/Radiobiology (BME 602/BME 681); Medical Imaging (BME 620/BME 729); Radiation Therapy Physics (BME 682); Radiation Protection (BME 683); Radiation Dosimetry (BME 781); Medical Physics Clinical Rotation (BME 783). The entire examination is scheduled in a single day, with each test lasting 55 minutes. The minimum passing score for each test is 70%. Students who fail one or more of the tests must retake the test(s) before the end of the semester. Students who fail the same test twice are dropped from the Medical Physics program.

Supervisory Committee

In the Department of Biomedical Engineering, the PhD Supervisory Committee is appointed by the Chairperson during the first year of enrollment, in consultation with the student and his/her research mentor.

The role of the Supervisory Committee is to identify any additional courses required beyond the minimum course requirements, to oversee program milestones, and to administer any additional written or oral examination deemed necessary to complete the qualifying examination.

In the Department of Biomedical Engineering, the Supervisory Committee must be comprised of at least five members. The five members include the committee chair, who shall be a Primary Faculty member of the Department of Biomedical Engineering, as well as a regular member of the Graduate Faculty. Of the remaining members, it is also required that two shall be from Graduate Faculty and one from outside the department. It is an additional requirement of the Department of Biomedical Engineering that two of the remaining members shall be primary Faculty members from the Department. A research mentor who is not a Primary Faculty member of the Department of Biomedical Engineering, can serve as Co-Chair of the Supervisory Committee, together with a second Co-Chair who shall be a member of the primary faculty of the Department of Biomedical Engineering.

Dissertation Proposal

Format

Each student must submit an original written proposal describing the goals of the dissertation research project, the significance of the work, preliminary studies, and the research plan. The proposal must be submitted to the Supervisory Committee and orally defended before the end of the fourth semester for students admitted with an MS degree and before the end of the first semester of the third year for students admitted with a BS degree. The student's knowledge of the proposed research topic will be tested during the oral defense. If any deficiencies are discovered during the defense of the proposal, an additional written or oral examination may be required by the Ph.D. Supervisory Committee.

Evaluation Forms

The candidate is responsible for distributing dissertation proposal evaluation forms (http://bulletin.miami.edu/graduate-academic-programs/engineering/biomedical-engineering/biomedical-engineering-phd/SACS_Graduate_Rating_Grid_Rubric_2016.pdf) to the members of the Supervisory Committee. The evaluation forms are used to assess the overall quality of the graduate program at the Department, College, and University level. The evaluation forms are available on the Graduate School and Department of Biomedical Engineering websites. The forms must be completed by the Committee members after the dissertation defense. The completed forms must be collected by the Dissertation mentor and forwarded to the Office Manager at the Department of Biomedical Engineering.

Admission to Candidacy

A student who has passed the written qualifying examination, and successfully defended the dissertation proposal must:

- submit a signed "Approval of the Dissertation Proposal (http://bulletin.miami.edu/graduate-academic-programs/engineering/biomedical-engineering/biomedical-engineering-phd/Department_Dissertation_Proposal_Approval.pdf)" form to the Graduate Program Director of the Department of Biomedical Engineering.
- form a Dissertation Committee (see below)
- submit an Application for Admission to Candidacy (<https://grad.miami.edu/policies-and-forms/forms>) for the Ph.D./Ed.D./D.M.A. to the Graduate School to be granted admission to candidacy.

Admission to candidacy recognizes the fact that a student enrolled in the PhD program has completed all doctoral degree requirements except completion of an acceptable dissertation project and defense of the dissertation. Completion of the required course credits and dissertation credits (BME 830 and/or BME 840) is not a requirement for admission to candidacy in the Department of Biomedical Engineering.

No student may receive the degree in the same semester or summer session in which he or she is admitted to candidacy. The student must be admitted to candidacy before the dissertation defense is scheduled.

Dissertation Committee

In the Department of Biomedical Engineering, the Dissertation Committee is generally the same as the Supervisory Committee, but it may also be a committee formed anew to undertake the duties of advising and passing upon the dissertation. The Dissertation Committee is nominated by the Department, and is approved and appointed by the Dean of the Graduate School.

As with the Supervisory Committee, the Dissertation Committee must be comprised of at least five members, including the committee chair. The committee chair shall be a Primary Faculty member of the Department of Biomedical Engineering, as well as a regular member of the Graduate Faculty. Of the remaining members, it is also required that two shall be from Graduate Faculty and one from outside the department. It is an additional requirement of the Department of Biomedical Engineering that of the remaining members, at least two should be primary Faculty members from the Department. A research mentor who is not a member of the Primary Faculty of the Department of Biomedical Engineering, can serve as Co-Chair of the Dissertation Committee, together with a second Co-Chair who shall be a member of the primary faculty of the Department of Biomedical Engineering. One additional requirement is that the Dissertation Committee of students enrolled in the MD-PhD program must include one member of the MD-PhD program committee.

The duties of the Dissertation Committee are:

- to consult with and to advise students on their research;
- to meet, at least once per year, to review progress and expected results (see below);
- to read and comment upon the draft dissertation;
- to meet, when the dissertation is completed, to conduct the final oral examination and to satisfy itself that the dissertation is a contribution to knowledge and that it is written in lucid and correct English and submitted in approved format.

Yearly Progress Review

The student must schedule a yearly meeting with the dissertation committee. The purpose of the meeting is to give the student an opportunity to present his/her doctoral research progress to the committee and to receive the committee's feedback and recommendations. The student must submit a brief progress report to the dissertation committee at least seven days before the meeting. During the meeting, the student will present his/her doctoral research progress to the committee. The presentation will be followed by a discussion session. At the end of the discussion session, the committee will meet alone to discuss the student's progress and provide recommendations to the mentor. The mentor will provide a written summary of the discussion and committee recommendations to the student and to the Graduate Program Director. Students who are not making adequate progress may be terminated from the program.

Doctoral Dissertation

General Description

The doctoral dissertation is a monograph which describes the significance of the research and summarizes the research activities completed as part of the doctoral degree requirements. The objective of the dissertation is to evaluate the candidate's competence in the area of the Ph.D. research. The dissertation must demonstrate that the research is original and that it makes a significant contribution to the field of study.

A final public oral defense of the dissertation is required. However, none but the members of the dissertation committee may interrogate the candidate. The defense must be held before the deadline published on the Graduate School website (<https://grad.miami.edu>), generally at least two weeks prior to the last day of class in the semester the student wishes to graduate. The student must submit the Defense Notice Form (<https://grad.miami.edu/policies-and-forms/forms>) available on the Graduate School website (<https://grad.miami.edu>) and provide a copy to the Department of Biomedical Engineering.

The candidate is well advised to have a final, acceptable typescript of the dissertation in the hands of each member of his/her committee at a time reasonably in advance of the final defense of the work a minimum of two weeks prior to the defense.

Dissertation Format and Deadlines

It is the duty of the student to ensure that the dissertation defense is scheduled and that a final version of the dissertation approved by the Dissertation Editor is submitted to the Dissertation Editor by the required deadlines set by the Graduate School. All information pertaining to the formatting and electronic guidelines for electronic thesis and dissertation submission can be found on the Graduate School website (<https://grad.miami.edu>). The Graduate School also encourages students to contact the Dissertation Editor at the Graduate School when they start preparing their dissertation.

Students must inform the Department of Biomedical Engineering of their intent to defend at least 2 weeks in advance of the defense date, by email to the Department staff. The email must include the dissertation title and the date, time and location of the defense. The information will be posted in the Department's physical and online bulletin boards.

Each dissertation must be accompanied by Certificate of Defense Approval for Doctoral Dissertation signed by all members of the Committee. Forms can be downloaded from the Graduate School (https://grad.miami.edu/_assets/pdf/Graduate-School-Student-Handbook-2017-2018.pdf) website (<https://grad.miami.edu>).

Evaluation Forms

The candidate is responsible for distributing dissertation evaluation forms (http://bulletin.miami.edu/graduate-academic-programs/engineering/biomedical-engineering/biomedical-engineering-phd/SACS_Graduate_Rating_Grid_Rubric_2016.pdf) to the members of the Dissertation Committee. The evaluation forms are used to assess the overall quality of the graduate program at the Department, College, and University level. The evaluation forms are available on the Graduate School and Department of Biomedical Engineering websites. The forms must be completed by the Committee members after the dissertation defense. The completed forms must be collected by the Dissertation mentor and forwarded to the Office Manager at the Department of Biomedical Engineering.

Publication Requirements

As a requirement for graduation, all PhD Candidates at the University of Miami Department of Biomedical Engineering are expected to have published, or have in press (i.e., the manuscript must have received final acceptance), in high quality peer-reviewed journals, a minimum of 2 publications describing work related to the dissertation. The candidate must be the first author on at least one of these two publications. In addition, the candidate must have been the presenting author of at least 2 oral or poster presentations describing the dissertation work at major peer-reviewed international conferences.

Teaching Requirements

Students enrolled in the PhD program in Biomedical Engineering who passed their qualifying examination are required to participate in undergraduate teaching activities. The minimum requirement will be to teach one undergraduate classroom lecture per academic year, under the supervision of the primary or secondary mentor, and/or the faculty responsible for the course and to help supervise at least one undergraduate student research project per academic year. For each classroom lecture, the mentor will provide feedback to the student and complete and sign a teaching evaluation form (http://bulletin.miami.edu/graduate-academic-programs/engineering/biomedical-engineering/biomedical-engineering-phd/Grad_Teaching_Eval.pdf) which must be returned to the Graduate Program Director.

Civil, Architectural and Environmental Engineering

<http://cae.miami.edu>

Dept. Code: CAE

Mission Statement

The mission of the Department of Civil, Architectural, and Environmental Engineering is to:

- Provide high-quality undergraduate and graduate education in civil, architectural, and environmental engineering that will prepare graduates for professional careers and a lifetime of learning.
- Conduct high-quality research that will advance the body of knowledge and improve the quality of human life.
- Serve the engineering profession and society through active involvement in professional organizations and contribution of professional expertise.

Disciplines

Civil engineers are leaders in the planning, design, construction, and operation of systems that are essential to modern life. These systems include: buildings, highways, airports, pipelines, bridges, dams, irrigation systems, drainage systems, water-supply and distribution systems, and wastewater collection and treatment works. Civil engineers are employed by government agencies, public utility companies, private consulting firms, construction companies, architectural firms, and universities.

Architectural engineers are leaders in the planning, design, construction, and operation of engineered systems for commercial, industrial, and institutional buildings and other facilities. These engineered systems include electrical, communications and control, lighting, heating, ventilating, air conditioning, fire protection, plumbing, acoustic, and structural components. Architectural engineers are employed by consulting firms, construction companies, facility management companies, HVAC equipment manufacturers, architectural firms, government agencies, and universities.

Environmental engineers are leaders in the application of engineering principles to improve and maintain the environment for the protection of human health, for the protection of nature's beneficial ecosystems, and for environment-related enhancement of the quality of human life. Environmental engineers are employed by government agencies, consulting firms, and universities.

Degree Programs

The Department of Civil, Architectural, and Environmental Engineering offers graduate programs leading to the degrees of:

- Master of Science in Architectural Engineering
- Master of Science in Civil Engineering
- Master of Science in Civil Engineering - Environmental Engineering emphasis
- Doctor of Philosophy in Civil Engineering
- Doctor of Philosophy in Civil Engineering - Architectural Engineering emphasis
- Doctor of Philosophy in Civil Engineering - Environmental Engineering emphasis

The specialty areas of study in Civil Engineering include:

- Structural Engineering and Structural Materials
- Environmental Engineering
- Water-Resources Engineering

The specialty areas of study in Architectural Engineering include:

- Integrated Building Systems
- MEP Systems

Admission Requirements

All applicants to the graduate program are required to submit official academic transcripts, GRE scores, and a minimum of three letters of recommendation. Specific admission criteria are described in this Bulletin under Engineering (p. 1082) - General Admission Requirements.

Applicants who hold a bachelor's degree in a field other than civil, architectural, or environmental engineering may be admitted to the graduate program (and to candidacy, if applicable) upon completion of (a) the regular graduate degree requirements, and (b) undergraduate deficiency courses, which include:

1. Calculus (10 credits)
2. Advanced Mathematics (6 credits)
3. General Chemistry (4 credits)
4. Calculus-based Physics (8 credits)
5. Statics (3 credits)

6. Engineering Science related to area of study (3 credits)
7. Engineering Design related to area of study (6 credits)

In general, items 1 through 7 apply to students without an undergraduate degree in engineering, and items 6 and 7 apply to students with an undergraduate degree in engineering. The student's Program of Study committee will select courses for items 6 and 7 on an individual basis.

Research Opportunities

Civil Engineering: Current research activities include properties of concrete materials, composite structural systems, fiber-reinforced concrete, modeling and simulation of engineering materials, multi-scale modeling of materials, fracture mechanics, structural steel behavior, structural health monitoring, structural repair and rehabilitation.

Architectural Engineering: Current research activities include energy, indoor air quality, heating, ventilating and air conditioning (HVAC), environmentally compatible construction materials and systems, life-cycle building systems integration, and sustainable affordable housing.

Environmental Engineering: Current research activities include development of new physicochemical water and wastewater treatment processes, potable wastewater reuse, solid and hazardous waste management, health and environmental risks analysis, environmental/economic planning for sustainable development, hazardous waste remediation, environmental health studies, water quality studies, ground-water, surface-water, and contaminant-transport processes, hydrologic processes, water resources planning and management, and water policy.

Graduate Academic Standing

A student enrolled in any CAE graduate program is required to make adequate progress towards graduation, maintain a minimum Grade Point Average (GPA), and achieve acceptable course grades. Throughout their graduate study, a student's graduate academic standing will either be *Good Standing*, or *Probation*.

Good Standing: A student's status is considered Good Standing if he/she is:

- (i) making adequate progress towards graduation,
- (ii) maintaining an overall cumulative GPA greater than or equal to 3.000,
- (iii) achieving a term GPA greater than or equal to 3.000 in every semester, and
- (iv) achieving grades of "C" or better in all coursework.

A student who does not satisfy all of the above requirements will be placed on Probation or dismissed from the program.

Probation: A student that does not meet all of the requirements for being in Good Standing must consult with his/her Advisor and/or Supervisory Committee to review his/her progress and develop a plan to rectify the performance problems. A student will be given one semester to improve his/her performance and satisfy the requirements of Good Standing. Otherwise, the student will be dismissed from the program.

To be eligible for graduation, a student must have a minimum cumulative GPA of 3.000 and no grade below "C" in all courses in the student's approved Program of Study. In accordance with university policy, all course grades are included in the GPA and the Graduate School's Repeat Rule applies to courses with grades lower than "C".

Masters Programs in Civil, Architectural and Environmental Engineering

- M.S. (p. 1106) (p. 1104) Civil Engineering (p. 1106)
- M.S. (p. 1104) (p. 1106) Architectural Engineering (p. 1104)
- B.S./M.S. Civil Engineering Program (p. 1103)
- Dual M.S. in Civil Engineering with the University of Bologna (p. 1110)

Doctoral Program in Civil, Architectural and Environmental Engineering

- Ph.D. in Civil Engineering Program (p. 1116)

B.S./M.S. in Civil Engineering

Admission Requirements

Undergraduate students of the department having a GPA of 3.0 or better are encouraged to apply to the 5-year BS/MS program during their junior year. Applicants are required to submit official transcripts, official GRE scores, and three letters of recommendation. Admission criteria are described under Colleges of Engineering – Graduate Admission Requirements.

Graduation

Requirements for graduation are:

- Minimum of 30 graduate-level credits with a GPA of at least 3.0, and no grade lower than C

Of the 30 graduate-level credits:

- At least 24 credits of lecture-based courses
- At least 15 credits in CAE
- At least 12 credits of courses at the 700 level
- At least 6 credits of lecture-based CAE courses at the 700 level (not Independent Study / Special Problems)
- Up to 6 credits can be Independent Study (Special Problems and/or Master's Design Project)

Thesis research (CAE 810) will not count towards the degree.

Transfer of credits from other institutions

- A total of 6 credits of transfer and/or exchange coursework not counted towards the student's BS may be taken at another institution and used to satisfy requirements for the M.S. The number of eligible credits for transfer is 9, when pre-approved coursework is taken as part of a semester abroad experience.

Curriculum

The program of study is tailored to the student's background and goals by their advisor, and must be approved as constituting an MS in Civil or Architectural Engineering by the student's Program of Study Committee. The committee comprises a minimum of 3 members, as follows:

- The CAE Committee Chair (Advisor) shall be a full-time faculty member from the CAE Department, one member must be from outside the Department and hold a Ph.D., and one member other than the CAE Committee Chair (Advisor) must be either a full-time or part-time member of the Department; and
- In addition to the Committee Chair, at least one of the members must be tenured/tenure-earning, or a member of the Graduate Faculty.

M.S. in Architectural Engineering

Overview

The Department of Civil, Architectural, and Environmental Engineering (CAE) offers a Master of Science degree in Architectural Engineering (MSAE).

The educational objectives of the Master of Science program in Architectural Engineering are to produce graduates whom:

1. Have advanced technical knowledge in at least one specialty area of Architectural Engineering
2. Have advanced capability to apply knowledge to engineering problems

The degree program has the following options:

- Thesis option
- Non-Thesis option
- 5-Year B.S./M.S. option available for qualified undergraduate students enrolled within the CAE Department

For all options, a minimum of 30 graduate-level credits are required with an average of "B" or better and no grade below "C". A total of 6 credits of transfer and/or exchange coursework (not counted towards the B.S. degree, and with grades of "B" or above) may be taken at another institution (with pre-approval) to satisfy the requirements for the M.S. degree. The M.S. degree can be typically completed within one calendar year.

The Program of Study is the student's specific set of coursework that defines the course requirements for graduation and must be approved by an advisory committee (known as the Supervisory Committee).

Curriculum Requirements - Thesis Option

A minimum of 30 graduate-level credits are required with an average of "B" or better and no grade below "C". Of the 30 credits:

- At least 24 credits of lecture-based courses
- At least 15 credits in CAE courses
- At least 6 credits of lecture-based CAE courses at the 700 level (not Independent Study)

- 6 credits of Master's Thesis (CAE 810) and an oral examination in defense of the thesis

The table presents an overview of the course selection:

Code	Title	Credit Hours
CAE 810	Master's Thesis	6
2 CAE 700 Level Lecture-Based Courses		6
1 CAE Elective Course		3
5 Elective Courses		15
Total Credit Hours		30

- Notes:
1. All courses are 3 credit hours unless otherwise indicated
 2. Independent Study/Special Problems (CAE 595, CAE 695, CAE 795) *will not* count towards the degree requirements
 3. Master's Design Project (CAE 604) *will not* count towards the degree requirements

The M.S. thesis must be defended to, approved by, and signed by the student's Thesis Committee, which is typically the same as the student's Supervisory Committee or, if not, has a composition that is equivalent to the Supervisory Committee.

Refer to the Additional Details section (below) for additional options and restrictions.

Curriculum Requirements - Non-Thesis Option

Code	Title	Credit Hours
2 CAE 700 Level Lecture-Based Courses		6
2 Courses 700 Level		6
3 CAE Elective Courses		9
3 Elective Course		9
Total Credit Hours		30

- Notes:
1. All courses are 3 credit hours unless otherwise indicated
 2. Up to 6 credits can be Independent Study/Special Problems (CAE 595, CAE 695, CAE 795)
 3. Master's Design Project (CAE 604) *will not* count towards the degree requirements
 4. Master's Thesis (CAE 810) *will not* count towards the degree requirements

Refer to the Additional Details section (below) for additional options and restrictions.

Additional Details

- There is also a 5-Year B.S./M.S. option available for qualified undergraduate students enrolled within the CAE Department. For this combined degree programs only, students are allowed to transfer up to 9 credit hours of graduate coursework from a semester spent abroad. The coursework resulting in the 9-credit hour transfer is to be approved by the student's M.S. Supervisory Committee **prior** to initiating a study abroad program. With the exception of the dual M.S. program with UniBo (<http://www.coe.miami.edu/departments/cae-engineering/graduate/dual-ms>), transferred credits cannot be used to satisfy the requirements of an external degree.
- Admissions requirements for the M.S. degree are listed in this Bulletin under Engineering (p. 1082) and under Master's Degree.
- A total of 6 credits of transfer and/or exchange coursework (not counted towards the B.S. degree, and with grades of "B" or above) may be taken at another institution (with pre-approval) to satisfy the requirements for the M.S. degree.
- Internships, Practical Training, workshops, or other types of practicum are neither required nor optional credit-earning components in the established graduate curriculum (Program of Study). Credit earned through these experiences (such as UMI 605) *will not* count towards any CAE degree requirement.
- The Supervisory Committee must have a minimum of 3 members, including:
 1. Committee Chair (Advisor) shall be full-time CAE faculty and a member of the Graduate Faculty.
 2. Full-Time or Part-Time CAE Faculty
 3. Non-CAE member with an earned Ph.D.

In addition to the Committee Chair, at least one member must be tenured/tenure-earning or a member of the Graduate Faculty.

M.S. in Civil Engineering

Overview

The Department of Civil, Architectural, and Environmental Engineering (CAE) offers a Master of Science degree in Civil Engineering (MSCE) with three areas of specialty:

- Structural Engineering and Structural Materials
- Environmental Engineering
- Water-Resources Engineering

The educational objectives of the Master of Science program in Civil Engineering are to produce graduates whom:

1. Have advanced technical knowledge in at least one specialty area of civil engineering
2. Have advanced capability to apply knowledge to engineering problems.

In each of the specialty areas, several options are available:

- Thesis option
- Non-Thesis option
- 5-Year B.S./M.S. option available for qualified undergraduate students enrolled within the CAE Department
- 5-Year B.S./Dual M.S. option available for qualified undergraduate students enrolled within the CAE Department; students earn a B.S. and two M.S. degrees (one at the University of Miami and one at the University of Bologna, Italy) by spending their 5th year studying abroad.

For all options, a minimum of 30 graduate-level credits are required with an average of "B" or better and no grade below "C". A total of 6 credits of transfer and/or exchange coursework (not counted towards the B.S. degree, and with grades of "B" or above) may be taken at another institution (with pre-approval) to satisfy the requirements of the M.S. degree. The M.S. degree can be typically completed within one calendar year.

The Program of Study is the student's specific set of coursework that defines the course requirements for graduation and must be approved by an advisory committee (known as the Supervisory Committee).

Curriculum Requirements - Thesis Option

A minimum of 30 graduate-level credits are required with an average of "B" or better and no grade below "C". Of the 30 credits:

- At least 24 credits of lecture-based courses
- At least 15 credits in CAE courses
- At least 6 credits of lecture-based CAE courses at the 700 level (not Independent Study)
- 6 credits of Master's Thesis (CAE 810) and an oral examination in defense of the thesis

The table presents an overview of the course selection:

Code	Title	Credit Hours
CAE 810	Master's Thesis	6
2 CAE 700 Level Lecture-Based Courses		6
1 CAE Elective Course		3
5 Elective Courses		15
Total Credit Hours		30

* NOTES

1. All courses are 3 credit hours unless otherwise indicated.
2. Independent Study/Special Problems (CAE 595, CAE 695, CAE 795) *will not* count towards the degree requirements.
3. Master's Design Project (CAE 604) *will not* count towards the degree requirements.

The M.S. thesis must be defended to, approved by, and signed by the student's Thesis Committee, which is typically the same as the student's Supervisory Committee or, if not, has a composition that is equivalent to the Supervisory Committee. Refer to the Additional Details section (below) for additional options and restrictions.

Curriculum Requirements - Non-Thesis Option

A minimum of 30 graduate-level credits are required with an average of "B" or better and no grade below "C". Of the 30 credits:

- At least 24 credits of lecture-based courses
- At least 15 credits in CAE courses
- At least 12 credits of courses at the 700 level
- At least 6 credits of lecture-based CAE courses at the 700 level (not Independent Study)
- Up to 6 credits can be Independent Study (Special Problems)

The table presents an overview of the course selection:

Code	Title	Credit Hours
2 CAE 700 Level Lecture-Based Courses		6
2 Courses 700 Level		6
3 CAE Elective Courses		9
3 Elective Courses		9
Total Credit Hours		30

* NOTES

1. All courses are 3 credit hours unless otherwise indicated
2. Up to 6 credits can be Independent Study/Special Problems (CAE 595, CAE 695, CAE 795)
3. Master's Design Project (CAE 604) *will not* count towards the degree requirements
4. Master's Thesis (CAE 810) *will not* count towards the degree requirements

Refer to Additional Details section (below) for additional options and restrictions.

Additional Details

- There is also a 5-Year B.S./M.S. option available for qualified undergraduate students enrolled within the CAE Department. For this combined degree program only, students are allowed to transfer up to 9 credit hours of graduate coursework from a semester spent abroad. The coursework resulting in the 9-credit hour transfer is to be approved by the student's M.S. Supervisory Committee prior to initiating a study abroad program. With the exception of the dual M.S. program with UniBo (<http://www.coe.miami.edu/departments/cae-engineering/graduate/dual-ms>), transferred credits cannot be used to satisfy the requirements of an external degree.
- Admissions requirements for the M.S. degree are listed in this Bulletin under Engineering (p. 1082) and under Master's Degree.
- A total of 6 credits of transfer and/or exchange coursework (not counted towards the B.S. degree, and with grades of "B" or above) may be taken at another institution (with pre-approval) to satisfy the requirements for the M.S. Degree.
- Internships, Practical Training, workshops, or other types of practicum are neither required nor optional credit-earning components in the established graduate curriculum (Program of Study). Credit earned through these experiences (such as UMI 605) *will not* count towards any CAE degree requirements.
- The Supervisory Committee must have a minimum of 3 members, including:
 1. Committee Chair (Advisor) shall be full-time CAE faculty and a member of the Graduate Faculty
 2. Full-time or part-time CAE faculty
 3. Non-CAE member with an earned Ph.D.

In addition to the Committee Chair, at least one member must be tenured/tenure-earning or a member of the Graduate Faculty.

M.S. in Construction Management

Situational Background

The U.S. Census Bureau puts the total annual value of construction in the United States at approximately \$900 billion (8% of the U.S. gross national product), making the construction industry one of the most important sectors of the nation's economy.

The University of Miami's MS in Construction Management program is a practice-oriented advanced graduate degree that offers a blend of construction and business management courses. This degree program is designed to develop leaders and managers for complex building projects, with mastery in best practices related to resiliency, sustainability, building information modeling, project delivery and decision-making. The University is uniquely situated in a booming metropolis where commercial and residential construction is a large and important industry.

The Construction Management Program

- Offers an interdisciplinary approach with the participation of other graduate programs at the University of Miami.
- Prepares graduates for a variety of employment opportunities. Potential employers include general contractors, real estate developers, sub-contractors, construction management firms and architectural engineering firms.

Objective

The MS in Construction Management provides a foundation for those who want to effectively lead a construction project or business.

Who Is the MS Program For?

The program is open to both entry-level graduate students who want to pursue a career in construction management and professionals who have responsibilities in engineering, architecture, business and law fields, and want to further their knowledge and skills.

Industry Advisory Board

One of the differentiators of the MS program is that it is informed by an industrial advisory board with significant experience in construction management. The advisory board currently consists of:

- *Henry E. Adams, Kiewit Corporation*
- *Rodney Barreto, Floridian Partners, LLC; Chairman - Fish & Wildlife Foundation of Florida*
- *Scott Desharnais, Moss Construction*
- *Kobi Karp, Kobi Karp Architecture and Interior Design*
- *Thomas Koulouris, AECOM / Jackson Health Systems*
- *Ana Veiga Milton, President of Jose Milton Foundation*
- *John L. Murphy, DLA Piper LLP (US)*
- *Ari Pearl, South Florida Developer*
- *Jaime S. Saavedra, Turner Construction*
- *Victor Sanchez, Goldman Properties*

Description

Graduates of the program obtain the technical proficiency, financial knowledge, entrepreneurial skills, and business acumen needed for success in this continuously evolving industry.

Graduates of the program will learn how to integrate multiple professional requirements for bringing construction projects to successful completion, including estimating, cost control, risk, new technologies, project planning, scheduling, negotiation and labor relations. Coursework also examines how to manage the various types of contractual relationships governing the owner, the contractor, subcontractors, consultants and architects, as well as the essential skills of bidding, negotiating, handling disputes and claims, devising and implementing strategic business plans, and leadership.

Through consultations with industry leaders, advisory board members, faculty members, and colleagues in the construction industry, the curriculum for the University of Miami's MS-CM is continually evaluated against current best practices and the highest standards. Participants have immediate access to knowledge and skills that address current issues and developments in the industry.

Curriculum Requirements

Code	Title	Credit Hours
Core Courses		
BUS 630	Fundamentals of Economics, Accounting, and Finance	4
CAE 661	Computer Aided Architecture Engineering Design	3
CAE 790	Advanced Topics	6
or IEN 763	Project Management Techniques	
LAW 257	Construction Law	3
Choose one of the following:		3
ARC 630	Building Technology I: Materials and Methods	
ARC 685	Special Problems	
CAE 660	Sustainable Construction	
Track 1 Electives		
Choose 9 credits from the following:		9
ARC 613	Advanced Visual Representation	

ARC 617	Construction Documents	
ARC 628	Historic Preservation	
ARC 631	Building Technology II: Structural Systems	
ARC 662	Environmental Building Systems I	
ARC 663	Environmental Building Systems II	
CAE 681	Energy-Efficient Building Design	
IEN 612	Statistical Quality Control and Quality Management	
IEN 672	Management of Technological Innovation	
IEN 761	Engineering Cost Management	
RED 601	Introduction to Real Estate Development and Urbanism	
RED 660	Urban Infill, Preservation, and Mixed Use Development	
Global Awareness Elective		
Choose 1 course from the following:		2
MGT 617	Leading Across Cultures	
MGT 621	High Performance Leadership	
MGT 624	Negotiation Strategies	
MGT 691	International Management	
Total Credit Hours		30

Suggested Plan of Study

Course	Title	Credit Hours
Year One		
Fall		
CAE 661	Computer Aided Architecture Engineering Design	3
CAE 790 or IEN 763	Advanced Topics or Project Management Techniques	3
Choose one of the following:		3
ARC 630	Building Technology I: Materials and Methods	
ARC 685	Special Problems	
CAE 660	Sustainable Construction	
Choose 6 credits from the following:		6
ARC 628	Historic Preservation	
ARC 662	Environmental Building Systems I	
ARC 663	Environmental Building Systems II	
IEN 612	Statistical Quality Control and Quality Management	
IEN 672	Management of Technological Innovation	
RED 601	Introduction to Real Estate Development and Urbanism	
		Credit Hours
		15
Spring		
CAE 790	Advanced Topics	3
LAW 257	Construction Law	3
BUS 630	Fundamentals of Economics, Accounting, and Finance	4
Choose one of the following:		3
ARC 613	Advanced Visual Representation	
ARC 617	Construction Documents	
ARC 631	Building Technology II: Structural Systems	
CAE 681	Energy-Efficient Building Design	
IEN 761	Engineering Cost Management	
RED 660	Urban Infill, Preservation, and Mixed Use Development	
Choose one of the following:		2
MGT 617	Leading Across Cultures	
MGT 621	High Performance Leadership	

MGT 624	Negotiation Strategies	
	Credit Hours	15
	Total Credit Hours	30

Dual M.S. in Civil Engineering with the University of Bologna

The Department of Civil, Architectural, and Environmental Engineering (CAE) at the University of Miami (UM) has partnered with the University of Bologna (UNIBO) in Italy to offer a dual Master of Science degree program in Civil Engineering (Dual MSCE). Each dual degree program is structured in four semesters and consists of courses and research with two semesters to be completed at UM, and two semesters to be completed abroad at UNIBO. The degrees conferred by each institution are as follows:

Dual Degree Program Area of Emphasis

Civil Engineering

Environmental Engineering

Academic Degree Obtained at UNIBO

Laurea Magistrale in Civil Engineering (Classe LM) - *Taught in English*

Laurea Magistrale in Ingegneria per l'Ambiente ed il Territorio (Classe LM 35) - *"Earth Resources Engineering" International Curriculum taught in English*

Academic Degree Obtained at UM

MS in Civil Engineering

MS in Civil Engineering (*Environmental Emphasis*)

Upon Completion of the Dual Degree Program requirements, the students will be awarded two separate and distinct Master's of Science degrees.

This program is open to students who are admitted to the graduate program at the end of their junior year as part of the 4+1 (BS + MS) program. Students applying for this program must have a minimum grade point average of 3.0, and score more than 300 on the Graduate Record Examination (GRE).

Once enrolled in the 4+1 (BS+MS) program, students are eligible to apply to the dual MS degree program. The five-year program leading to a B.S. and dual M.S. degrees (BS/2MS) can be completed in 10 semesters as long as the student makes satisfactory progress.

Admission to the 4+1 (BS+MS) program and the BS + dual M.S. program is conducted through the College of Engineering Admissions Office. Any student interested in applying should contact the Director of Admissions in the College of Engineering and their academic advisor in the CAE Department. Both should conduct an overview and feasibility study based on the student's current program of study, and discuss the application requirements and timeline.

The curriculum for the dual M.S. degree program consists of courses that are required for the MS-UM degree, courses for the MS-UNIBO degree, and common courses shared between the programs. In general, students will enroll in the following program of study during their 4th year (Senior Year), and 5th year (at UNIBO). The table is shown in UM credit equivalents:

Course	Title	Credit Hours
Senior Year		
Fall Semester I		
Take PS/HA Cognate Course in Freshman Semester; Add the following courses:		
Graduate Level Course		3
Graduate Level Course		3
	Credit Hours	6
Spring Semester II		
CAE 604	Master's Design Project	3

Graduate Level Course	3
Credit Hours	6
Total Credit Hours	12

Course	Title	Credit Hours
Fifth Year (Graduate)		
First Semester		
Transfer Graduate Level Course		3
Transfer Graduate Level Course		2
Transfer Graduate Level Course		2
Graduate Course for UNIBO MS		
Graduate Course for UNIBO MS		
CAE 795	Special Problems	2
	Credit Hours	9
Second Semester		
Transfer Graduate Level Course		3
Transfer Graduate Level Course		2
Transfer Graduate Level Course		2
Graduate Course for UNIBO MS		
Graduate Course for UNIBO MS		
CAE 795	Special Problems	2
	Credit Hours	9
	Total Credit Hours	18

Students shall submit an individual Program of Study to select courses as part of the program. The individual study program must be approved by both institution's Academic Coordinators. A thesis is required as part of the program and will be completed at UNIBO while working with an advisor at UM. Students must defend their Master's Thesis according to the rules and modalities of UNIBO to obtain the Laurea Magistrale degree.

Program credits are reported using two systems: the European Credit Transfer System (ECTS) and the United States College Credit System (US). The transfer rate between the systems is 2 ECTS credits = 1 US credit. The credit requirements for each MS program are based on the transfer credits between the institutions.

Any deviation from the designated course lists requires pre-approval by the student's UM supervisory committee, the UM CAE Graduate Program Director, and the UNIBO Academic Advisor prior to course registration.

5 YEAR BS/DUAL MS COURSE SCHEDULE FOR CIVIL ENGINEERING

4TH Year (Senior Year at UM): All courses in Table A (24 U.S., 48 ECTS) + 2 courses in Table B (6 U.S., 12 ECTS)

5th Year (at UNIBO): The remaining courses in Tables B and C (24 U.S., 48 ECTS) + Civil Engineering Research (6 U.S., 12 ECTS) + CAE 795: Special Problems (4 U.S., 8 ECTS). Courses in Table C consist of Curriculum courses and Elective courses which can be chosen by the student, depending on the study area they are interested. They are shown in Tables E, F, and G.

TABLE A

UM	Code	Title	Credit Hours
	CAE 402	Professional Engineering Practice	3
	CAE 450	Transportation Engineering II	3
	CAE 470	Foundations and Earth Retaining Systems	3
	CAE 520	Advanced Design of Concrete Structures	3
	CAE 530	Water Resources Engineering II	3
	CAE 604	Master's Design Project	3
	As well as TWO Courses among the following:		
	CAE 611	Advanced Structural Analysis	3
	CAE 621	Advanced Design of Steel Structures	3
	MAE 607	Advanced Mechanics of Solids	3

CAE 711	Theory of Elasticity	3
Total Credit Hours		24

UNIBO

Code	Title	Credit Hours
Infrastructure Systems		9
Advanced Hydrosystems Engineering		9
Design Projects		6
Civil Engineering Research A		6
Advanced Design of Structures		9
Advanced Structural Mechanics		9
Total Credit Hours		48

TABLE B**UM**

Code	Title	Credit Hours
CAE 460	Construction Management	3
MAE 601	Methods of Engineering Analysis	3
CAE 670	Advanced Foundation Engineering	3
MAE 705	Finite Element Methods in Mechanical and Aerospace Engineering	3
Total Credit Hours		12

UNIBO

Code	Title	Credit Hours
Managing Engineering and Construction Processes		6
Numerical Methods I		6
Geotechnical Engineering		6
Numerical Methods II		6
Total Credit Hours		24

*Numerical Methods I & II may be offered in a combined course worth 12 credit hours.

TABLE C**UM**

Code	Title	Credit Hours
Curriculum Course		3
Curriculum Course		3
Curriculum Course		3
Curriculum Course		3
Elective Course		3
Elective Course		3
Total Credit Hours		18

UNIBO

Code	Title	Credit Hours
Curriculum Course		6
Curriculum Course		6
Curriculum Course		6
Curriculum Course		6
Elective Course		6
Elective Course		6
Total Credit Hours		36

TABLE D

UM		
Code	Title	Credit Hours
CAE 810	Master's Thesis	6
Total Credit Hours		6

UNIBO		
Code	Title	Credit Hours
Civil Engineering Research B		12
Total Credit Hours		12

TABLE E**Curriculum 1 - Structural Engineering**

Code	Title	Credit Hours
Mechanics of Historical Masonry Structures ^{ECTS}		6
Structural Safety ^{ECTS}		6
Structural Strengthening & Rehabilitation ^{ECTS}		6
Computational Mechanics ^{ECTS}		6
Earthquake Engineering ^{ECTS}		6

TABLE F**CURRICULUM 2 - Territorial Infrastructures**

Code	Title	Credit Hours
Applied Geomatics ^{ECTS}		6
Context-Sensitive Design in Transportation Infrastructures ^{ECTS}		6
Advanced Hydrology & Water Resource Management ^{ECTS}		6
Coastal Engineering ^{ECTS}		6

TABLE G**ELECTIVE COURSES**

Code	Title	Credit Hours
Engineering Geology ^{ECTS}		6
Science and Technology of Composite Materials ^{ECTS}		6
Sustainability in Construction ^{ECTS}		6
Biotechnology for the Sustainable Reclamation of Contaminated Lands and Waters ^{ECTS}		6

COURSE SCHEDULE FOR ENVIRONMENTAL ENGINEERING

4th Year (Senior Year at UM): All the courses in Table A (24 U.S., 48 ECTS) + 2 courses in Table B (6 U.S., 12 ECTS)

5th Year (at UNIBO): The remaining courses in Tables B and C (24 U.S., 48 ECTS) + Civil Engineering Research (6 U.S., 12 ECTS) + CAE 795 Special Problems (4 U.S., 8 ECTS)

TABLE A

UM		
Code	Title	Credit Hours
CAE 402	Professional Engineering Practice	3
CAE 430	Water-Resources Engineering I	3
CAE 440	Water Quality Control Systems	3
CAE 530	Water Resources Engineering II	3
CAE 533	Water-Quality Control in Natural Systems	3
CAE 540	Environmental Chemistry	3
CAE 542	Solid and Hazardous Waste Engineering	3
CAE 604	Master's Design Project	3
Total Credit Hours		24

UNIBO

Code	Title	Credit Hours
Industrial Ecology M		9
Advanced Hydrosystems Engineering M		9
Water Engineering - Advanced Hydrology & Water Resources Management M		6
Industrial Safety M		6
Resources and Recycling M		6
Laboratory of Environmental Engineering		3
Laboratory on Alternative and Renewable Raw Materials		3
Environmental Engineering Research A		6
Total Credit Hours		48

TABLE B**UM**

Code	Title	Credit Hours
MAE 601	Methods of Engineering Analysis	3
CAE 641	Engineering Systems for Disease Control and Bioremediation	3
CAE 670	Advanced Foundation Engineering	3
Total Credit Hours		9

UNIBO

Code	Title	Credit Hours
Numerical Methods I		6
Biotechnology for the Sustainable Reclamation of Contaminated Lands and Waters M		6
Geotechnical Engineering		6
Total Credit Hours		18

TABLE C**UM**

Code	Title	Credit Hours
CAE 730	Environmental Hydrology	3
CAE 735	Water and Wastewater Engineering: Treatment and Reuse	3
CAE 743	Risk Analysis	3
Elective Course		3
Elective Course		3
Elective Course		3
Elective Course		3
Elective Course		3
Total Credit Hours		24

UNIBO

Code	Title	Credit Hours
Applied Geomatics M		6
Minerals Production Systems M		6
Engineering Geology M		6
Petroleum Geosystems M		6
Coastal Engineering M		6
Elective Course		6
Elective Course		3
Elective Course		3
Total Credit Hours		42

TABLE D**UM**

Code	Title	Credit Hours
CAE 810	Master's Thesis	6
Total Credit Hours		6

UNIBO

Code	Title	Credit Hours
Environmental Engineering Research B		12
Total Credit Hours		12

Grade Equivalencies

The following conversion table of grades applies once a course is completed:

Grade at UM
A+
A
A-
B+
B
B-
C+
C
C-
D+
D
D-
F
I (Incomplete)
W (Withdrawal)

Grade at UNIBO
30L
30
28
26
25
24
23
22
21
20
19
18
Failed/Respinto
No Equivalent
No Equivalent

Additional Details

- Each Student is required to complete a Program of Study and have it approved by their Supervisory Committee and the Graduate Program Director prior to entering the program.
- Internships, Practical Training, Workshops, or other types of practicum are neither required nor optional credit-earning components in the established graduate curriculum (Program of Study). Credit earned through these experiences (such as UMI 605) will not count towards any CAE degree requirements.

• The Supervisory Committee at the University of Miami must have a minimum of 3 members, including:

1. Committee Chair (Advisor) shall be full-time CAE Faculty and a member of the Graduate Faculty
2. Full-time or Part-time CAE Faculty
3. Non-CAE member with an earned Ph.D.

In addition to the Committee Chair, at least one member must be tenured/tenure-earning or a member of the Graduate Faculty.

Ph.D. in Civil Engineering

Overview

The Department of Civil, Architectural, and Environmental Engineering (CAE) offers a Doctor of Philosophy (Ph.D.) degree in Civil Engineering with the following areas of emphasis:

- Civil Engineering
- Architectural Engineering
- Environmental Engineering

The educational objectives of the Doctor of Philosophy program in Civil Engineering are to produce graduates whom:

1. Have advanced technical knowledge in at least one specialty area of civil engineering
2. Have advanced capability to apply advanced knowledge to engineering problems
3. Have made significant contributions in at least one specialty area of civil engineering

The specialty areas of study for the Ph.D. include:

- Structural Engineering and Structural Materials
- Environmental Engineering
- Water Resources Engineering
- Integrated Building Systems
- Mechanical, Electrical, and Plumbing (MEP) Systems

For students who already have an earned Master of Science (in either civil, architectural, or environmental engineering), 30 graduate-level credits are required beyond the M.S. degree. For students who do not have an M.S. (in civil, architectural, or environmental engineering), a minimum of 60 graduate-level credits are required beyond the B.S. degree. All students are required to engage in supervised research and defend a dissertation.

The Program of Study is the student's specific set of coursework that defines the course requirements for graduation and must be approved by an advisory committee (known as the Supervisory Committee). Depending on whether the student already has an earned M.S. degree, the Ph.D. degree can typically be completed within two to five years.

Curriculum Requirements

For a Ph.D. following an M.S.

For students who already have an earned M.S. (in civil, architectural, or environmental engineering), a minimum of 30 graduate-level credits are required beyond the B.S. degree with an average of "B" or better and no grade below a "C". Of the credits:

- At least 18 credits in CAE
- At least 18 credits of lecture-based and/or Independent Study courses
- At least 6 credits of lecture-based CAE courses at the 700 level (not Independent Study)
- 12 credits of Doctoral Dissertation (CAE 830 and/or CAE 840)
- A total of 6 credits of transfer and/or exchange coursework (not counted towards the B.S. or M.S. degrees) may be taken at another institution and used to satisfy the requirements for the Ph.D. degree.

The table presents an overview of the courses selection:

Code	Title	Credit Hours
CAE 830 and/or CAE 840		12
2 CAE 700 Level Lecture-Based Courses		6

4 Elective Courses	12
Total Credit Hours	30

Note: All courses, except Dissertation, are 3 credit hours unless otherwise indicated. Refer to the Additional Details section (below) for additional options and restrictions.

For a Ph.D. without prior M.S.

For students who do not have an M.S. (in civil, architectural, or environmental engineering), a minimum of 60 graduate-level credits are required beyond the B.S. degree with an average of "B" or better and no grade below "C". Of the 60 credits:

- At least 42 credits of lecture-based and/or Independent Study courses
- At least 12 credits of lecture-based CAE courses at the 700 level (not Independent Study)
- At least 30 credits in CAE
- 18 credits of Doctoral Dissertation (CAE 830 and/or CAE 840)
- A total of 12 credits of transfer and/or exchange coursework (not counted towards the B.S. or M.S. degrees) may be taken at another institution and used to satisfy the requirements for the Ph.D. degree.

The table presents an overview of the course selection:

Code	Title	Credit Hours
CAE 830 and/or CAE 840		18
4 CAE 700 Level Lecture-Based Courses		12
10 Elective Courses		30
Total Credit Hours		60

Note: All courses, except Dissertation, are 3 credit hours unless otherwise indicated. Refer to the Additional Details section (below) for additional options and restrictions.

Qualifying Examination

A Ph.D. student must pass a Qualifying Examination, generally taken at the end of the first year of study, before being allowed to defend a dissertation proposal. The examination, administered by the student's Supervisory Committee, must consist of a written component, and may also include an oral component if deemed appropriate by the Supervisory Committee. Three outcomes of the examination are possible: *Pass*, *Fail*, and *Fail with option to re-take once*. For students retaking the exam, the Committee will determine a suitable time frame, but not to exceed 6 months.

Dissertation Proposal Defense

Subsequent to passage of the Qualifying Examination, the student can defend his/her Dissertation Proposal to their Dissertation Committee, which is typically the same as the student's Supervisory Committee or, if not, has makeup equivalent to the Supervisory Committee. All Committee members must approve the Proposal.

Admission to Candidacy

Admission of the student to Candidacy is subject to passage of the Qualifying Examination and passage of the oral Dissertation Proposal Defense.

Dissertation Defense

The Ph.D. thesis must be defended to, approved by, and signed by the student's Dissertation Committee, which is typically the same as the student's Supervisory Committee or, if not, has a composition that is equivalent to the Supervisory Committee.

Additional Details

- Master's Design Project (CAE 604) *will not* count towards the Ph.D. degree requirements.
- Internships, Practical Training, workshops, or other types of practicum are neither required nor optional credit-earning components in the established graduate curriculum (Program of Study). Credit earned through these experiences (such as UMI 605) *will not* count towards any CAE degree requirements.
- At a minimum, a qualifying exam and a final public oral examination in defense of the thesis are required.
- The Supervisory Committee (and Dissertation Committee) must have a minimum of 4 members, including:
 1. Committee Chair (Advisor) shall be full-time CAE faculty and a member of the Graduate Faculty.
 2. CAE faculty and a member of the Graduate Faculty
 3. CAE faculty and a member of the Graduate Faculty

4. Non-CAE member with an earned Ph.D.

Electrical and Computer Engineering

<http://www.coe.miami.edu/dept-eec/>

The Department of Electrical and Computer Engineering offers graduate programs leading to the degrees of Master of Science (thesis or non-thesis option) and Doctor of Philosophy in Electrical and Computer Engineering. Five-year BS and MS dual degree programs are available for qualified undergraduate students enrolled within the Department.

Current research interests of the faculty include:

- Statistical signal processing.
- Image and video processing, pattern recognition, computer vision, automation of visual tasks.
- Machine learning and big data analytics.
- Bioinformatics, computational biology, and genomics.
- Nano-photonics, plasmonics, micro/nano-electronic devices, nano-materials and structures.
- Fusion and learning in networks.
- Data mining, multimedia information systems, multimedia networking and security.
- Intelligent sensor microchips and MEMS, BioMEMS, implantable medical devices, VLSI, ASICs, system-on-a-chip, FPGAs.
- Integrated optics, holography, lithography, spectral imaging, optical coherence tomography.
- Game theory, multi-agent systems.

Master of Science in Electrical and Computer Engineering (MSECE)

Must complete either a thesis option (consisting 24 course credits + 06 thesis credits) or a non-thesis option (30 course credits). Thesis option requirements include the submission and oral defense of a thesis supervised by a Research Supervisor.

Doctor of Philosophy (PhD)

Must complete 30 credits (18 course credits + 12 dissertation credits). Requirements include successful completion of a Qualifying Examination, an oral defense of a research proposal, and submission and oral defense of a dissertation supervised by a Research Supervisor. An MS degree in Electrical and/or Computer Engineering, or related area, is required for students pursuing a PhD degree.

Masters Programs in Electrical and Computer Engineering

- M.S. in Electrical and Computer Engineering (p. 1118)
- Five-Year B.S.E.E.-M.S.E.C.E. Dual Degree - Electrical Engineering Option (p. 670)
- Five-Year B.S.E.E.-M.S.E.C.E. Dual Degree - Audio Engineering Option (p. 667)
- Five-Year B.S.Cp.E.-M.S.E.C.E. Dual Degree - Computer Engineering Option (p. 660)
- Five-Year B.S.Cp.E.-M.S.E.C.E. Dual Degree - Software Engineering Option (p. 663)

Doctoral Program in Electrical and Computer Engineering

- Ph.D. in Electrical and Computer Engineering (p. 1120)

M.S. in Electrical and Computer Engineering

The Electrical and Computer Engineering Department offers the Degree of Master of Science in Electrical and Computer Engineering (M.S.E.C.E.) with a thesis option (24 course credit hours and 6 thesis credit hours) or a non-thesis option (30 course credit hours and no thesis credit hours). The M.S.E.C.E. program offers five tracks: audio engineering, data analytics, Microdevices and Photonics, cybersecurity, and a general ECE track.

Admissions Requirements

Admission to MS degree programs in the College of Engineering (CoE) at the University of Miami is competitive. A qualified applicant needs a strong academic record, as evidenced by their grades in relevant coursework (traditionally a cumulative gpa of 3.0 or higher). Additionally, prospective students should have a 300 or higher on the GRE General Test (verbal plus quantitative), acceptable scores on TOEFL or ILETS exams (English proficiency exams for international students only), as well as comprehensive letters of recommendation. Transfer of credits from other institutes complies with the rules of the graduate school. Many of our applicants have research experiences that have resulted in publication.

Traditionally a BS degree in engineering is required for admission into one of our MS programs. Students who do not have a degree in an Engineering field can still apply and will be considered by the admission committee, but if admitted pre-requisite coursework is traditionally required before being fully admitted into MS studies with us.

Graduation Requirements

The M.S.E.C.E. program with the non-thesis option complies in full with the CoE degree requirements

- An approved integrated program with a minimum of 30 credit hours with an average grade of B or better and no grade below C.
- At least 12 course credit hours must be at the 700-level.
- In addition, the **cybersecurity track** requires a 3-credit-hour graduating project.

The M.S.E.C.E. program with the thesis option, complies with the following CoE degree requirements

- An approved integrated program with a minimum of 30 credit hours with an average grade of B or better and no grade below C.
- At least 6 of the course credit hours must be at the 700 level
- 6 credit hours of the required 30 must be earned in thesis work.

In addition to the CoE degree requirements, the M.S.E.C.E. program with the thesis option requires the following:

- Appointment of a Thesis Defense Committee comprised of at least 3 members: the Chair of the committee is the Research Advisor who must have RF/GF status within ECE; at least one other member (excluding the Research Advisor) must have RF/GF status within ECE; at least one member must be from outside ECE.

Curriculum Requirements**General ECE Option**

Any 600-level and 700-level ECE courses and courses in other departments with the approval of the academic advisor.

Audio Engineering Option

Code	Title	Credit Hours
Suggested Courses		
ECE 602	Engineering Acoustics	3
ECE 633	Random Signals and Noise	3
ECE 636	Adaptive Filters and Signal Processing	3
ECE 638	Introduction to Digital Image Processing	3
ECE 640	Digital Speech and Audio Processing	3
ECE 648	Machine Learning	3
Remaining credits may be taken from 600/700 level courses in ECE, CS, MTH, or any other department in consultation with the academic advisor.		

Data Analytics Option

Code	Title	Credit Hours
Suggested Courses		
ECE 600	Engineering Analytical Techniques	3
ECE 633	Random Signals and Noise	3
ECE 648	Machine Learning	3
ECE 672	Object-Oriented and Distributed Database Management Systems	3
ECE 676	Internet and Intranet Security	3
ECE 677	Data Mining	3
CSC 632	Introduction to Parallel Computing	3
CSC 640	Algorithm Design and Analysis	3
Remaining credits may be taken from 600/700 level courses in ECE, CS, MTH, or any other department in consultation with the academic advisor.		

Microdevices and Photonics Option

Code	Title	Credit Hours
Suggested Courses		
ECE 603	Laser Communications	3
ECE 604	Fundamentals of Optical	3
ECE 605	Semiconductor Photonic Devices	3

ECE 606	Microfabrication	3
ECE 632	VLSI Systems	3
ECE 643	BioNanotechnology	3
Remaining credits may be taken from 600/700 level courses in ECE, CS, MTH, or any other department in consultation with the academic advisor.		

Cybersecurity Option

Code	Title	Credit Hours
Required Courses		
ECE 676	Internet and Intranet Security	3
CSC 609	Data Security and Cryptography	3
ECE 673	Information Assurance	3
ECE 785	Advanced Problems in CyberSecurity	3
Electives (Select a minimum of 9 credit hours) ^{1,2}		
ECE 633	Random Signals and Noise	
ECE 634	Communication Networks	
ECE 674	Agent Technology	
ECE 675	Digital Forensics	
ECE 677	Data Mining	
ECE 678	Network Security	
ECE 753	Pattern Recognition and Neural Networks	
CSC 632	Introduction to Parallel Computing	
CSC 732	Parallel Algorithms	
Total Credit Hours		21

1 Remaining credits may be taken from 600/700 level courses in ECE, CS, MTH, or any other department in consultation with the academic advisor.

2 Additional Elective Course Areas: Legal Issues (Digital Evidence and Analysis, Privacy, Legal Response/Responsibilities, Policies)

Ph.D. in Electrical and Computer Engineering

The Ph.D. degree is designed so that it

- offers students the theoretical, practical, and professional knowledge that will enable them to pursue discovery of new knowledge;
- allows students to conduct visible high-quality research that will advance the state of knowledge; and
- serves to train, motivate, and inspire our graduates to become leaders in their fields.

Admission Requirements

The minimum GRE requirement is 310 (verbal plus quantitative) for the B.S. to Ph.D. track, and 305 for the M.S. to Ph.D. track. Other requirements are identical to the CoE requirements. The transfer policy complies with the rules of the graduate school.

Graduation Requirements

The average grade of course works should be B or better, and no grade can be below C. Other requirements are identical to the CoE requirements.

Qualifying Examination

The Ph.D. Qualifying Examination is held twice a year, one week prior to the beginning of the Fall and Spring semesters. The applicant must select four subject areas listed in the following:

Computer Engineering (CE) Program
 CE1 Programming Languages and Algorithms
 CE2 Computer Networks
 CE3 Computer Architecture and Digital Systems
 CE4 Database and Distributed Systems
 CE5 Analytical Techniques

Electrical Engineering (EE) Program
 EE1 Signals and Systems

EE2 Communications
EE3 Circuits and Electronics
EE4 Solid-State Physics and Devices
EE5 Analytical Techniques

The criteria for subject selection are as follows:

- Select the PROGRAM (CE or EE) (in consultation with Research Advisor).
- Select FOUR subjects as follows:
 - THREE from the selected PROGRAM
 - ONE from the other PROGRAM

Subject matter in CE5 and EE5 are identical, and both CE5 and EE5 cannot be selected in one sitting.

Requirements for satisfactory completion of the Ph.D. qualifying examination are:

- Taking the Ph.D. Qualifying Examination:
 - The first attempt must be within two semesters (summers excluded) of initial enrollment in the Ph.D. program.
 - Any student failing to pass the examination during the first attempt, can retake the examination a second time during its immediate next offering (see Passing the Ph.D. Qualifying Examination section below).
 - Any student failing to pass the examination a second time will have his/her Ph.D. status terminated.
- Passing the Ph.D. Qualifying Examination: To pass the examination, a student's grades must satisfy the following criteria:
 - Criterion 1: Average grade of "B" (3.000) or better for the entire 4-subject examination: a student failing to meet this criterion will be required to repeat the whole examination during its immediate next offering. The student may change the subject areas selected.
 - Criterion 2: Grade of "C" (2.000) or better for each subject: each subject failing to meet this criterion will have to be repeated during the immediate next offering of the Ph.D. Qualifying Examination. No change in the subject area is allowed and the average grade computed with the re-taken subject together with the remaining subject areas previously taken must satisfy Criteria 1 and 2 to successfully pass the examination.

Dissertation Committee

The dissertation committee should comprise at least 5 members: the Chair of the committee is the Research Advisor who must have research faculty (RF) or graduate faculty (GF) status within ECE; at least two other members (excluding the Research Advisor) must have RF/GF status within ECE; at least one member must be from outside ECE.

Dissertation Proposal Defense

An oral defense of a dissertation proposal on an original research topic before the dissertation committee is required.

Admission to Candidacy

Requirements are identical to the CoE requirements.

Industrial Engineering

Department Mission Statement

The Department of Industrial Engineering mission is to provide contemporary and relevant industrial and systems engineering education and research; impart knowledge and skills necessary to design and to improve a variety of manufacturing and service processes; promote life-long learning; and contribute to emerging societal needs.

Degree Programs

The Department of Industrial Engineering offers graduate programs leading to the:

- Master of Science in Industrial Engineering
- Master of Science in Environmental Health and Safety
- Master of Science in Occupational Ergonomics and Safety
- MSIE/MBA Weekend Executive Program (in conjunction with the School of Business)
- Master of Science in Management of Technology (in conjunction with the School of Business)

The Department also offers:

- a Ph.D. program in Ergonomics and Human Factors

- a Ph.D. in Industrial Engineering.

Masters Program in Industrial Engineering

- M.S. in Industrial Engineering (p. 1122)
- M.S. in Environmental Health and Safety (p. 1122)
- M.S. in Management of Technology (p. 1124)
- M.S. in Occupational and Ergonomics Safety (p. 1124)
- M.S.I.E./M.B.A. Executive Program (p. 1124)

Doctoral Program in Industrial Engineering

- Ph.D. in Industrial Engineering (p. 1126)
- Ph.D. in Ergonomics and Human Factors (p. 1125)

M.S. in Environmental Health and Safety

Master of Science in Environmental Health and Safety

An interdisciplinary **M.S. degree program in Environmental Health and Safety** is offered through the Department of Industrial Engineering in collaboration with the School of Medicine. These programs of study are individually structured to fit the student's interests and career objectives.

The program will consist of a 36 credit hours in the areas of environmental health and safety.

Curriculum Requirements

Code	Title	Credit Hours
Core Courses		
EPH 601	Medical Biostatistics I	3
EPH 602	Biostatistics II	3
EPH 621	Fundamentals of Epidemiology	3
EPH 641	Aspects of Environmental Health	3
IEN 651	Accident Prevention Systems	3
IEN 657	Ergonomics and Human Factors Engineering	3
IEN 757	Ergonomics and Occupational Biomechanics	3
IEN 794	Master's Project	3
Electives (12 Credits)		12
Total Credit Hours		36

M.S. in Industrial Engineering

- The Master of Science degree in Industrial Engineering includes the following areas of concentration:
 - Engineering Management
 - Ergonomics and Human Factors
 - Health Care Systems
 - Management of Technology
 - Manufacturing Engineering
 - Occupational Health and Safety
 - Operations Research
 - Productivity Engineering
 - Quality
- Students (other than University of Miami graduates) applying for graduate admission to the College should submit three letters of recommendation from individuals familiar with the applicant's abilities and background. Students who hold a bachelor's degree in a field other than Industrial Engineering may be admitted to the graduate program and to candidacy upon completion of appropriate undergraduate deficiency courses, in addition to the regular requirements for the graduate degree. A student's overall program is planned by the student and the Graduate Advisor.
- Requirements for the Master of Science Degree (both thesis and non-thesis option):
 - An approved integrated program with a minimum of 30 credit hours with a 3.0 average or better on all credit hours attempted and no single grade below "C" at the University of Miami while a graduate student.

- b. At least 12 course credit hours must be at the 700 level.

Code	Title	Credit Hours
Thesis Option ¹		
5 Common Core Courses		
IEN 712	Design of Experiments	3
IEN 742	Linear Programming and Extensions	3
IEN 757	Ergonomics and Occupational Biomechanics	3
IEN 761	Engineering Cost Management	3
or IEN 763	Project Management Techniques	
or IEN 764	Supply Chain Management	
IEN 765	Advanced Production Systems	3
3 Elective Courses		
IEN 810	Master's Thesis	6
Total Credit Hours		30

Code	Title	Credit Hours
Non-Thesis Option ¹		
5 Common Core Courses		
IEN 712	Design of Experiments	3
IEN 742	Linear Programming and Extensions	3
IEN 757	Ergonomics and Occupational Biomechanics	3
IEN 761	Engineering Cost Management	3
or IEN 763	Project Management Techniques	
or IEN 764	Supply Chain Management	
IEN 765	Advanced Production Systems	3
4 Elective Courses		
IEN 794	Master's Project	3
Total Credit Hours		30

¹ Note: All courses are 3 credit hours unless otherwise indicated

Notes:

- i In addition to the above required courses, the student will have to take other graduate level elective courses to fulfill the degree requirements. A list of approved electives is maintained by the Graduate Advisor in the Department of Industrial Engineering. Substitution of courses is allowed, but must be approved by the Graduate Advisor and the Department Chairman.
 - ii 500-level courses are open to advanced undergraduates and to graduate students; 600-level courses are open only to graduate students.
 - iii 500-level and 600-level courses are also open to qualified graduate students majoring in other disciplines.
4. The Department of Industrial Engineering offers a 5-Year Bachelor of Science in Industrial Engineering and Master of Science in Industrial Engineering Program (BSIE/MSIE Program).
- a. This program is specifically designed for those students who want to pursue their graduate study as soon as they complete their undergraduate study in Industrial Engineering.
 - b. The special conditions for this 5-Year BSIE/MSIE Program are as follows:
 - i The student must declare his/her intent to participate before the end of their Junior year by submitting an official application to the department graduate committee for admission into the MSIE portion of the program. Exceptions to this rule must be approved by the department faculty.
 - ii A student wishing to withdraw from the 5-Year Program without the MSIE degree must complete all the requirements for the BSIE program, including the IEN 694 in order to get his/her BSIE degree.
 - iii To qualify for the MSIE degree, the student must meet all the pertinent Graduate School requirements, including an acceptable score on the GRE (Graduate Record Examination) and a minimum of 3.0 GPA.
 - iv The student is awarded both the BSIE and MSIE degrees at the end of the fifth year when all requirements are satisfied.
 - c. More details can be found in the Undergraduate bulletin (p. 678).

M.S. in Management of Technology

Master of Science in Management of Technology is an academically challenging program that allows you to gain significant training in both technology and management.

It is a 36 credit hour curriculum with 12 credits in Technology oriented courses and 12 credits in Management topics

A bachelor's degree from a regionally accredited university with a GRE or GMAT score that is acceptable.

Curriculum Requirements

Code	Title	Credit Hours
Industrial Engineering Core Courses		
IEN 672	Management of Technological Innovation	3
IEN 712	Design of Experiments	3
IEN 763	Project Management Techniques	3
Management Core Courses		
BUS 632	Introduction to Strategy, Market, and Management	4
MGT 621	High Performance Leadership	2
MGT 623	Human Resource Systems	2
Industrial Engineering Electives (9 credits) - 600 or 700 level		9
Management Electives (10 credits) - 600 or 700 level		10
Total Credit Hours		36

M.S. in Occupational and Ergonomics Safety

Master of Science in Occupational Ergonomics and Safety

An interdisciplinary **M.S. degree program in Occupational Ergonomics and Safety** is offered through the Department of Industrial Engineering in collaboration with the School of Medicine. These programs of study are individually structured to fit the student's interests and career objectives.

The program will consist of a 36 hour Master's degree program in Occupational Ergonomics and Safety in the Department of Industrial Engineering. The program will include 33 hours of course work in the areas of ergonomics and safety and 3 hours on internship in an industrial or health care related facility. Research areas will include musculoskeletal injuries, occupational stress, automation and design for older workers and special populations.

Curriculum Requirements

Course List

Code	Title	Credit Hours
Common Core Courses		
IEN 651	Accident Prevention Systems	3
IEN 657	Ergonomics And Human Factors Engineering	3
IEN 658	Industrial Hygiene I	3
IEN 712	Design of Experiments	3
IEN 757	Ergonomics and Occupational Biomechanics	3
IEN 758	Ergonomics and Special Populations	3
IEN 794	Master's Project	3
EPH 621	Fundamentals of Epidemiology	3
Electives (12 credits)		12
Total Credit Hours		36

M.S.I.E./M.B.A. Executive Program

Dual **MSIE/MBA** Weekend Executive program makes it possible to earn two separate degrees at the same time, a Master of Business Administration Degree (MBA) and a Master of Science in Industrial Engineering (MSIE).

It is a 57 credit hour program that starts every January and is completed in two years and one semester. Classes are held on Saturdays and during intersessions.

A bachelor's degree in any engineering discipline, an acceptable GRE score, and at least 3 years of work experience is required.

Curriculum Requirements

Code	Title	Credit Hours
MSIE Courses		
IEN 672	Management of Technological Innovation	3
IEN 712	Design of Experiments	3
IEN 742	Linear Programming and Extensions	3
IEN 757	Ergonomics and Occupational Biomechanics	3
IEN 763	Project Management Techniques	3
IEN 765	Advanced Production Systems	3
IEN 794	Master's Project	3
MBA Courses		
ACC 607	Financial Accounting and Reporting	3
ACC 608	Managerial Accounting	3
BSL 695	Legal Implications in Executive Decision Making	3
BTE 621	Management Information Systems	3
ECO 690	Essentials of Economic Theory	3
FIN 602	Fundamentals of Finance	3
MGT 600	Managing Responsible Behavior in Organizations	3
MGT 653	Operations Management	3
MGT 658	Strategic Management	3
MKT 660	Foundations of Marketing Management	3
Electives (6 Credits)		6
Total Credit Hours		57

Ph.D. in Ergonomics and Human Factors

Policies and Important Details

1. The Ph.D. in Ergonomics and Human Factors for students with a background in engineering and/or related sciences.
2. To maintain status as a graduate student, registration in each fall and spring semester is required. Otherwise, admission lapses and permission to re-enter must be granted.
3. Once a student has completed all course and required research credit hours, he or she must enroll in "Research in Residence" status until the degree has been granted. "Research in Residence" status is considered full time enrollment. Time restrictions on obtaining degrees will be strictly enforced and can be waived only by the Dean of the Graduate School.
4. Upon completing the course requirements, passing the qualifying exams, and successfully defending the Ph.D. proposal, the student is eligible for admission to the Ph.D. candidacy.
5. Upon passing the qualifying exams, the student in consultation with his/her selected Ph.D. Dissertation committee chair will decide on the dissertation committee members. The Dissertation committee will consist of not less than four members, three from the Department's graduate faculty, one from outside the Department. The chairman has to be a member of the graduate faculty. The duties of the Dissertation Committee are:
 - a. To consult with and to advise students on their research.
 - b. To meet, at intervals, to review progress and expected results.
 - c. To read and comment upon the draft dissertation.
 - d. To meet, when the dissertation is completed, to conduct the final oral examination and to satisfy itself that the dissertation is a contribution to knowledge and that it is written in lucid and correct English and submitted in approved form.
 - e. The candidate is well advised to have a final acceptable typescript of the dissertation in the hands of each member of his/her committee at a time reasonably in advance of the final defense of the work.
6. There are no foreign language requirements for the Ph.D. degree.

Course work requirements depend on the student's background, and are established by the Graduate Advisor and the Department Chairman. 60 credit hours beyond the baccalaureate degree are the minimum requirement for the Ph.D. Students with a Master's degree may take the minimum hours listed below, while students without a master's must take the maximum hours.

Curriculum Requirements

Code	Title	Credit Hours
Individualize Student Plan		
6 to 10 courses at 600 or 700 level		18 - 30
4 to 6 courses at 700 level		12 - 18
Dissertation (12 credits)		12
Required Exams		
Written Qualifying Exams ¹		
Ergonomics and Human Factors Qualifying Exam		
Industrial Hygiene Qualifying Exam		
Safety Engineering Qualifying Exam		
Biomechanics Qualifying Exam		
Statistics & Regression analysis Qualifying Exam		
Total Credit Hours		42-60

¹ A written qualifying examination is to be taken by each doctoral degree candidate during the first year of graduate work. The department may specify that the student must take an oral examination as well. In those cases, normally, the student shall pass the written examination before the oral examination is conducted. Upon completion of the examination process, the Graduate Advisor notifies the Department Chairman that the student has passed or failed the examination. A student who fails the examination may be permitted to retake it, with the permission of the Graduate Advisor and the Chairman. Qualifying examinations normally will not be given during the summer months. The applicant must hold a 3.0 average on all credit hours attempted with no single grade below "C" at the University of Miami while a graduate student.

* At least 24 must have been taken in residence at the University of Miami. A minimum of 12 dissertation credit hours must be taken.

Ph.D. in Industrial Engineering

Policies and Important Details

- The Department offers a Ph.D. in Industrial Engineering for students with a background in engineering.
- To maintain status as a graduate student, registration in each fall and spring semester is required. Otherwise, admission lapses and permission to re-enter must be granted.
- Once a student has completed all course and required research credit hours, he or she must enroll in "Research in Residence" status until the degree has been granted. "Research in Residence" status is considered full time enrollment. Time restrictions on obtaining degrees will be strictly enforced and can be waived only by the Dean of the Graduate School.
- Upon completing the course requirements, passing the qualifying exams, and successfully defending the Ph.D. proposal, the student is eligible for admission to the Ph.D. candidacy.
- Upon passing the qualifying exams, the student in consultation with his/her selected Ph.D. Dissertation committee chair will decide on the dissertation committee members. The Dissertation committee will consist of not less than four members, three from the Department's graduate faculty, one from outside the Department. The chairman has to be a member of the graduate faculty. The duties of the Dissertation Committee are:
 - To consult with and to advise students on their research.
 - To meet, at intervals, to review progress and expected results.
 - To read and comment upon the draft dissertation.
 - To meet, when the dissertation is completed, to conduct the final oral examination and to satisfy itself that the dissertation is a contribution to knowledge and that it is written in lucid and correct English and submitted in approved form.
 - The candidate is well advised to have a final acceptable typescript of the dissertation in the hands of each member of his/her committee at a time reasonably in advance of the final defense of the work.
- There are no foreign language requirements for the Ph.D. degree.

Course work requirements depend on the student's background, and are established by the Graduate Advisor and the Department Chairman. 60 credit hours beyond the baccalaureate degree are the minimum requirement for this Ph.D. Students with a Master's degree may take the minimum hours listed below, while students without a master's must take the maximum hours.

Curriculum Requirements

Code	Title	Credit Hours
Individualized Student Plan		
6 to 10 Courses (18 credits) at 600 or 700 level		18 - 30
4 to 6 Courses (12 credits) at 700 level		12 - 18

Dissertation (12 credits)	12
Required Exams	
Written Qualifying Exam ¹	
Management of Technology Qualifying Exam	
Ergonomics & Biomechanics Qualifying Exam	
Operations Research Qualifying Exam	
Manufacturing Engineering Qualifying Exam	
Statistics & Regression Analysis Qualifying Exam	
Total Credit Hours	42-60

¹ A written qualifying examination is to be taken by each doctoral degree candidate during the first year of graduate work. The department may specify that the student must take an oral examination as well. In those cases, normally, the student shall pass the written examination before the oral examination is conducted. Upon completion of the examination process, the Graduate Advisor notifies the Department Chairman that the student has passed or failed the examination. A student who fails the examination may be permitted to retake it, with the permission of the Graduate Advisor and the Chairman. Qualifying examinations normally will not be given during the summer months. The applicant must hold a 3.0 average on all credit hours attempted with no single grade below "C" at the University of Miami while a graduate student.

* At least 24 credits must be taken in residence at the University of Miami.

Mechanical and Aerospace Engineering

<http://www.coe.miami.edu/dept-mac/>

Dept. Code: MAE

Degree Programs

The Department of Mechanical and Aerospace Engineering offers courses and provides facilities for two programs of graduate study and research in Mechanical Engineering, leading to the degrees of:

1. Master of Science (p. 1128)
2. Doctor of Philosophy (<http://bulletin.miami.edu/graduate-academic-programs/engineering/mechanical-aerospace-engineering/mechanical-engineering-phd>)

The program of study must reflect the importance of underlying principles of the physical sciences and mathematical analysis to all phases of modern mechanical engineering.

Areas of Research

- Fluid Mechanics
- Biomechanics
- Solid Mechanics
- Composite Materials
- Optimization and Reliability
- Nano Mechanics
- Heat Transfer
- Hydrogen Energy
- Materials Science
- Internal Combustion Engines
- Controls and Design
- Aerodynamics and CFD
- Nano-Bio-Systems
- Fuel Cells

It is expected that each graduate student will indicate early in his/her graduate work (within the first year), the particular area in which he/she intends to concentrate his/her efforts as well as the faculty advisor for dissertation.

500 level courses are open to advanced undergraduates and to graduate students; 600 level courses are open only to graduate students.

Clean Energy Research Institute

1. The Clean Energy Research Institute in the Department of Mechanical and Aerospace Engineering acts as the focal point of energy and environment related activities in the College of Engineering.
2. Its goals are:
 - to conduct research and to generate research proposals to investigate energy and environmental problems;
 - to organize seminars, workshops and conferences using researchers within and without the University;
 - to assemble, compile, publish and disseminate information on every aspect of energy and environmental problems; and
 - to cooperate with other organs of the University, other academic institutions, government and private organizations in connection with the above listed activities.
3. The current activities of the Institute include research into hydrogen as a clean, inexhaustible synthetic fuel, environmental damage caused by fossil fuels, global warming and its remediation, instabilities in boiling systems, solar cooling and heating, hybrid solar collectors, remote sensing applied to energy related problems and solar energy, system optimization and reliability of solar and wind energy systems, and organization of national and international conferences and symposia on energy and environmental problems.

Research Laboratories

- Advanced Nano Systems Laboratory
- Aerospace Materials Simulation Laboratory
- Center for Advanced Multi-Scale Studies
- Computational Fluid Dynamics Laboratory
- Fuel Cells Laboratory
- Integrated Nano-Bio-Systems Laboratory
- Internal Combustion Laboratory
- Materials Laboratory
- Measurements Laboratory
- Multi-Functional Composite Materials Laboratory
- Optimization and Reliability Laboratory
- Robotics and Intelligent Systems Engineering Laboratory
- Thermo-Fluid Mechanics Laboratory
- Tissue Biomechanics Laboratory
- Wind Tunnel Laboratory

Masters Programs in Mechanical and Aerospace Engineering

1. M.S. in Mechanical Engineering (p. 1128)
 - a. non-thesis option
 - b. thesis option
2. B.S./M.S. in Mechanical Engineering (<http://bulletin.miami.edu/undergraduate-academic-programs/engineering/mechanical-aerospace-engineering/mechanical-engineering-bs-ms>)

The five-year BS/MS program leads to both the B.S. degree and the M.S. degree in Mechanical Engineering in five years. The program is intended for exceptional students who are admitted to the graduate program in their junior year. Students applying for this program must have a grade point average of at least 3.0 and must attain a score of 300 or more on the Graduate Record Examination (taken before the fifth year).

Doctoral Program in Mechanical and Aerospace Engineering

- Ph.D. in Mechanical Engineering (p. 1129)

M.S. in Mechanical Engineering

<http://www.coe.miami.edu/dept-mac/>

Admission Requirements

Students applying for acceptance to degree status must comply with the general requirements of the Graduate School. General requirements for the M.S. degree are listed under the Engineering heading of this section and in the general information of this Bulletin.

1. One academic year, or equivalent, spent in full time graduate study will be the minimum time necessary for a student to fulfill the requirements for the degree of Master of Science in Mechanical Engineering.
2. Both a 30 credit hour thesis option and a 30 credit hour non-thesis option are available.

- a. The student taking the Thesis Option must take an oral examination in defense of the thesis.
- b. The student taking the Non-Thesis Option must complete a 3 credit hour Graduation Project at the end of the course program.
- c. The Master of Science Degree in Mechanical Engineering (Management Option) can only be taken under the Non-Thesis Option.
 - i This degree specialization combines 15 credit hours selected from graduate business courses with 15 credit hours in a graduate engineering area of concentration.
 - ii An undergraduate degree in engineering is required.

Graduation Requirements

General requirements for the M.S. degree are listed under the Engineering heading of this section and in the general information of this Bulletin.

Ph.D. in Mechanical Engineering

<http://www.coe.miami.edu/dept-mac/>

Admission Requirements

The program leading to the degree of Doctor of Philosophy in the Department of Mechanical and Aerospace Engineering complies in full with the regulations of the Graduate School concerning admission, residence requirements, qualifying and final examinations and the dissertation.

1. All candidates for the Ph.D. degree are expected to complete an integrated program of studies in mechanical engineering, mathematics, physics and/or chemistry in preparation for the Qualifying Examination.
2. A qualifying examination is to be taken by each doctoral degree student within the first year. In the qualifying examination, the student is expected to demonstrate his/her competence in certain basic courses appropriate to modern mechanical engineering to the satisfaction of the department. A Ph.D. student will be admitted to candidacy after passing the qualifying examination as well as the defense of dissertation proposal.
3. There is no foreign language requirement.
4. One or two years beyond admittance to candidacy will usually be found necessary for the completion of an acceptable dissertation, whereupon the student will be required to pass the Final Oral Defense of the Dissertation.
5. The candidate may, if he/she so desires, pursue for his/her dissertation an investigation in connection with any of the research projects in progress in the Mechanical and Aerospace Engineering Department or, in the case of interdisciplinary programs, in other Colleges/Schools such as the School of Marine and Atmospheric Science or the Medical School.

Course Requirements

For students who joined the program in Spring 2009 or after:

For students with a M.S. degree in Engineering:

- Minimum 18 credits of course work + 12 credits of dissertation.
- At least 6 credits must be at the 700 level.
- Expected duration of the program: 3 years.

For students with only a B.S. degree in Engineering:

- Minimum 36 credits of course work + 12 credits (or more) of dissertation.
- At least 12 credits must be at the 700 level.
- Expected duration of the program is 4 years.

For Ph.D. students with a non-engineering degree:

- Required credits and the expected duration of the program as specified in the assistantship offer letter.

In order to register for courses and/or dissertation in each semester, students are required to select the courses and/or dissertation credits by consulting their respective dissertation (research) advisors. They must also see the Graduate Advisor of the Department (Chair of the Department) for *approval and signature*.

Please note that the number of credits to be taken in various semesters is stated in each student's Ph.D. assistantship offer letter.

For Dissertation Credits

- Register as MAE 830 before passing both parts of the Qualifying Exam

- Register as MAE 840 after becoming a PhD candidate (usually after PhD proposal is passed)
- Register as MAE 850 Research in residence (after completing the required 12 credits of dissertation through MAE 830 and MAE 840).

Qualifying Exam

Ph.D. students are required to pass a 2-part Qualifying Exam.

Part 1 of the Qualifying Exam:

It consists of a written examination (no oral exam). Each student is required to select three areas, including Methods of Analysis, out of the following six areas:

- **Methods of Analysis (Level of MAE 601) – compulsory for all students**
- **Mechanics of Solids (Undergraduate level)**
- **Fluid Mechanics (Undergraduate level)**
- **Heat Transfer (Undergraduate level)**
- **Materials (Undergraduate level)**
- **Control and dynamics (Undergraduate level)**

A list of topics in each course will be given to the student at least one month before the Exam. All three areas will be covered in one exam of 6-hour duration (2 hours for each of the three areas) with a 30-minute break. It is expected that each student passes Part 1 of Qualifying Exam within the first year. If a student fails in one or more areas, a second chance may be given (within 3 months of the first exam).

Part 2 of the Qualifying Exam:

It consists of an oral exam before the student's Dissertation Committee.

- The student presents a research proposal (in the form of a written report) to the Dissertation Committee after completing some preliminary research work including the Literature Review.
- Part 2 of the Qualifying Exam is to be taken within 2 years if the student has a Master's degree in Engineering and 2.5 years if the student has only a B.S. degree in Engineering.

Ocean Engineering

About the Program

The University of Miami has a long history in Ocean Engineering. The University of Miami's College of Engineering together with the Rosenstiel School of Marine and Atmospheric Science offered a Master of Science degree in Ocean Engineering. The program and others of its kind in the nation, were popular in the 1970s and 1980s.

In the past decade, several major incidents – the 2010 Deep Water oil spill in the Gulf of Mexico, a series of devastating hurricanes in 2003-2005 and 2017, and the Japan Tsunami have turned our collective attention to the vulnerability of the nation's coastal infrastructure. Furthermore there have been significant demands for an increased emphasis on port and harbor security since September 11, 2001. These events have led to a renewed interest in the field of Ocean Engineering, albeit with a new focus and broader scope. Our program offers an MS degree for students not interested in a research based education but rather a practical skills-based training in real world applications of engineering theory.

Ocean Engineering

Ocean Engineering concentrates on problems associated with human interaction with the ocean.

- The ocean engineer combines competence as an engineer with both a practical experience in and theoretical understanding of the ocean.
- The Ocean Engineering program, offered jointly with the Rosenstiel School of Marine and Atmospheric Science, is intended to lay the foundation of this competence, experience and understanding.
- The areas of faculty specialization in this program include coastal engineering, off-shore engineering, structures, turbulence, computer modeling of fluids, acoustics, remote sensing and maritime security.
- Tracks offered in the program include Coastal Engineering and Remote Sensing

Additional Information

For additional information on this program, including curriculum requirements, please visit: <https://graduate.rsmas.miami.edu/graduate-programs/ocean-engineering/>

Environmental / Interdisciplinary

Environmental / Interdisciplinary Degrees

M.A. in Environment, Culture, & Media (p. 1132)

M.P.S. in Environment, Culture, & Media (p. 1133)

M.P.S. in Exploration Science (p. 1137)

Ph.D. in Environmental Science Policy (p. 1138)

M.A. in Environment, Culture, & Media

The **Abess Center's MA in Environment, Culture, & Media** enables students to tap into synergistic research networks across a range of schools and colleges at the University of Miami, including the College of Arts and Sciences, the Rosenstiel School of Marine and Atmospheric Science, the Miller School of Medicine, the School of Law, School of Education, School of Communication, School of Architecture, and the College of Engineering. This graduate programs draw upon existing interdisciplinary collaborations that have been created by the Abess Center. **For more information:** <http://abess.miami.edu/cesp/academics/ecm/>

The **Master of Arts in Environment, Culture, and Media (ECM)** integrates the study of the environment with emerging screen technologies, digital culture, cultural theory, and ethics. For new scientists, the defining creative and intellectual challenge of the 21st century exists in the use and design of digital content aimed at engaging an increasingly participatory media culture. Comparable in its cultural complexity and historical significance to the invention of the book, interactive digital content has become the dominant means of contemporary communication. In today's leading 21st century career fields, theoretical proficiency with digital and visual culture has become a necessary skill. The proliferation of screen technologies has opened new opportunities and challenges for communicating environmental information. Governmental, non-profit and private sector organizations that deal with a range of scientific issues are scrambling to develop an effective digital presence. Responding to this demand, the ECM program has been designed to address the practical and theoretical aspects of this new environmental culture, preparing students for an expanded and innovative sector of employment opportunities.

This innovative program is the first and only graduate degree of its kind intersecting environmental studies, emerging screen technology, and cultural studies. Surveying public perspectives of the environment across cultures, the ECM program will investigate how societies have perceived natural phenomena in differing ways, and the implications this has had on popular thought and the comprehension of scientific issues. Students in the program will benefit from the Abess Center's affiliated faculty across UM's schools, in disciplines such as biology, geology, marine conservation, computer science, archaeology, ecology, and communication.

Students will examine the ways in which various forms of visual media such as Internet blogging, ethnographic film, television, social media, documentary video, user generated content [YouTube], reality TV and so forth affect the reception of scientific media messages in popular culture, international politics, education, and law. The goal of the program is to advance and innovate societal engagement through understanding visual forms of scientific communication, research strategies, public outreach, and education concerning ecosystem science and issues of sustainability.

Practical aspects will vary based on personal goals, but may include: negotiating problems in representation of cultures and environments through media, digital media curation, understanding the political economy shaping the production and distribution of environmental media worldwide, designing innovative forms of science communication, research into the social practice of screen use across cultures (from western iPhone addiction to viral videos in South Korea), and analyzing the practical consequences of the media's representation of specific scientific issues.

This unique program is aimed at a diverse range of students, offering scientific insights to those with social science or humanities backgrounds, and anthropological perspectives to those with science backgrounds. This graduate program will provide students with a foundation in the science that underlies environmental issues, and the ability to integrate media theory with practical use. Students will evaluate the histories and limitations of both analog and digital visual culture as tools of research and communication. By investigating various media forms, students will explore emerging theoretical debates around digital culture and the role of visual artifacts in shaping societal values and perceptions of the environment. Students will be exposed to ethical issues through an anthropological lens that examines and contextualizes how knowledge and culture are created, transmitted, and maintained through visual culture.

Employment opportunities in this field require an advanced degree. **Students in the MA track will be required to complete a research thesis, they are not required to complete an internship, but may also pursue an internship during their studies.** The program is designed to prepare graduates of the MA for a range of careers, including for example: environmental media consultant (Google), digital content curator (U.S. National Parks), climate and energy campaigner (Greenpeace), and director of green initiatives campaigns (Toyota). **Graduates of the MA program will be prepared to go on to doctoral studies and other research related employment.**

One of the central challenges we face as a society is an array of complex, large scale environmental problems. The ECM program will train students with diverse backgrounds in the use and conceptual design of visual and digital content for engaging an increasingly participatory media culture to address these challenges.

Curriculum

For more info : <http://abess.miami.edu/cesp/academics/ecm/degree-program-requirements/>

Degree Requirements for the ECM MA

Completion of the MA will take 18 months (three semesters).

Prerequisite: students admitted into the program must have earned a Bachelor's degree with a minimum 3.0 GPA.

Core Courses and Credit Requirements

Students must complete 18 credits worth of coursework in the following core courses:

ECS 609 Contemporary Media Representations of the Environment

ECS 610 Technology and Human Behavior

ECS 611 Nature, the Anthropocene, and Visual Anthropology

ECS 612 Environmental Communication, New Media & Policy

6 credits Research Thesis (MA) or Internship Report (MPS)

The 12 remaining credits are chosen electives that align with each student's interest.

M.P.S. in Environment, Culture, & Media

The Abess Center's MPS in Environment, Culture, & Media enables students to tap into synergistic research networks across a range of schools and colleges at the University of Miami, including the College of Arts and Sciences, the Rosenstiel School of Marine and Atmospheric Science, the Miller School of Medicine, the School of Law, School of Education, School of Communication, School of Architecture, and the College of Engineering. This graduate programs draw upon existing interdisciplinary collaborations that have been created by the Abess Center. **For more information:** <http://abess.miami.edu/cesp/academics/ecm/>

The Master of Professional Science in Environment, Culture, and Media (ECM) integrates the study of the environment with emerging screen technologies, digital culture, cultural theory, and ethics. For new scientists, the defining creative and intellectual challenge of the 21st century exists in the use and design of digital content aimed at engaging an increasingly participatory media culture. Comparable in its cultural complexity and historical significance to the invention of the book, interactive digital content has become the dominant means of contemporary communication. In today's leading 21st century career fields, theoretical proficiency with digital and visual culture has become a necessary skill. The proliferation of screen technologies has opened new opportunities and challenges for communicating environmental information. Governmental, non-profit and private sector organizations that deal with a range of scientific issues are scrambling to develop an effective digital presence. Responding to this demand, the ECM program has been designed to address the practical and theoretical aspects of this new environmental culture, preparing students for an expanded and innovative sector of employment opportunities.

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Employment opportunities in this field require an advanced degree, and most require participatory field experience in the form of an internship.

Students in the MPS track will be required to complete an internship and submit an internship report. The program is designed to prepare graduates of the MPS for a range of careers, including for example: environmental media consultant (Google), digital content curator (U.S. National Parks), climate and energy campaigner (Greenpeace), and director of green initiatives campaigns (Toyota).

One of the central challenges we face as a society is an array of complex, large scale environmental problems. The ECM program will train students with diverse backgrounds in the use and conceptual design of visual and digital content for engaging an increasingly participatory media culture to address these challenges.

Curriculum

For more info: <http://abess.miami.edu/cesp/academics/ecm/degree-program-requirements/>

Degree Requirements for the ECM MPS

Completion of the MPS/MA will take 18 months (three semesters).

Core Courses and Credit Requirements

Students must complete 18 credits worth of coursework in the following core courses:

ECS 609 Contemporary Media Representations of the Environment
 ECS 610 Technology and Human Behavior
 ECS 611 Nature, the Anthropocene, and Visual Anthropology
 ECS 612 Environmental Communication, New Media & Policy
 6 credits Research Thesis (MA) or Internship Report (MPS)

The 12 remaining credits are chosen electives that align with each student's interest.

ECS 601. Interdisciplinary Environmental Theory. 3 Credit Hours.

Theoretical approaches in environmental and social science fields, including conservation biology, ecology, geography, economics, sociology, anthropology, philosophy, and interdisciplinary approaches. Themes include human ecology, historical ecology, landscape ecology, environmental law and ethics, perception of risk and uncertainty, vulnerability and adaptation, and environmental valuation.

Requisite: Plan of Ecosystem Science and Policy.

Components: DIS.

Grading: GRD.

Typically Offered: Fall.

ECS 603. Interdisciplinary Environmental Methods. 3 Credit Hours.

Environmental methods related to core programmatic themes of Urban Ecology, Global Public Health, Climate and Society, Environment and the Media, Integrated Marine and Terrestrial Management, and Regulatory Regimes. The course focuses on the application of Interdisciplinary approaches and methods for addressing complex environmental problems. Students will learn to design and employ interdisciplinary approaches, using qualitative and quantitative methods and analysis, through lectures, reading assignments, discussion sessions, and assignments.

Requisite: Plan of Ecosystem Science and Policy.

Components: SEM.

Grading: GRD.

Typically Offered: Fall.

ECS 605. Interdisciplinary Environmental Law and Policy. 3 Credit Hours.

Analysis of science-based environmental decision-making and policy implementation at the federal and state levels in the United States, with comparative international perspectives, and an introduction to international institutions that fashion and carry out environmental policy. Case studies will cover authorization, appropriations and oversight functions of Congress and state legislatures; the role of the executive, federal and state, in initiating and implementing statutes by regulation and other means; and the role of negotiation, litigation, mediation and consensus-building in resolving disputes and advancing or thwarting environmental policy.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ECS 607. Interdisciplinary Environmental Decision Analysis. 3 Credit Hours.

Approaches to studying and interpreting human behavior related to a range of decision making at the level of individual, group, and firm.

Multidisciplinary theories and methods informing work in the decision sciences will be covered from fields of psychology, business, economics, political science, and anthropology.

Requisite: Plan of Ecosystem Science and Policy.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECS 608. Interdisciplinary ECS Seminar. 2 Credit Hours.

Seminar centering on research and case studies illustrating cutting edge human- environment research, and including both qualitative and quantitative methods. Intensive reading and writing related to relevant topics in the field.

Components: SEM.

Grading: GRD.

Typically Offered: Fall.

ECS 609. Contemporary Representations of the Environment. 3 Credit Hours.

This course will combine media studies, environmental studies, and critical theory to give students a broad introduction to ways in which screen media are used today to represent both the natural world and also environmental issues such as climate change, animal extinction, and natural resource use. From more conventional media such as feature fiction films (e.g. Wall-e, The Day After Tomorrow, Avatar), documentary films (e.g. An Inconvenient Truth, HBO's Gasland), and television news coverage, to more niche formats like Google Earth's global mapping and in-dash monitors that depict miles-per-gallon, screen technology has long been and is increasingly used to mediate our relationship with surrounding ecosystems. Students will look at mainstream television channels (e.g. Discover, National Geographic, and the Weather Channel) alongside the digital campaigns of agencies and institutions directly aimed at conservation efforts, including the ecotourism industry, non-profit environmental groups, and governmental bodies such as the National Parks Service. In addition, this course will investigate the increasing role of interactive media in museums and science centers, as well as the rising power of social media in disseminating news regarding environmental issues.

Components: RSC.

Grading: GRD.

Typically Offered: Fall.

ECS 610. Technology and Human Behavior. 3 Credit Hours.

This course will explore the social aspects of technology use and cultural adaptation through cross-cultural ethnographic research on science and traditional beliefs. From the adoption of chainsaws in Amazonian forestry to the use of smart watches in Japanese cities, technological choice will be examined through psychological theories of behavior, socio-cultural perspectives, and institutional and economic forces. Reflecting the rising social, cultural, scientific, and political importance of emerging digital culture (e.g. virtual reality, smart devices, artificial intelligence), a key focus of the second half of the course will focus on philosophical notions of post-human cyborgism. Students will be introduced to recent research on the cognitive issues of social media use and consumption, including social media addiction and other neurological impacts of chronic screen use. Coursework will connect historical understandings and larger social analysis of digital media use and encourage students to participate in an ongoing exploration of their own technological choices and media practices. Students will also be exposed to multidisciplinary theories and research on risk perception and the psychology and effectiveness of environmental messaging in order to address how various media technologies impact individual and collective thinking and action.

Components: RSC.

Grading: GRD.

Typically Offered: Fall.

ECS 611. Nature, the Anthropocene, and Visual Culture. 3 Credit Hours.

Different cultural and historical contexts have conceived of humanity's relationship to the natural world in vastly different ways, from 'sacred and part of' to 'separate from' and 'steward over.' A culture's techniques of representation, use of imagery, and ways of seeing are a key part of the shaping of its worldview and cognitive framework of shared ideas and beliefs. This course is an opportunity for students to use an anthropologist's eye to actively engage with the human production of knowledge about the natural world through visual culture. Rather than approaching visual anthropology with its usual divide between 'anthropological content' and 'aesthetic composition,' this course will foster both approaches as it examines human perceptions of the environment from prehistoric cave paintings to modern day street art. Key elements of visual anthropology will be introduced, including symbols and symbolism, reflexivity, visual data of everyday life, art analysis, ethics, society-as-text paradigm, urban visual data, and ways of conceiving systems of visual representation. Representations of Other will be analyzed through theories of the exotic, gender, race, post-colonialism, nationalism, and heritage studies.

Components: RSC.

Grading: GRD.

Typically Offered: Spring.

ECS 612. Environmental Communication, New Media, and Policy. 3 Credit Hours.

Facebook and Twitter to the rhetorical film essay documentaries that have waged ideological wars over the past twenty years, screen and new media are an increasingly powerful force in the shaping of policy, political awareness, and popular ideological views of the environment. This course will draw on critical approaches of media theory, rhetoric, and political science to study and interpret the political use of visual media. Just as FDR's WPA used film to propagandize the agricultural importance of public works, and Hollywood has been harnessed for ecological causes from natural conservation to climate change, today screen and digital media (e.g. television commercials, podcasts, social media blasts) are the driving force of PR campaigns for both governmental bodies and private companies that greatly impact environmental understanding and policy. From information to misinformation, viral content streams constantly onto screens across the world, whose apps are also used for activism and citizen science—students will look at what strategies of circulation and rhetoric are used to wage digital campaigns to communicate and shape ecological values and policy.

Components: RSC.

Grading: GRD.

Typically Offered: Spring.

ECS 614. Environment, Culture, and Media Thesis. 3-6 Credit Hours.

This course is for research culminating in a Master's thesis. Students will enroll in 3-6 credits while researching and writing their final project for the ECM Masters of Arts.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

ECS 615. Environment, Culture, and Media Internship. 3-6 Credit Hours.

This course is for hands-on experience and research culminating in a final Master's internship report. Students will enroll in 3-6 credits while completing their internship and researching their final project for the ECM Masters of Professional Science.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

ECS 672. Special Topics in ECS. 3.00 Credit Hours.

Content varies by semester and is indicated in parentheses following course number and title in class schedule.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ECS 680. Field Studies. 1-4 Credit Hours.

This course will provide participants with the opportunity for intensive field research geared toward an interdisciplinary understanding of environmental issues and conservation concerns.

Components: LEC.

Grading: GRD.

Typically Offered: Spring & Summer.

ECS 725. Problems in Environmental Science and Policy. 1-6 Credit Hours.

Content and prerequisites announced when offered. Course may be repeated for credit if content varies.

Requisite: Plan of Ecosystem Science and Policy.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ECS 790. Directed Readings. 1-3 Credit Hours.

Individually supervised readings on special topics. Offered by arrangement with the instructor. May be retaken for credit.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

ECS 820. Master's Research. 9.00 Credit Hours.

Individual study for students exiting the doctoral program without a successful dissertation proposal.

Components: THI.

Grading: SUS.

Typically Offered: Fall & Spring.

ECS 830. Pre-Candidacy Research. 1-9 Credit Hours.

Research for ECS Ph.D. students who have not attained candidacy.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ECS 840. Doctoral Dissertation. 1-12 Credit Hours.

Required for all candidates for the Ph.D. The student will enroll for credit as determined by his/her advisor but not for less than a total of 13 credits total. No more than 12 hours of ECS 730 may be taken in a regular semester, nor more than six in a summer session.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

ECS 850. Research in Residence. 1 Credit Hour.

Used to establish research in residence for the Ph.D., after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. May be regarded as full-time residence as determined by the Dean of the Graduate School.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

M.P.S. in Exploration Science

Exploration Science (ESC) (<http://mps.rsmas.miami.edu/degree-program/exploration-science>)

Exploration Science is the applied practice and study of field research using a variety of methods, technologies, and approaches to drive question-based scientific endeavors.

This track is being offered at RSMAS in partnership with UM's Abess Center for Ecosystem Science and Policy (<http://www.cesp.miami.edu>). The Abess Center fosters innovative, interdisciplinary initiatives that bridge the gap between science and environmental policy.

For More Information Please Visit: <http://exploration.miami.edu>

Course	Title	Credit Hours
Year One		
Fall		
RSM 600	Research Diving Techniques ((or ELECTIVE))	3
RSM 667	Motorboat Operator Certificate Course	1-2
MES 664	Citizen and Participatory Science	3
MES 674	From Gold to Glory: History and Ethics of Exploration	3
MES 660 & MES 661	Introduction to Marine Geographic Information Systems and Introduction to Marine Geographic Information Systems - Laboratory	3
	Credit Hours	13-14
Spring		
MES 665	Exploration Technology and Media	3
MBE 621	Field Techniques and Instrumentation in Tropical Marine Ecology ((or ELECTIVE))	3
MES 627	Exploration Science Field Studies (or ELECTIVE)	3
MES 662	Spatial Analysis: Intermediate Course in Marine GIS (or ELECTIVE)	3
	Credit Hours	12
Summer		
MES 805	MPS Internship	6
	Credit Hours	6
	Total Credit Hours	31-32

Elective Options

Students may take any elective on the RSMAS campus with the consent of their faculty advisor. Below are a few examples of courses past students in this program used as electives.

Code	Title	Credit Hours
MES 606	Advanced Fieldwork in Coastal Cultures	3
MES 612	Aquaculture I	3
MBE 604	Biology of Marine Mammals	3
RSM 620	Climate and Society	3
MES 720	Coastal Law and Policy	3
MES 618	Coastal Zone Management	3
MES 620	Environmental Law	3
MES 604	Fieldwork in Coastal Management: Tourism, Conservation, and Development	3
MES 625	Fisheries Socioeconomics and Management	3
MES 671	Marine Conservation Biology	3
MBE 642	Oceans and Human Health	3
MES 601	Political Ecology of Marine Management	3
RSM 612	Statistics for Environmental Management	3
MBE 615	Tropical Marine Ecology	3

Ph.D. in Environmental Science Policy

Dept. Code: ECSD

Through the Graduate School, The Abess Center for Ecosystem Science and Policy offers an interdisciplinary course of study leading to a Ph.D. Details regarding areas of specialization can be found at the Abess Center website (<http://www.cesp.miami.edu>). Doctoral students are supported by research assistantships which include tuition remission and a monthly stipend. All students are also required to serve satisfactorily for two terms as teaching assistants in the Abess Center undergraduate program.

Prerequisite

Students admitted to the program must have earned a bachelor's or master's degree and should display a strong interest in the interdisciplinary study of ecosystem science and policy.

Curriculum Requirements

Code	Title	Credit Hours
Core Courses		
ECS 601	Interdisciplinary Environmental Theory	3
ECS 603	Interdisciplinary Environmental Methods	3
ECS 605	Interdisciplinary Environmental Law and Policy	3
ECS 607	Interdisciplinary Environmental Decision Analysis	3
ECS 840	Doctoral Dissertation	12
Proposed Additional Courses ¹		18
Additional Courses to get to 60 Credits		18
Examinations ²		
Dissertation ³		
Total Credit Hours		60

¹ By the end of their second semester, students must submit a proposed group of additional courses, totaling at least 18 hours, related to their research interest and intended dissertation research area. This group of courses requires approval of both the student's advisor and the Director of Graduate Studies.

² All Ph.D. students will be given comprehensive examinations following the conclusion of the core series of courses. A majority of the examination committee must be members of the graduate faculty of the University. In the event of failing to pass an examination, students are required to retake and pass the examination within one calendar year. By the end of their second year, students must present and defend a research proposal. Following successful completion of the comprehensive examination and research proposal defense, the student may apply to candidacy for the degree. Any student who fails to be admitted to candidacy for the degree within this two-year period can be dismissed from the program.

³ By the beginning of the second year, students should form a four-member dissertation committee; by the end of the second, write and defend a research proposal. Students may proceed with the dissertation after the dissertation committee has been appointed and the Director of Graduate Studies and the Graduate School have accepted the dissertation proposal. The dissertation must be an investigation of a substantial scholarly topic and bridge both scientific and policy aspects of the topic area. A final oral defense of the dissertation is required.

* To attain the Ph.D., students must take a minimum of 60 credits, of which at least 24 must be for coursework taken while in residence at the University of Miami. (Students entering the program with a master's degree in a related field may be given credit for up to 24 course credits.) Students must accrue at least 12 credits worth of dissertation research.

Marine and Atmospheric Science

The Rosenstiel School of Marine and Atmospheric Science (RSMAS) was established in 1943 as the Marine Laboratory of the University of Miami. It has grown from its modest beginnings in a boathouse to be one of the nation's leading institutions for oceanographic and atmospheric research and education.

Originally a tropical marine biological facility, the Marine Laboratory initiated a program of studies leading to the Master of Science degree in 1949. In 1953, laboratory and classroom buildings were constructed on the School's present campus on Virginia Key, and in the late fifties, the Marine Laboratory expanded its staff and developed its oceanographic capabilities in response to the increased interest in scientific research in the United States. It became the Institute of Marine Science in 1961. Ocean-going research vessels were acquired, and additional buildings were constructed to accommodate new wide-ranging projects. In 1969 the Institute, now a School, was named for Dorothy H. and Lewis Rosenstiel in recognition of a major contribution made through the Rosenstiel Foundation to encourage progress in the marine and atmospheric sciences at the University of Miami.

Today, RSMAS has a faculty of 70 scientists who conduct sponsored research while offering graduate studies leading to the Master of Professional Science, Master of Science, and Doctor of Philosophy degrees. The School offers graduate programs in Atmospheric Sciences, Marine Ecosystems

and Society, Marine Biology and Ecology, Marine Geosciences, Meteorology and Physical Oceanography, Ocean Engineering, and Ocean Sciences. Undergraduate programs leading to a Bachelor of Science in Marine and Atmospheric Science (with majors in Marine Science, and Meteorology), and a Bachelor of Arts in Marine Affairs are also offered.

RSMAS uses multiple laboratory and high-performance computing facilities and a state-of-the art catamaran. The Marine Technology and Life Sciences Seawater Complex (MTLSSC), opened in 2014, houses studies that rely on seawater for observing air-sea interactions in a controlled environment and for holding, spawning and rearing marine organisms. This complex is the centerpiece of an updated RSMAS campus. The catamaran, named the F. G. Walton Smith, in honor of the founder of the Rosenstiel School has been in service since 2000. The 96-foot-long catamaran is able to explore the deep ocean as well as normally inaccessible shallow environments such as reefs, mangroves and grassbeds.

Academic Programs

The Rosenstiel School is made up of seven academic programs:

- Atmospheric Sciences (p. 1145)
- Marine Biology and Ecology (p. 1154)
- Marine Ecosystems and Society (p. 1159)
- Marine Geosciences (p. 1168)
- Meteorology and Physical Oceanography (p. 1171)
- Ocean Engineering (p. 1130)
 - The College of Engineering and the Rosenstiel School offer a joint program that leads to a non-thesis M.S. degree in Ocean Engineering.
- Ocean Sciences (p. 1175)

General Degree Requirements

Master of Professional Science (M.P.S.) Program

The Master of Professional Science (M.P.S.) degree offers many tracks within the departments of Atmospheric Sciences, Marine Biology and Ecology, Marine Ecosystems and Society, and Ocean Sciences. The curriculum is structured to allow students to complete their degree in as little as 12 months (for select tracks), with the training and real-world experience necessary to prepare them for careers in today's professional science job market.

Checklist

All M.P.S. students should follow the M.P.S. Checklist, (<http://mps.rsmas.miami.edu/form>) which indicates all the milestones that must be completed in order to graduate from the Rosenstiel School.

Credit Hour Requirements

M.P.S. students must complete 30 credits of graduate coursework, with a minimum, cumulative GPA of 3.0 to graduate with the M.P.S. degree. These credits are typically distributed as follows: 24 course credits and 6 internship credits. All RSMAS students are required to complete the Research Ethics course (RSM 700).

Academic Advisor and Faculty Mentor/Committee Chair

Students will be assigned an Academic Advisor during their first semester in residence. The advisor must hold an appointment in the program representing each student's track selection. This individual will offer guidance regarding University expectations, coursework, registration, program details, and graduation requirements. At the beginning of the first semester, the student and the Academic Advisor will establish the curriculum to be followed, based on the student's personal and professional goals and M.P.S. track enrollment. Each student will also identify and request the involvement of a Faculty Mentor, who will act as the Committee Chair and as a resource to the student regarding career guidance and the selection of an appropriate internship. Track Coordinators typically act as Faculty Mentors/Committee Chairs, but exceptions are permitted. Students should identify their mentor/chair no later than one week after the start of internship.

Committee

All M.P.S. students must have a graduate committee of at least 3 members. This committee will include a Committee Chair, who is usually the faculty mentor, an additional faculty member from UM, and one outside committee member, who is usually the direct supervisor at the student's internship. Each member should be an expert in the student's chosen track, and more specifically, the topic of their final report. Though deviations from these guidelines are possible, they must be approved by the M.P.S. Dean and Program Director. The Appointment to Student's Committee (<http://mps.rsmas.miami.edu/form>) form solidifies the committee and is due no later than one week after the start of internship.

Comprehensive Examination

A comprehensive examination is required of all M.P.S. students prior to beginning an internship. The exam will be written and will typically be based on core course content. Each program determines the content and form of the examination in a given year-class, according to general school guidelines. In the event of a failure, a student may be re-examined once, upon the advice of the student's advisor and at the discretion of the graduate faculty of the program. If granted, the re-examination must be given before the end of the following semester. The M.P.S. Office

should receive written notification of the results through the Comprehensive Exam (<http://mps.rsmas.miami.edu/form>) form. Students who fail the re-examination are subject to dismissal from the school.

Internship

Each student will be required to complete an internship with an organization engaged in some activity associated with marine and/or atmospheric science and identify an Internship Supervisor. Such organizations can be faculty or researchers from accredited universities and laboratories, national or international agencies, private corporations, or foreign governments with clearly defined marine-oriented programs or activities. Internships can be either paid or unpaid by the organization, or interns can complete the internship by formal participation in a university sponsored program or research in some area of marine science. All internships MUST be approved by the student's committee chair/faculty mentor. The Internship Commitment Form (<http://mps.rsmas.miami.edu/form>) is due no later than 2 weeks before internship start date. Additionally, a detailed synopsis of a proposed contribution to the hosting organization is required as a formal proposal, due no later than 1 month after internship start date. The internship proposal will include: an introduction to the topic (i.e. a literature review), a statement of the problem, the purpose of the study, methods and materials (i.e. the proposed activities and analyses), a timeline, and plans for disseminating the information. The internship proposal template and guidelines are available on the M.P.S. (<http://mps.rsmas.miami.edu/form>) website (<http://mps.rsmas.miami.edu/form>). Requirements to engage with an internship host organization:

- Submit the Appointment to Committee (<http://mps.rsmas.miami.edu/form>) form
- Submit the Internship Commitment Form (<http://mps.rsmas.miami.edu/form>) and a one-page summary of the proposed project, highlighting the timeline, goals, expectations, and objectives of your internship
- Complete at least 12 course credits, with a minimum grade point average of 3.0
- Remove all incomplete grades or deficiencies

Internship Report

The final grade (Pass/Fail) will be based on a written report and an oral presentation. The internship report is not a summary of involvement but rather a contributory assessment of the experience, including developmental insight and a summary of any research performed. This is the final tangible product of the degree, akin to a M.S. thesis, and should be a coherent, polished document of publishable quality. Copies of the final, approved report should be distributed as follows:

- One electronic copy to each member of your committee
- One copy for the representative agency, institution, or business (electronic and/or hard copy, at their request)
- One electronic copy via e-mail to the M.P.S. Office; signed title sheet may be submitted as a PDF file.

Oral Presentation

A strict requirement for the completion of the M.P.S. degree is an oral presentation, preferably offered to the hosting organization. Oral presentations should be no longer than 30 minutes in length, should include a visual component (e.g. PowerPoint), and may not be scheduled until all committee members have edited at least one draft of the internship report. Additionally, the PowerPoint (or equivalent) must be reviewed and edited by your Committee Chair, and all committee members are expected to attend the presentation, either in person or virtually. If you plan to present at RSMAS, please coordinate with your committee to identify a mutually agreeable time and date, and then schedule your presentation with the M.P.S. Office. In order to graduate, you must submit a PDF copy of your presentation to the M.P.S. Office via email.

Conference Attendance

Though not mandatory, M.P.S. students are strongly encouraged to attend a scientific conference during their academic residency at RSMAS.

Graduation

All M.P.S. students, including joint J.D./M.P.S. students, must submit a graduation request using CaneLink during the semester in which they plan to graduate. All required forms, including the Clearance Form (<http://mps.rsmas.miami.edu/form>) and the final internship report (Certificate of Approval (<http://mps.rsmas.miami.edu/form>) and cover page signed by all committee members), must be submitted to the M.P.S. Office no later than the Graduate School Deadline for Completion of Dissertation/Thesis, which will be communicated via e-mail and is indicated on the UM Academic Calendar. (<https://registrar.miami.edu/dates-and-deadlines/academic-calendars>)

Master of Science (M.S.) Program

The Master of Science (M.S.) degree is offered in Atmospheric Sciences, Marine Biology and Ecology, Marine Ecosystems and Society, Marine Geosciences, Meteorology and Physical Oceanography, and Ocean Sciences. The expected time to completion for the M.S. degree is two years of full-time study.

Checklist and Academic Plan

Each student should follow the *RSMAS Checklist for Defense and Graduation*, which will guide the student through all the milestones required in order to graduate from the Rosenstiel School. This begins with an *Academic Plan* that identifies the number of courses a student must complete to be eligible for graduation according to program requirements. Part I should be reviewed and completed by the student and Program Director during the first semester; Part II must be completed at least one semester before expected graduation.

Credit Hour Requirements

M.S. students are required to take a minimum of 30 credit hours, which consists of 24 graduate course credits (of which 18 must be taken at UM) and 6 research credits, PGM 810 ("PGM" is the program abbreviation). All RSMAS students are required to complete the Research Ethics course (RSM 700).

M.S. students with prior graduate coursework may transfer up to 6 course credits from another accredited institution with the approval of his/her Committee. Students must submit the completed Petition for Transfer of Credit (<https://grad.miami.edu/policies-and-forms/forms>) form to the RSMAS Graduate Studies Office (GSO) for processing. In no case will credit be transferred until the student has completed an equivalent number of course credits (with grades of "B" or above) at UM.

Any student whose cumulative Grade Point Average (GPA) falls below 3.0 will receive written notice from his/her program with copies to the RSMAS GSO stating that he/she is on academic probation. Any graduate student who receives this warning letter must meet the full standards of academic progress set forth by the University by the end of the subsequent semester. Students who fail to meet the cumulative GPA requirement have failed to meet the satisfactory academic progress standards established by the university and are no longer eligible to receive any graduate assistantship, fellowship or tuition scholarship and are subject to dismissal from the school.

Committee

The "Thesis Committee" described in the UM Graduate Student Handbook (<https://grad.miami.edu/policies-and-forms>) is commonly known as the student's "Committee" at RSMAS. Specific requirements for committee formation are provided in the UM Graduate School Handbook (<http://grad.miami.edu/policies-and-forms>); individual programs may have additional requirements.

Per the UM Graduate School Handbook:

"The committee chair must be Regular Faculty from the student's program of concentration (this includes secondary appointments). In addition to the chair, one member must be Regular Faculty or have Graduate Faculty (<http://grad.miami.edu/graduate-education/graduate-faculty/rsmas>) status in the student's program of concentration. The third member must be an outside member. "Regular Faculty" are faculty having tenured or tenure-earning appointments of a program or department".

Once the Committee is formed (typically by the end of the first year), the *Appointment to Student's Committee* form should be completed, signed by all members and the Program Director, then submitted to GSO. The Committee should meet regularly to review the student's progress, and prepare a short report on progress and research directions with the student. Proposed changes to the membership of a committee must be approved by the Committee Chair and must carry the endorsement of the Program Director. Approved changes to the Committee must be forwarded to GSO using the *Change to Student's Committee* form.

Comprehensive Examination

A comprehensive examination may be required by the end of the first year. Whether or not to host the exam, as well as the required content and format, is at the discretion of each program. The *Comprehensive Exam* form notifying GSO of the outcome must be submitted by the Committee Chair and approved by the Program Director. In the event of a failure, a student may be re-examined once, upon the advice of the student's advisor and/or Committee, and at the discretion of the Program Academic Committee with advice from the Comprehensive Exam Committee. If granted, the re-examination must be given before the end of the following semester.

Thesis Proposal and Proposal Defense

The thesis proposal, containing the items listed below, must be defended and approved by the student's Committee. The purpose of the proposal defense is to certify the readiness of the student to conduct thesis research, as well as facilitate an open discussion regarding the objectives of the thesis and the relevant experimental approach.

1. Tentative title
2. Statement of the problem and objectives
3. Methodology, including equipment and facilities required
4. Timetable

The *Thesis Proposal* form must be approved and signed by the members of the student's Committee and Program Director. The completed form must be submitted to GSO with the approved copy of the proposal.

Thesis Defense

Before scheduling the defense, a student must fulfill the following requirements:

- Have an approved Committee on file
- Pass the comprehensive exam (if applicable)
- Submit and successfully defend the thesis proposal
- Have a 3.0 average in all credits earned
- Remove all incomplete grades or deficiencies

Students must be registered for research credits during the semester of defense. The *Announcement of Defense* form must be submitted to GSO at least 14 days prior to the defense date. The student is responsible for reserving the room and obtaining approvals from all Committee members and Program Director. Each member must be given no less than 14 days to review material prior to approving the *Announcement of Defense*. Thus, the student must provide the Committee with a complete version of the thesis at least 1 month prior to the desired defense date. If a student is receiving a stipend, the *Student Payroll End Date* form should accompany the *Announcement of Defense* form. The Committee Chair should notify GSO, in writing, of the outcome of the defense via the *Completion of Defense* form and *SACS Assessment Rubric*.

Thesis Submission

In addition to the regulations in the UM Graduate Student Handbook (<https://grad.miami.edu/policies-and-forms>) on submitting the final thesis and the Graduate School guidelines for the ETD Process (<https://grad.miami.edu/electronic-thesis-and-dissertation/formatting-the-etc>), the *RSMAS Certificate of Approval* form must be signed by all members of the student's Committee then submitted by the student to GSO at least one day prior to the end of the semester. The Associate Dean of Graduate Studies will sign it prior to delivery to the UM Graduate School.

Defense and Submission Deadlines

The defense and submission deadlines (<http://grad.miami.edu/electronic-thesis-and-dissertation/defense-and-submission-deadlines>) are set by the Graduate School. The defense, formatting review, and completion of final materials must be done by the last day of the semester. If any requirements are not met by the Deadline for Completion (<http://grad.miami.edu/electronic-thesis-and-dissertation/defense-and-submission-deadlines>), the student is not guaranteed to graduate in that semester and graduation may be deferred to the following semester.

Graduation Clearance

In order to be cleared for graduation, the student must satisfy the minimum degree requirements set by the program, and the Graduate School; fulfill all milestones noted on the *RSMAS Checklist for Defense and Graduation*; and complete the ETD Process (<https://grad.miami.edu/electronic-thesis-and-dissertation/etd-process>) by the identified deadlines. The *RSMAS Student Clearance Form* must be completed by the student then returned to GSO prior to the last day of the semester.

It is the student's responsibility to complete the graduation application through CaneLink (<https://canelink.miami.edu>) before deadlines specified on the University Academic Calendar (<http://www.miami.edu/index.php/registrar/calendar>) and the UM Graduate School (<http://grad.miami.edu/electronic-thesis-and-dissertation/defense-and-submission-deadlines>). Students who previously applied for graduation but did not receive the degree must repeat the application process.

Doctor of Philosophy (Ph.D.) Program

The Doctor of Philosophy (Ph.D.) degree is offered in Atmospheric Sciences, Marine Biology and Ecology, Marine Ecosystems and Society, Marine Geosciences, Meteorology and Physical Oceanography, and Ocean Sciences. The expected time to completion for a Ph.D. degree is five years. A student in residence in the program beyond 8 years requires approval by the Program Director and Associate Dean.

Checklist and Academic Plan

Each student should follow the *RSMAS Checklist for Defense and Graduation*, which will guide the student through all the milestones required in order to graduate from the Rosenstiel School. This begins with an *Academic Plan* that identifies the number of courses a student must complete to be eligible for graduation according to program requirements. Part I should be reviewed and completed by the student and Program Director during the first semester; Part II must be completed at least one semester before expected graduation.

Credit Hour Requirements

Each program sets their own requirements with regard to course and research credits, PGM 830 (where "PGM" is the program abbreviation), as stated in the Program Handbook, as long as a minimum of 60 total credits are taken. All RSMAS students are required to complete the Research Ethics course (RSM 700).

It is up to each program to determine, upon admission, whether a transfer student requires more course credits to fulfill the Ph.D. requirements. Ph.D. students entering with a Master's Degree from another university may transfer up to 24 course credits. Individual programs may require more course credits to remove deficiencies. Of the 36 remaining credits needed for the Ph.D., a minimum of 12 must be taken as research credits (PGM 830). Ph.D. students with prior graduate coursework may transfer up to 9 course credits from another accredited institution with the approval of his/her committee. Students must submit the completed Petition for Transfer of Credit (<https://grad.miami.edu/policies-and-forms>) form to the RSMAS Graduate Studies Office (GSO) for processing. In no case will credit be transferred until the student has completed an equivalent number of course credits (with grades of "B" or above) at UM. In either case, students must complete the *Academic Plan* form in the first semester in residence if they wish to transfer prior credit.

Any student whose cumulative Grade Point Average (GPA) falls below 3.0 will receive written notice from his/her program with copies to GSO stating that he/she is on academic probation. Any graduate student who receives this warning letter must meet the full standards of academic progress set forth by the University by the end of the subsequent semester. Students who fail to meet the cumulative GPA requirement have failed to meet the satisfactory academic progress standards established by the university and are no longer eligible to receive any graduate assistantship, fellowship or tuition scholarship and are subject to dismissal from the school.

Committee

The "Supervisory Committee" and "Dissertation Committee" described in the UM Graduate Student Handbook (http://www.miami.edu/gs/index.php/graduate_school/helpful_links_resources) are commonly known as the student's "Committee" at RSMAS, and are normally the same

committee. Specific requirements for committee formation are provided in the UM Graduate School Handbook (http://www.miami.edu/gs/index.php/graduate_school/helpful_links_resources); individual programs may have additional requirements.

Per the UM Graduate School Handbook:

“The committee chair must be Regular Faculty from the student’s program of concentration (this includes secondary appointments). In addition to the chair, two members must be Regular Faculty or have Graduate Faculty (<http://grad.miami.edu/graduate-education/graduate-faculty/rsmas>) status in the student’s program of concentration. The fourth member must be an outside member. “Regular Faculty” are faculty having tenured or tenure-earning appointments of a program or department”.

Once the Committee is formed (typically in the second year), the *Appointment to Student’s Committee* form should be completed, signed by all members and the Program Director, then submitted to GSO. The Committee should meet regularly to review the student’s progress, and prepare a short report on progress and research directions with the student. Proposed changes to the membership of a committee must be approved by the Committee Chair and must carry the endorsement of the Program Director. Approved changes to the Committee must be forwarded to GSO using the *Change to Student’s Committee* form.

Comprehensive Examination

A comprehensive examination may be required by the end of the first year. Whether or not to host the exam, as well as the required content and format, is at the discretion of each program. The *Comprehensive Exam* form notifying GSO of the outcome must be submitted by the Committee Chair and approved by the Program Director. In the event of a failure, a student may be re-examined once, upon the advice of the student’s advisor and/or Committee, and at the discretion of the Program Academic Committee with advice from the Comprehensive Exam Committee. If granted, the re-examination must be given before the end of the following semester.

Dissertation Proposal and Proposal Defense

The dissertation proposal, containing the items listed below, must be defended and approved by the student’s Committee. The purpose of the proposal defense is to certify the readiness of the student to conduct dissertation research, as well as facilitate an open discussion regarding the objectives of the dissertation and the relevant experimental approach.

1. Tentative title
2. Statement of the problem and objectives
3. Methodology, including equipment and facilities required
4. Timetable

The *Dissertation Proposal* form must be approved and signed by the members of the student’s Committee and Program Director. The completed form must be submitted to GSO with the approved copy of the proposal.

Qualifying Examination

The written qualifying examination is normally administered around the time of the proposal defense. In addition, an oral qualifying examination may be required by the program or the student’s Committee. The Committee will prepare and administer the written examination (and oral examination, if required) within the program guidelines. The *Qualifying Exam* form notifying GSO of the outcome must be submitted by the Committee Chair and approved by the Program Director.

Admission to Candidacy

Before being admitted to candidacy, a student must fulfill the following requirements:

- Have an approved Committee on file
- Pass the comprehensive exam (if applicable)
- Submit and successfully defend the dissertation proposal
- Pass the qualifying exam
- Have a 3.0 average in all credits earned
- Remove all incomplete grades or deficiencies

The application for *Admission to Candidacy* must be completed with the approval of the Program Director and submitted to GSO at least one semester prior to the expected semester of graduation.

Dissertation Defense

Students must be registered for research credits during the semester of defense. The *Announcement of Defense* form must be submitted to GSO at least 14 days prior to the defense date. The student is responsible for reserving the room and obtaining approvals from all Committee members and Program Director. Each member must be given no less than 14 days to review material prior to approving the *Announcement of Defense*. Thus, the student must provide the Committee with a complete version of the dissertation at least 1 month prior to the desired defense date. If a student is receiving a stipend, the *Student Payroll End Date* form should accompany the *Announcement of Defense* form. The Committee Chair should notify GSO, in writing, of the outcome of the defense via the *Completion of Defense* form and *SACS Assessment Rubric*.

Dissertation Submission

In addition to the regulations in the UM Graduate Student Handbook (<https://grad.miami.edu/policies-and-forms>) on submitting the final dissertation and the Graduate School guidelines for the ETD Process (<https://grad.miami.edu/electronic-thesis-and-dissertation/formatting-the-etc>), the *RSMAS Certificate of Approval* form must be signed by all members of the student's Committee then submitted by the student to GSO at least one day prior to the end of the semester. The Associate Dean of Graduate Studies will sign it prior to delivery to the UM Graduate School.

Defense and Submission Deadlines

The defense and submission deadlines (<http://grad.miami.edu/electronic-thesis-and-dissertation/defense-and-submission-deadlines>) are set by the Graduate School. The defense, formatting review, and completion of final materials must be done by the last day of the semester. If any requirements are not met by the Deadline for Completion (<http://grad.miami.edu/electronic-thesis-and-dissertation/defense-and-submission-deadlines>), the student is not guaranteed to graduate in that semester and graduation may be deferred to the following semester.

Graduation Clearance

In order to be cleared for graduation, the student must satisfy the minimum degree requirements set by the program, and the Graduate School; fulfill all milestones noted on the *RSMAS Checklist for Defense and Graduation*; and complete the ETD Process (<https://grad.miami.edu/electronic-thesis-and-dissertation/etd-process>) by the identified deadlines. The *RSMAS Student Clearance Form* must be completed by the student then returned to GSO prior to the last day of the semester.

It is the student's responsibility to complete the graduation application through CaneLink (<https://canelink.miami.edu>) before deadlines specified on the University Academic Calendar (<http://www.miami.edu/index.php/registrar/calendar>) and the UM Graduate School (<http://grad.miami.edu/electronic-thesis-and-dissertation/defense-and-submission-deadlines>). Students who previously applied for graduation but did not receive the degree must repeat the application process.

Educational Training Program (Teaching Assistants)

RSMAS Ph.D. students are expected to be a Teaching Assistant (TA) for two courses while pursuing their degree. A training session and two teaching opportunities are offered as courses in educational training (RSM 771, RSM 772, RSM 773). The mandatory TA program will include training of new TAs, evaluation of their performance, and recognition of excellence. Faculty nominations for the RSMAS TA Excellence Awards are solicited each semester, and will be given at the end of the academic year.

The goal of the TA program goal is to make the experience as valuable as possible for the TA, the faculty, and the students taking our courses. RSMAS TAs must comply with the following requirements:

- Register for and complete the RSMAS TA training workshop, RSM 771
- Review the TA Resources posted on Blackboard
- Register for the Educational Training courses: RSM 772 and RSM 773
- Refer to the guidelines and course documentation provided with the TA appointment letters

Master of Professional Science (M.P.S.) Programs

The M.P.S. degree prepares students for science careers in industry, government, and non-profit organizations, where employment demands are growing. M.P.S. degrees were developed and implemented nationally in response to employer demands for well-rounded, highly trained employees with a breadth of knowledge and practical skills to address emerging environmental issues and improve the management of natural and cultural resources. The curriculum is structured to allow students to complete their degree in as little as 12 months (for select tracks), with the training and real-world experience necessary to prepare them for careers in today's professional science job market.

- M.P.S. in Broadcast Meteorology (BME) (p. 1146)
- M.P.S. in Weather Forecasting (WFC) (p. 1147)
- M.P.S. in Weather, Climate, and Society (WCS) (p. 1148)
- M.P.S. in Marine Mammal Science (MMS) (p. 1155)
- M.P.S. in Tropical Marine Ecosystem Management (TME) (p. 1156)
- M.P.S. in Aquaculture (AQU) (p. 1161)
- M.P.S. in Coastal Zone Management (CZM) (p. 1162)
- M.P.S. in Exploration Science (ESC) (p. 1163)
- M.P.S. in Fisheries Management and Conservation (FMC) (p. 1164)
- M.P.S. in Marine Conservation (MCO) (p. 1165)
- M.P.S. in Underwater Archaeology (UA) (p. 1166)
- M.P.S. in Applied Remote Sensing (ARS) (p. 1176)
- M.P.S. in Natural Hazards and Catastrophes (NHC) (p. 1177)
- B.A./M.P.S. in Marine Ecosystems and Society (MES) (p. 1160)
- J.D./M.P.S. in Marine Ecosystems and Society (MES) (p. 1160)

Master of Science (M.S.) Programs

- M.S. in Atmospheric Sciences (ATM) (p. 1149)
- M.S. in Marine Biology and Ecology (MBE) (p. 1157)
- M.S. in Marine Ecosystems and Society (MES) (p. 1167)
- M.S. in Marine Geosciences (MGS) (p. 1169)
- M.S. in Meteorology and Physical Oceanography (MPO) (p. 1172)
- M.S. in Ocean Engineering (p. 1130)
- M.S. in Ocean Sciences (OCE) (p. 1179)

Doctor of Philosophy (Ph.D.) Programs

- Ph.D. in Atmospheric Sciences (ATM) (p. 1151)
- Ph.D. in Marine Biology and Ecology (MBE) (p. 1158)
- Ph.D. in Marine Ecosystems and Society (MES) (p. 1167)
- Ph.D. in Marine Geosciences (MGS) (p. 1170)
- Ph.D. in Meteorology and Physical Oceanography (MPO) (p. 1173)
- Ph.D. in in Ocean Sciences (OCE) (p. 1182)

Atmospheric Sciences

Dept. Code: ATM

The Atmospheric Sciences (ATM) program is designed to prepare students with the tools, training, and education necessary to tackle critical research problems in the atmospheric sciences today. Our faculty are experts in a wide range of research areas, including tropical meteorology, climate dynamics, cloud and aerosol processes, and atmospheric chemistry. Their expertise and guidance and our world-class facilities prepare our students for successful careers in the atmospheric sciences and related fields.

Degree Programs

- Master of Professional Science (M.P.S.) (p. 1146)
 - (p. 1146) Requires 30 credit hours, including 24 course credit hours and 6 internship credit hours.
- Master of Science (M.S.) (p. 1146)
 - Requires 30 credit hours, including 24 course credit hours and 6 research credit hours.
- Doctor of Philosophy (Ph.D.) (p. 1146)
 - Requires 60 credit hours, including a minimum of 26 course credit hours and a minimum of 12 research credit hours.

Research Areas

Atmospheric Chemistry

The atmospheric chemistry group in ATM is interested in understanding the atmospheric emissions, transport, and fate of gases and particles that influence air quality and climate. These interests are explored through laboratory studies and fieldwork. Using state-of-the-art instrumentation and techniques, ATM scientists take measurements in tropical and high-latitude oceans, in forests and urban centers, and at the critical air-sea and troposphere-stratosphere interfaces. These measurements are used in models to predict the impact of atmospheric chemistry on human health and climate.

Climate Dynamics & Prediction

Climate research in ATM includes numerical climate modeling at both regional and global scales, and analysis of satellite data, global data products, and observations. There is a large focus on the diagnosis and modeling of climate variability on interannual, decadal, and millennial timescales, the prediction and modeling of El Niño, and the observation and modeling of anthropogenic climate change.

Cloud & Aerosol Processes

Scientists in ATM study aerosols, clouds, their interactions with each other, with radiation, and with the larger-scale environment. We strive for a better understanding of the cloudy boundary layer structure, its processes, and the effects of atmospheric transport of aerosols such as dust, smoke, and air pollutants, upon both air quality and climate. A focus on marine aerosols and south Florida's Cloud-Aerosol-Rain-Observatory (CAROb) takes advantage of Miami's unique location on the edge of the Atlantic basin.

Tropical Meteorology & Hurricanes

One broad area of research in ATM is aimed at improving our understanding and prediction of tropical weather and hurricanes. Through a combination of field observations, modeling, and theory, faculty and students study the dynamics of hurricanes: their formation, rapid intensification, and how their behavior might change in a warming climate. Other research foci include the advancement of computer model forecasts of tropical cyclones, data assimilation schemes, and observation strategies. Other weather phenomena in the tropics are also investigated in ATM and through the Rosenstiel School, such as monsoons, the intertropical convergence zone, and the Madden-Julian Oscillation.

Other Research Areas

Researchers in ATM also perform research in a number of other areas including:

- Geophysical Fluid Dynamics
- Tornado Dynamics
- Atmospheric Boundary Layer
- Atmospheric Convection
- Model Parameterizations

Master of Professional Science (M.P.S.) Programs

There are three ATM tracks for the M.P.S. degree:

- M.P.S. in Broadcast Meteorology (BME) (p. 1146)
- M.P.S. in Weather Forecasting (WFC) (p. 1147)
- M.P.S. in Weather, Climate, and Society (WCS) (p. 1148)

Master of Science (M.S.) Programs

- M.S. in Atmospheric Sciences (ATM) (p. 1149)

Doctor of Philosophy (Ph.D.) Programs

- Ph.D. in Atmospheric Sciences (ATM) (p. 1151)

M.P.S in Broadcast Meteorology

Broadcast Meteorology (BME) (<http://mps.rsmas.miami.edu/degree-program/broadcast-meteorology>)

The M.P.S. in Broadcast Meteorology prepares students for both on-camera and behind-the-scenes careers in broadcast meteorology, as well as the opportunity to develop the knowledge and training necessary to enter the broader field of science journalism.

Course	Title	Credit Hours
Year One		
Fall		
ATM 651 or 614	Introduction to Atmospheric Science or Introduction to Weather and Climate	3
ATM 662	Advanced Weather Forecasting	3
JMM 615	Writing and Reporting Across Platforms	3
JMM 605 or 627	News Technologies or Television News Producing	3
Credit Hours		12
Spring		
ATM 532	Broadcast Meteorology	3
JMM 617	Television News Reporting	3

ATM 765	General Circulation of the Atmosphere ((Or Elective))	3
RSM 620	Climate and Society	3
	Credit Hours	12
Summer		
ATM 805	MPS Internship	6
	Credit Hours	6
	Total Credit Hours	30

Elective Options

Students may take any elective on the RSMAS campus with the consent of their faculty advisor. Below are a few examples of courses past students in this program used as electives.

Code	Title	Credit Hours
RSM 620	Climate and Society	3
ATM 731	Air-Sea Interaction	3
ATM 732	Climate Dynamics	3
ATM 663	Mesoscale Meteorology and Severe Storms	3
ATM 765	General Circulation of the Atmosphere	3
ATM 611	Geophysical Fluid Dynamics I	3
ATM 633	Atmospheric Boundary Layer	3
ATM 661	Tropical Atmosphere and Ocean	3
ATM 660	Tropospheric Chemistry I	3
JMM 633	Social Media	3

M.P.S. in Weather Forecasting

Weather Forecasting (WFC) (<http://mps.rsmas.miami.edu/degree-program/weather-forecasting>)

The MPS in Weather Forecasting is designed for students who have an undergraduate degree in meteorology and seek graduate level training and experience in applied weather forecasting.

Course	Title	Credit Hours
Year One		
Fall		
ATM 651	Introduction to Atmospheric Science	3
ATM 662	Advanced Weather Forecasting	3
MES 660 & MES 661	Introduction to Marine Geographic Information Systems and Introduction to Marine Geographic Information Systems - Laboratory (Can be taken in the Fall or Spring)	3
ATM 220	Climate and Global Change	3
	Credit Hours	12
Spring		
ATM 765	General Circulation of the Atmosphere (or ELECTIVE)	3
ATM 661	Tropical Atmosphere and Ocean	3
RSM 620	Climate and Society (or ELECTIVE)	3
ELECTIVE		3
	Credit Hours	12
Summer		
ATM 805	MPS Internship	6
	Credit Hours	6
	Total Credit Hours	30

Elective Options

Students may take any elective on the RSMAS campus with the consent of their faculty advisor. Below are a few examples of courses past students in this program used as electives.

Code	Title	Credit Hours
ATM 731	Air-Sea Interaction	3
ATM 532	Broadcast Meteorology	3
RSM 670	Carbon and Climate	3
ATM 762	Computer Models in Fluid Dynamics	3
ATM 636	Hurricanes	3
ATM 624	Applied Data Analysis	3
ATM 553	Climate Change	3
ATM 663	Mesoscale Meteorology and Severe Storms	3
ATM 611	Geophysical Fluid Dynamics I	3
ATM 633	Atmospheric Boundary Layer	3
OCE 602	Oceanography II (Physical)	2
ATM 660	Tropospheric Chemistry I	3

M.P.S. in Climate and Society

Climate and Society (CS (<http://mps.rsmas.miami.edu/climate-and-society>))

The MPS in Climate and Society emphasizes the relationship between weather, climate and societal impacts.

Course	Title	Credit Hours
Year One		
Fall		
ATM 651 or 614	Introduction to Atmospheric Science or Introduction to Weather and Climate	3
ATM 653	Climate Change	3
MES 660 & MES 661	Introduction to Marine Geographic Information Systems and Introduction to Marine Geographic Information Systems - Laboratory ¹	3
GEG 648	Climate Change and Public Health [*]	3
	Credit Hours	12
Spring		
ATM 765	General Circulation of the Atmosphere [*]	3
MES 662	Spatial Analysis: Intermediate Course in Marine GIS [*]	3
RSM 620	Climate and Society	3
RSM 670	Carbon and Climate [*]	3
	Credit Hours	12
Summer		
ATM 805	MPS Internship	6
	Credit Hours	6
	Total Credit Hours	30

* or Elective

¹ Can be taken in Fall or Spring

Elective Options

Students may take any elective on the RSMAS campus with the consent of their faculty advisor. Below are a few examples of courses past students in this program used as electives.

Code	Title	Credit Hours
ACC 671	Accounting for Decision Making	2
RSM 670	Carbon and Climate	3
ATM 732	Climate Dynamics	3

MES 720	Coastal Law and Policy	3
MES 618	Coastal Zone Management	3
ATM 663	Mesoscale Meteorology and Severe Storms	3
MES 602	Economics of Natural Resources	3
FIN 602	Fundamentals of Finance	3
ATM 611	Geophysical Fluid Dynamics I	3
MES 662	Spatial Analysis: Intermediate Course in Marine GIS	3
MES 710	International Ocean Law and Governance	3
MES 660	Introduction to Marine Geographic Information Systems	3
MGT 600	Managing Responsible Behavior in Organizations	3
ATM 633	Atmospheric Boundary Layer	3
MES 616	Ocean Policy and Development and Analysis	3

M.S. in Atmospheric Sciences

Program Requirements

The applicable requirements will be those in effect during that academic year when the student first registered in the Program, unless stated otherwise in this Handbook or by the Program Director.

All RSMAS courses are listed on the GSO website. All courses taken by students should be approved by their advisors. Students are recommended to consult with their advisors and the ATM Program Director regarding their choices of courses. Deviations from the requirements must be approved by the advisor and the ATM Program Director.

ATM students follow one of two concentrations: **Physical Sciences** or **Chemical Sciences**.

Physical Sciences Concentration

Code	Title	Credit Hours
The ATM M.S. degree requires 30 total credits. ¹		
Core Courses		9
ATM 651	Introduction to Atmospheric Science [*]	
Physical Sciences Concentration		
Students concentrating on Physical Sciences are required to take the following courses:		
ATM 611	Geophysical Fluid Dynamics I	
ATM 765	General Circulation of the Atmosphere	
Electives ²		15
Thesis Research		6
ATM 810	Master Thesis	
Additional Requirements		
RSM 700	Research Ethics	
Comprehensive Examination ³		
ATM Seminar ⁴		
ATM 701	Seminar in Atmospheric Sciences	
Total Credit Hours		30

¹ Minimum of 24 course credits and 6 thesis credits.

^{*} Required course for all ATM students.

² The remaining course credits can be obtained by taking other graduate courses offered by ATM, RSMAS, or UM.

- 3
- Material from the required core courses will appear on the Comprehensive Examination (along with material from other courses from the first year).
 - Grade of **Master's Pass**, **Pass** or **High Pass** needed to fulfill requirement.
 - For full-time students, the Comprehensive Examination should be taken near the end of their first year of graduate studies at RSMAS. This examination will be arranged by a Comprehensive Examination Committee which comprises the ATM Graduate Program Director and the instructors (or assignees) of the first year courses taken by the students.
 - The purpose of this examination is to evaluate students' understanding of materials in the courses completed up to the time of the examination and their capability of integrating these materials, and to determine whether the students are permitted to proceed in the program.
 - The Comprehensive Examination will consist of an oral part and a written part. The written part, which lasts no longer than 8 hours, consists of closed-book questions in the courses taken in the first year by each individual student. Each student must choose to answer four questions from those submitted, with a minimum of 1 question per course (up to the maximum of 4 questions). The oral part is administered by the ATM Graduate Program Director and one or more of the course instructors (or assignees), and may include questions from all the courses taken by the student. The oral exam lasts no longer than 2 hours for each student. The GPA comprises 20% of the Comprehensive Exam grade, and the written and oral parts of the Comprehensive Exams comprise 40% each.
 - A student's performance in this examination, together with his/her cumulative grade point average, will determine whether the grade of **High Pass**, **Pass**, **Master's Pass** or **Fail** is given by the Comprehensive Exam Committee. The examining board consists of faculty whose questions are answered by the student and any other RSMAS faculty who wish to participate.
 - **High Pass:** For students with no identifiable relevant weaknesses.
 - **Pass:** Students and advisors will receive feedback from the Comprehensive Exam committee on the strengths and weaknesses of the student, and possible recommendations of how to address those. This information can be used to help plan the next steps in the student's academic career.
 - **Master's Pass:** Students with this result will be required to defend a Master's thesis before considering whether to pursue a Ph.D. Students and advisors will receive feedback from the Comprehensive Exam committee on the strengths and weaknesses of the student, and possible recommendations of how to address those.
 - **Fail:** Students with this result will have an opportunity to re-take the exam once.
- 4
- Attendance to the ATM seminars is required every semester.
 - ATM M.S. students must give at least one 15-minute presentation each year after the Comprehensive Examination.

Chemical Sciences Concentration

Code	Title	Credit Hours
The ATM M.S. degree requires 30 total credits. ¹		
Core Courses		6
ATM 651	Introduction to Atmospheric Science [*]	
Chemical Sciences Concentration		
Students concentrating on Chemical Sciences are required to take the following course:		
ATM 634	Atmospheric Chemistry	
Electives ²		18
Thesis Research		6
ATM 810	Master Thesis	
Additional Requirements		
RSM 700	Research Ethics	
Comprehensive Examination ³		
ATM Seminar ⁴		
ATM 701	Seminar in Atmospheric Sciences	
Total Credit Hours		30

¹ Minimum of 24 course credits and 6 thesis credits.

^{*} Required course for all ATM students.

² The remaining course credits can be obtained by taking other graduate courses offered by ATM, RSMAS, or UM.

- 3
- Material from the required core courses will appear on the Comprehensive Examination (along with material from other courses from the first year).
 - Grade of **Master's Pass**, **Pass** or **High Pass** needed to fulfill requirement.
 - For full-time students, the Comprehensive Examination should be taken near the end of their first year of graduate studies at RSMAS. This examination will be arranged by a Comprehensive Examination Committee which comprises the ATM Graduate Program Director and the instructors (or assignees) of the first year courses taken by the students.
 - The purpose of this examination is to evaluate students' understanding of materials in the courses completed up to the time of the examination and their capability of integrating these materials, and to determine whether the students are permitted to proceed in the program.
 - The Comprehensive Examination will consist of an oral part and a written part. The written part, which lasts no longer than 8 hours, consists of closed-book questions in the courses taken in the first year by each individual student. Each student must choose to answer four questions from those submitted, with a minimum of 1 question per course (up to the maximum of 4 questions). The oral part is administered by the ATM Graduate Program Director and one or more of the course instructors (or assignees), and may include questions from all the courses taken by the student. The oral exam lasts no longer than 2 hours for each student. The GPA comprises 20% of the Comprehensive Exam grade, and the written and oral parts of the Comprehensive Exams comprise 40% each.
 - A student's performance in this examination, together with his/her cumulative grade point average, will determine whether the grade of **High Pass**, **Pass**, **Master's Pass** or **Fail** is given by the Comprehensive Exam Committee. The examining board consists of faculty whose questions are answered by the student and any other RSMAS faculty who wish to participate.
 - **High Pass:** For students with no identifiable relevant weaknesses.
 - **Pass:** Students and advisors will receive feedback from the Comprehensive Exam committee on the strengths and weaknesses of the student, and possible recommendations of how to address those. This information can be used to help plan the next steps in the student's academic career.
 - **Master's Pass:** Students with this result will be required to defend a Master's thesis before considering whether to pursue a Ph.D. Students and advisors will receive feedback from the Comprehensive Exam committee on the strengths and weaknesses of the student, and possible recommendations of how to address those.
 - **Fail:** Students with this result will have an opportunity to re-take the exam once.
- 4
- Attendance to the ATM seminars is required every semester.
 - ATM M.S. students must give at least one 15-minute presentation each year after the Comprehensive Examination.

Ph.D. in Atmospheric Sciences

Program Requirements

The applicable requirements will be those in effect during that academic year when the student first registered in the Program, unless stated otherwise in this Handbook or by the Program Director.

All RSMAS courses are listed on the GSO website. All courses taken by students should be approved by their advisors. Students are recommended to consult with their advisors and the ATM Program Director regarding their choices of courses. Deviations from the requirements must be approved by the advisor and the ATM Program Director.

ATM students follow one of two concentrations: **Physical Sciences** or **Chemical Sciences**.

Physical Sciences Concentration

Code	Title	Credit Hours
The ATM Ph.D. degree requires 60 total credits. ¹		
Core Courses		9
ATM 651	Introduction to Atmospheric Science *	
Physical Sciences Concentration		
Students concentrating on Physical Sciences are required to take the following courses:		
ATM 611	Geophysical Fluid Dynamics I	
ATM 765	General Circulation of the Atmosphere	
Electives ²		17
Dissertation Research		34
ATM 830	Doctoral Dissertation	
Required Examinations		
Comprehensive Examination ³		
Qualifying Examination ⁴		
Additional Requirements		
RSM 700	Research Ethics	
ATM Seminar ⁵		
ATM 701	Seminar in Atmospheric Sciences	
Educational Training Program (TA) ⁶		
RSM 771	Educational Training 1	
RSM 772	Educational Training 2	

RSM 773	Educational Training 3	
Total Credit Hours		60

- 1
 - Minimum of 26 course credits and 12 dissertation credits.
 - Minimum of 9 course credits should be taken from 700 level courses if available in the student's area of study.
 - The credit transfer and waiver of required courses should be done during the first year of graduate study at RSMAS with approval from the graduate advisor and the ATM Academic Committee.
- * Required course for all ATM students.
- 2 The remaining course credits can be obtained by taking other graduate courses offered by ATM, RSMAS, or UM.
- 3
 - Material from the required core courses will appear on the Comprehensive Examination (along with material from other courses from the first year).
 - Grade of **Pass** or **High Pass** needed to fulfill requirement.
 - For full-time students, the Comprehensive Examination should be taken near the end of their first year of graduate studies at RSMAS. This examination will be arranged by a Comprehensive Examination Committee which comprises the ATM Graduate Program Director and the instructors (or assignees) of the first year courses taken by the students.
 - The purpose of this examination is to evaluate students' understanding of materials in the courses completed up to the time of the examination and their capability of integrating these materials, and to determine whether the students are permitted to proceed in the program.
 - The Comprehensive Examination will consist of an oral part and a written part. The written part, which lasts no longer than 8 hours, consists of closed-book questions in the courses taken in the first year by each individual student. Each student must choose to answer four questions from those submitted, with a minimum of 1 question per course (up to the maximum of 4 questions). The oral part is administered by the ATM Graduate Program Director and one or more of the course instructors (or assignees), and may include questions from all the courses taken by the student. The oral exam lasts no longer than 2 hours for each student. The GPA comprises 20% of the Comprehensive Exam grade, and the written and oral parts of the Comprehensive Exams comprise 40% each.
 - A student's performance in this examination, together with his/her cumulative grade point average, will determine whether the grade of **High Pass**, **Pass**, **Master's Pass** or **Fail** is given by the Comprehensive Exam Committee. The examining board consists of faculty whose questions are answered by the student and any other RSMAS faculty who wish to participate.
 - **High Pass:** For students with no identifiable relevant weaknesses.
 - **Pass:** Students and advisors will receive feedback from the Comprehensive Exam committee on the strengths and weaknesses of the student, and possible recommendations of how to address those. This information can be used to help plan the next steps in the student's academic career.
 - **Master's Pass:** Students with this result will be required to defend a Master's thesis before considering whether to pursue a Ph.D. Students and advisors will receive feedback from the Comprehensive Exam committee on the strengths and weaknesses of the student, and possible recommendations of how to address those.
 - **Fail:** Students with this result will have an opportunity to re-take the exam once.
- 4
 - These guidelines complement those given in the UM Graduate Student Handbook.
 - All students are expected to take the Qualifying Exam and Proposal Defense by the end of their third year in the program. If the student needs to take the Exam in their fourth year, s/he will need to write a petition to the ATM Faculty with an explanation. A second extension after the end of the fourth year will not be permitted, unless there are exceptional circumstances.
 - While the exact format is left to the discretion of the Ph.D. Committee, a typical Oral Qualifying Exam comprises an hour of questions from the written Qualifying Exam and other related questions, and a second hour in which the student presents his/her Dissertation Proposal. It is recommended that the presentation emphasizes future work and is not a review of previous results, which are in the written Proposal.
 - Expectations of the Qualifying Exam
 - a. **Dissertation Proposal:** Written by the student in clear English befitting the standard of writing in a peer-reviewed journal. The proposal should demonstrate the capability of the student to produce and present research that is of the quality suitable for a journal article. Emphasis needs to be placed on the proposed research: the questions and hypotheses to be tested, the data and methodology used to test the hypotheses, and some anticipated results (which may or may not be realized). A student is encouraged to discuss the proposal with the advisor, but the writing must be his/her own.
 - b. **Oral Exam:** Demonstration of oral communication skills in responding satisfactorily to questions raised by the Committee in relation to the written questions, and any other questions asked by the Committee members.
 - c. **Written Exam:** Written answers judged by each Committee member to demonstrate that the student has the ability to understand and investigate the concept asked in the question. The questions are usually related to the research described in the dissertation proposal.
- 5
 - Attendance to the ATM seminars is required every semester.
 - ATM Ph.D. students must give at least one 15-minute presentation each year after completing the Comprehensive Exam and a one-hour presentation after advancing to Ph.D. candidacy, and at least 6 months before the dissertation defense.
- 6
 - Ph.D. students are expected to be a Teaching Assistant (TA) for two courses while pursuing their degree.
 - The mandatory TA program will include training of new TAs, evaluation of their performance, and recognition of excellence. The goal is to make the experience as valuable as possible for the TA, the faculty, and the students taking our courses.
 - A training session and two teaching opportunities are offered as courses in educational training (RSM 771, RSM 772, RSM 773). Students will be registered accordingly.
 - Specific requirements for TAs are outlined in the RSMAS Student Handbook.

Chemical Sciences Concentration

Code	Title	Credit Hours
The ATM Ph.D. degree requires 60 total credits. ¹		
Core Courses		
ATM 651	Introduction to Atmospheric Science *	6

Chemical Sciences Concentration	
Students concentrating on Chemical Sciences are required to take the following course:	
ATM 634	Atmospheric Chemistry
Electives ²	20
Dissertation Research	34
ATM 830	Doctoral Dissertation
Required Examinations	
Comprehensive Examination ³	
Qualifying Examination ⁴	
Additional Requirements	
RSM 700	Research Ethics
ATM Seminar ⁵	
ATM 701	Seminar in Atmospheric Sciences
Educational Training Program (TA) ⁶	
RSM 771	Educational Training 1
RSM 772	Educational Training 2
RSM 773	Educational Training 3
Total Credit Hours	60

- ¹
- Minimum of 26 course credits and 12 dissertation credits.
 - Minimum of 9 course credits should be taken from 700 level courses if available in the student's area of study.
 - The credit transfer and waiver of required courses should be done during the first year of graduate study at RSMAS with approval from the graduate advisor and the ATM Academic Committee.

* Required course for all ATM students.

² The remaining course credits can be obtained by taking other graduate courses offered by ATM, RSMAS, or UM.

- ³
- Material from the required core courses will appear on the Comprehensive Examination (along with material from other courses from the first year).
 - Grade of **Pass** or **High Pass** needed to fulfill requirement.
 - For full-time students, the Comprehensive Examination should be taken near the end of their first year of graduate studies at RSMAS. This examination will be arranged by a Comprehensive Examination Committee which comprises the ATM Graduate Program Director and the instructors (or assignees) of the first year courses taken by the students.
 - The purpose of this examination is to evaluate students' understanding of materials in the courses completed up to the time of the examination and their capability of integrating these materials, and to determine whether the students are permitted to proceed in the program.
 - The Comprehensive Examination will consist of an oral part and a written part. The written part, which lasts no longer than 8 hours, consists of closed-book questions in the courses taken in the first year by each individual student. Each student must choose to answer four questions from those submitted, with a minimum of 1 question per course (up to the maximum of 4 questions). The oral part is administered by the ATM Graduate Program Director and one or more of the course instructors (or assignees), and may include questions from all the courses taken by the student. The oral exam lasts no longer than 2 hours for each student. The GPA comprises 20% of the Comprehensive Exam grade, and the written and oral parts of the Comprehensive Exams comprise 40% each.
 - A student's performance in this examination, together with his/her cumulative grade point average, will determine whether the grade of **High Pass**, **Pass**, **Master's Pass** or **Fail** is given by the Comprehensive Exam Committee. The examining board consists of faculty whose questions are answered by the student and any other RSMAS faculty who wish to participate.
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 - **Fail:** Students with this result will have an opportunity to re-take the exam once.

- 4
- These guidelines complement those given in the UM Graduate Student Handbook.
 - All students are expected to take the Qualifying Exam and Proposal Defense by the end of their third year in the program. If the student needs to take the Exam in their fourth year, s/he will need to write a petition to the ATM Faculty with an explanation. A second extension after the end of the fourth year will not be permitted, unless there are exceptional circumstances.
 - While the exact format is left to the discretion of the Ph.D. Committee, a typical Oral Qualifying Exam comprises an hour of questions from the written Qualifying Exam and other related questions, and a second hour in which the student presents his/her Dissertation Proposal. It is recommended that the presentation emphasizes future work and is not a review of previous results, which are in the written Proposal.
 - Expectations of the Qualifying Exam
 - a. **Dissertation Proposal:** Written by the student in clear English befitting the standard of writing in a peer-reviewed journal. The proposal should demonstrate the capability of the student to produce and present research that is of the quality suitable for a journal article. Emphasis needs to be placed on the proposed research: the questions and hypotheses to be tested, the data and methodology used to test the hypotheses, and some anticipated results (which may or may not be realized). A student is encouraged to discuss the proposal with the advisor, but the writing must be his/her own.
 - b. **Oral Exam:** Demonstration of oral communication skills in responding satisfactorily to questions raised by the Committee in relation to the written questions, and any other questions asked by the Committee members.
 - c. **Written Exam:** Written answers judged by each Committee member to demonstrate that the student has the ability to understand and investigate the concept asked in the question. The questions are usually related to the research described in the dissertation proposal.
- 5
- Attendance to the ATM seminars is required every semester.
 - ATM Ph.D. students must give at least one 15-minute presentation each year after completing the Comprehensive Exam and a one-hour presentation after advancing to Ph.D. candidacy, and at least 6 months before the dissertation defense.
- 6
- Ph.D. students are expected to be a Teaching Assistant (TA) for two courses while pursuing their degree.
 - The mandatory TA program will include training of new TAs, evaluation of their performance, and recognition of excellence. The goal is to make the experience as valuable as possible for the TA, the faculty, and the students taking our courses.
 - A training session and two teaching opportunities are offered as courses in educational training (RSM 771, RSM 772, RSM 773). Students will be registered accordingly.
 - Specific requirements for TAs are outlined in the RSMAS Student Handbook.

Marine Biology and Ecology

Dept. Code: MBE

The Marine Biology and Ecology (MBE) academic program focuses on a wide range of field, laboratory, and theoretical coursework in a range of research areas, such as coral reef studies, biological oceanography and marine biology, fisheries biology, and the biology and behavior of marine animals.

MBE faculty, students, and their many international collaborators participate in multi-institutional, multi-disciplinary research programs. The UM Rosenstiel School hosts many research centers and groups, such as the experimental hatchery, The National Center for Coral Reef Research, the Rescue-a-Reef citizen science initiative, and the world-renowned NIH/University of Miami National Resource for Aplysia.

Graduate students can choose from a diversity of research areas and coursework taught by internationally recognized scientists studying corals and climate change, fisheries biology, and conducting biomedical research.

Degree Programs

- Master of Professional Science (M.P.S.) (p. 1155)
 - Requires 30 credit hours, including 24 course credit hours and 6 internship credit hours.
- Master of Science (M.S.) (p. 1155)
 - Requires 30 credit hours, including 24 course credit hours and 6 research credit hours.
- Doctor of Philosophy (Ph.D.) (p. 1155)
 - Requires 60 credit hours, including a minimum of 24 course credit hours and a minimum of 12 research credit hours.

Research Areas

Coral Reef and Coastal Ecology

Employs ecological, physiological and molecular approaches to understand, conserve, manage, and restore coral reefs, seagrasses, mangroves and their associated biota.

Marine Organismal and Biomedical Science

Focuses on how marine organisms respond to their environment on physiological and evolutionary time scales. This research integrates whole animal and cellular studies of physiology, biochemistry, neurobiology, genomics, molecular biology, aging, pathology and toxicology to understand factors controlling these responses and to develop these systems as models for human health.

Biological Oceanography

Focuses on adaptations, ecological interactions, food webs, and biogeochemical cycles of the ocean.

Fisheries Science

Studies the direct and indirect impacts of living marine resource exploitation on marine populations, communities and habitats and investigates solutions to the problems of unsustainable, habitat-damaging and/or inefficient fishing, including the minimization of bycatch and food web disruption.

Master of Professional Science (M.P.S.) Programs

There are two MBE tracks for the M.P.S degree:

- M.P.S. in Marine Mammal Science (MMS) (p. 1155)
- M.P.S. in Tropical Marine Ecosystem Management (TME) (p. 1156)

Master of Science (M.S.) Programs

- M.S. in Marine Biology and Ecology (MBE) (p. 1157)

Doctor of Philosophy (Ph.D.) Programs

- Ph.D. in Marine Biology and Ecology (MBE) (p. 1158)

M.P.S. in Marine Mammal Science

Marine Mammal Science (MMS (<http://mps.rsmas.miami.edu/marine-mammal-science>))

Students in this program will prepare for employment in marine mammal management (including associated ecosystems), population assessments, acoustics, and care. Please see our track web site (<http://mps.rsmas.miami.edu/degree-program/marine-mammal-science>) for more information about this program.

Course	Title	Credit Hours
Year One		
Fall		
MBE 604	Biology of Marine Mammals	3
RSM 612 or MES 608	Statistics for Environmental Management or Biometrics in Marine Science	3
MES 670	Conservation and Management of Marine Mammals	3
MES 660 & MES 661	Introduction to Marine Geographic Information Systems and Introduction to Marine Geographic Information Systems - Laboratory	3
	Credit Hours	12
Spring		
MBE 605	Marine Mammal Disease and Medicine	3
MES 645 or 646	Marine Population Assessment Surveys and Analysis or Marine Population Biology Processes and Modeling	3
OCE 651	Applied Ocean Acoustics and Marine Mammals (Applied Marine Mammal Acoustics)	3
MBE 632	Marine Mammal Research Techniques ((or ELECTIVE))	3
	Credit Hours	12
Summer		
MBE 805	MPS Internship	6
MBE 507	Marine Mammal Applied Behavior Analysis and Managed Care (MBE 607 is graduate level)	3
	Credit Hours	9
	Total Credit Hours	33

Elective Options

Students may take any elective on the RSMAS campus with the consent of their faculty advisor. Below are a few examples of courses past students in this program used as electives.

Code	Title	Credit Hours
MBE 716	Bayesian Statistics for Marine Scientists	3
MES 720	Coastal Law and Policy	3
MES 620	Environmental Law	3
MBE 678	Evolutionary Genetics	3
POL 631	Global Environment Politics	3
MES 710	International Ocean Law and Governance	3
MES 616	Ocean Policy and Development and Analysis	3
RSM 710	The Physical Environment of Marine Organisms	3
MES 601	Political Ecology of Marine Management	3

M.P.S. in Tropical Marine Ecosystem Management

Tropical Marine Ecosystem Management (TME (<http://mps.rsmas.miami.edu/tropical-marine-ecosystem-management>))

The MPS in Tropical Marine Ecosystem Management provides students with advanced training in the theoretical aspects of tropical marine ecology, as well as the practical aspects needed to begin a career in this field. Please see our departmental web site (<http://mps.rsmas.miami.edu/degree-program/tropical-marine-ecosystem>) for more information about this program.

Course	Title	Credit Hours
Year One		
Fall		
MBE 615	Tropical Marine Ecology	3
RSM 600	Research Diving Techniques ((Can be taken in Fall or Spring) Or ELECTIVE)	3
RSM 667	Motorboat Operator Certificate Course	1-2
RSM 612 or MES 608	Statistics for Environmental Management or Biometrics in Marine Science	3
MES 620, 720, or 616	Environmental Law ((or ELECTIVE)) or Coastal Law and Policy or Ocean Policy and Development and Analysis	3
	Credit Hours	13-14
Spring		
MBE 621	Field Techniques and Instrumentation in Tropical Marine Ecology	3
MES 660 & MES 661	Introduction to Marine Geographic Information Systems and Introduction to Marine Geographic Information Systems - Laboratory	3
MES 610	Environmental Planning and the Environmental Impact Statement ((or ELECTIVE))	3
MES 646	Marine Population Biology Processes and Modeling ((or ELECTIVE))	3
	Credit Hours	12
Summer		
MBE 805	MPS Internship	6
	Credit Hours	6
	Total Credit Hours	31-32

Elective Options

Students may take any elective on the RSMAS campus with the consent of their faculty advisor. Below are a few examples of courses past students in this program used as electives.

Code	Title	Credit Hours
BIL 623	Advanced Biology of Marine Invertebrates	4

MES 606	Advanced Fieldwork in Coastal Cultures	3
MBE 716	Bayesian Statistics for Marine Scientists	3
MBE 704	Biological Oceanography	3
MES 720	Coastal Law and Policy	3
MES 602	Economics of Natural Resources	3
MES 620	Environmental Law	3
MES 610	Environmental Planning and the Environmental Impact Statement	3
MBE 678	Evolutionary Genetics	3
MES 614	Underwater Archaeology Field Techniques	3
MES 604	Fieldwork in Coastal Management: Tourism, Conservation, and Development	3
MES 605	Fieldwork in Coastal Cultures	3
MES 625	Fisheries Socioeconomics and Management	3
POL 631	Global Environment Politics	3
MES 710	International Ocean Law and Governance	3
MES 626	Submerged Cultural Resource Management	3
MES 616	Ocean Policy and Development and Analysis	3
RSM 710	The Physical Environment of Marine Organisms	3
MES 601	Political Ecology of Marine Management	3
MES 662	Spatial Analysis: Intermediate Course in Marine GIS	3
MBE 614	Tropical Marine Biology: A Field Course	3

M.S. in Marine Biology and Ecology

Program Requirements

Code	Title	Credit Hours
The MBE M.S. degree requires 30 total credits. ¹		
Core Courses		9
Choose 3 courses from the following:		
MES 608	Biometrics in Marine Science	
or RSM 612	Statistics for Environmental Management	
MBE 615	Tropical Marine Ecology	
MBE 704	Biological Oceanography	
RSM 710	The Physical Environment of Marine Organisms	
Electives ²		15
Thesis Research		6
MBE 810	Master's Thesis	
Additional Requirements		
RSM 700	Research Ethics	
MBE Seminar ³		
MBE 702	Biological Oceanography Seminar	
Total Credit Hours		30

¹ Minimum of 24 course credits and 6 thesis credits.

² MBE students are not required to take a course outside the program.

³

- Attendance to the MBE seminars is required every semester.
- All MBE students must give a talk in the series annually after the first year.

Ph.D. in Marine Biology and Ecology

Program Requirements

Code	Title	Credit Hours
The MBE Ph.D. degree requires 60 total credits. ¹		
Core Courses		9
Choose 3 courses from the following:		
MES 608 or RSM 612	Biometrics in Marine Science Statistics for Environmental Management	
MBE 615	Tropical Marine Ecology	
MBE 704	Biological Oceanography	
RSM 710	The Physical Environment of Marine Organisms	
Electives ²		21
Dissertation Research		30
MBE 830	Doctoral Dissertation	
Additional Requirements		
RSM 700	Research Ethics	
Qualifying Examination ³		
MBE Seminar ⁴		
MBE 702	Biological Oceanography Seminar	
Educational Training Program (TA) ⁵		
RSM 771	Educational Training 1	
RSM 772	Educational Training 2	
RSM 773	Educational Training 3	
Total Credit Hours		60

¹ Minimum of 24 course credits and 12 dissertation credits.

² MBE students are not required to take a course outside the program.

- ³
- At the end of the second year, a written qualifying examination is required of all Ph.D. students that focuses on the subject matter needed to complete the research proposed for the dissertation.
 - The purpose of the qualifying examination is to demonstrate that the MBE doctoral student has the necessary understanding and expertise in research and related fields to complete the dissertation research. The topic areas should be agreed upon by the student, chair, and the dissertation committee soon after the proposal defense. The student is strongly encouraged to discuss the specific topics with each member of the dissertation committee, well in advance of the examination, to clarify the expected questions. The committee is encouraged to provide specific reading or areas of knowledge they will test the student on.
 - The qualifying exam is 4 - 5 partial days (4 hours per day) on questions written by their committee. It is the advisor's responsibility to provide the test and to have the student's committee grade it in a timely manner. The scheduling of the exam sessions is the responsibility of the student's advisor, but in all cases the written portion of the examination shall be completed within one week.
 - An additional oral qualifying examination may be required by the student's committee, but may not serve as a substitute for the written examination, which is a Graduate School requirement.
 - The decision of passing or failing the qualifying examination rests with the dissertation committee. The qualifying examination (written and, if required, oral) must be successfully completed, as documented by the dissertation committee, before the student can be admitted to candidacy.
 - In the event of a failure, a student may be re-examined once upon the recommendation of the student's committee in consultation with the academic committee. If permitted, the reexamination must be given before the end of the following semester.

- ⁴
- Attendance to the MBE seminars is required every semester.
 - All MBE students must give a talk in the series annually after the first year.
 - Students entering the MBE Ph.D. program with a Master's degree begin to give seminars in their first year.

- ⁵
- Ph.D. students are expected to be a Teaching Assistant (TA) for two courses while pursuing their degree.
 - The mandatory TA program will include training of new TAs, evaluation of their performance, and recognition of excellence. The goal is to make the experience as valuable as possible for the TA, the faculty, and the students taking our courses.
 - A training session and two teaching opportunities are offered as courses in educational training (RSM 771, RSM 772, RSM 773). Students will be registered accordingly.
 - Specific requirements for TAs are outlined in the RSMAS Student Handbook.

Marine Ecosystems and Society

Dept. Code: MES

Students enrolled in the Marine Ecosystems and Society (MES) program work at the intersection of science and society, committed to assessing, managing, and conserving marine resources through innovation and research. Although course selections are tailored to match individual research and career objectives, our graduates acquire knowledge and expertise critical to ensuring the sustainability of natural resources.

MES faculty expertise spans quantitative and qualitative disciplines that integrate the biological, ecological, economic, and social dimensions of marine resources and how they are shaped by policy and regulatory frameworks. The essence of the MES program lies in the diversity of our faculty and curriculum, fostering the cross- and interdisciplinary collaborations necessary to solve some of the world's most challenging ocean conservation issues. The goal of our Ph.D. and M.S. program is to prepare students as future leaders in the fields of marine fisheries science, ecosystem modeling, aquaculture, conservation, ecosystem science, coastal geography, socioeconomics, cultural and natural resource management, climate change, environmental law, and marine policy.

Degree Programs

- Master of Professional Science (M.P.S.)
 - Requires 30 credit hours, including 24 course credit hours and 6 internship credit hours.
- Master of Science (M.S.) (p. 1159)
 - Requires 30 credit hours, including 24 course credit hours and 6 research credit hours.
- Doctor of Philosophy (Ph.D.)
 - Requires 60 credit hours, including a minimum of 24 course credit hours and a minimum of 12 research credit hours.

Program Concentrations

- Aquaculture and Fisheries Science
- Coastal Zone Management
- Ecosystem Modeling and Sustainability
- Exploration Science
- Fisheries Management Science
- Marine Mammal Science
- Marine Population Dynamics
- Marine Resource Economics
- Ocean Law and Policy
- Shark Ecology and Conservation
- Underwater Archaeology

Master of Professional Science (M.P.S.) Programs

There are eight MES tracks for the M.P.S. degree:

- B.A./M.P.S. in Marine Ecosystems and Society (MES) (p. 1160)
- J.D./M.P.S. in Marine Ecosystems and Society (MES) (p. 1160)
 - The School of Law and the Rosenstiel School offer a joint degree program (<https://www.law.miami.edu/academics/jd-mps-marine-ecosystems-and-society>) in law and marine ecosystems and society. Upon completion of this program, a student earns a Juris Doctor degree from the School of Law and M.P.S. degree in Marine Ecosystems and Society from RSMAS.
- M.P.S. in Aquaculture (AQU) (p. 1161)
- M.P.S. in Coastal Zone Management (CZM) (p. 1162)
- M.P.S. in Exploration Science (ESC) (p. 1163)
- M.P.S. in Fisheries Management and Conservation (FMC) (p. 1164)
- M.P.S. in Marine Conservation (MCO) (p. 1165)
- M.P.S. in Underwater Archaeology (UA) (p. 1166)

Master of Science (M.S.) Programs

- M.S. in Marine Ecosystems and Society (MES) (p. 1167)

Doctor of Philosophy (Ph.D.) Programs

- Ph.D. in Marine Ecosystems and Society (MES) (p. 1167)

B.A./M.P.S. in Marine Ecosystems and Society

B.A. / M.P.S.

Marine Ecosystems and Society, in cooperation with the Undergraduate Marine and Atmospheric Science Program, also offers a five-year B.A./M.P.S. Program in Marine Affairs. This program enables qualified students to earn a B.A. in Marine Affairs in four years with the opportunity to earn an M.P.S. with only one additional year. Conditional acceptance to the MPS program is based on the student's GPA at the end of their sophomore year. Students must then take GRE exams and apply for acceptance to the graduate program at Rosenstiel during their junior year.

J.D./M.P.S. in Marine Ecosystems and Society

The University of Miami School of Law and the Rosenstiel School of Marine and Atmospheric Science (RSMAS) offer a joint degree program in law and marine ecosystems and society. Upon completion of this program, a student earns the Juris Doctor degree from the School of Law and a Master of Professional Science in Marine Ecosystems and Society (<https://www.law.miami.edu/academics/jd-mps-marine-ecosystems-and-society>) (<https://www.law.miami.edu/academics/jd-mps-marine-ecosystems-and-society>) from RSMAS, ranked as one of the top five geoscience institutions in the United States.

The M.P.S. degree allows students to focus their coursework in one of four areas:

1. **Aquaculture Track:** Focuses on the environmental, technological, social, economic, legal and political aspects of sustainable aquaculture.
2. **Coastal Zone Management Track:** Gain exposure to the legal and governance frameworks associated with the management of near-shore waters. These areas present unique challenges to resource managers in the shipping, tourism, development, fisheries, aquaculture and oil industry.
3. **Marine Conservation Track:** Design a curriculum around personal career goals while focusing on innovative solutions to current marine ecosystem threats. This track combines science, law, economics, and policy to foster the conservation awareness of marine ecosystems.
4. **Underwater Archeology:** Focuses on the theory, field techniques, and management practices necessary to work within the field of archaeology and the broader general field of marine sciences. Coursework integrates topics such as site mapping and documentation, interpretation of shipwrecks and submerged sites, best management practices, marine protected areas, and marine survey technology. UARCH students receive training as AAUS Science Divers during their first semester. Students will have opportunities to work side-by-side with professional archaeologists through internships and field projects with private, public, or non-governmental agencies, both nationally and internationally, and conduct relevant fieldwork.

Admissions

Students who apply for the joint J.D./M.P.S. program must apply to both the School of Law and to RSMAS, Department of Marine Ecosystems and Society. Prospective students must achieve a qualifying score on the Law School Admissions Test (LSAT) and on the General Graduate Record Examination (GRE) for admission to the respective schools. A minimum, combined score of 297 (Verbal + Quantitative only) is required to be considered for MPS. An applicant must notify both schools that he or she is applying for the joint J.D./M.P.S. program and, in order to remain in the joint program, must meet the minimum standards of both schools.

Credits

A student may complete requirements for both degrees within seven regular semesters or, subject to course availability, in an intensive program of six regular semesters and two full summers. The joint degree program saves a student 12 credits over earning the degrees separately. An individual would essentially complete 82 credits (rather than the normal 88) in law courses and 24 credits (rather than the normal 30) in marine and atmospheric science courses for a total of 106 credits in order to receive the J.D. and the M.P.S. degrees. A maximum of 6 credits from the law school must be petitioned and approved for transfer to the student's graduate record in order to meet the 30-credit minimum for a master's degree.

Curriculum

The student's work in the joint degree program, whether connected with a course, seminar or individual research project at the School of Law or the Rosenstiel School, must result in a substantial research project of publishable quality in marine law or policy or related scientific issues. Students may use their required upper-class research paper at the School of Law to fulfill this requirement.

Requirements: Juris Doctor (J.D.)

Students must complete at least 12 credits from among the following courses or seminars:

Requirements: RSMAS Courses are identified and organized by each MPS Track (<http://mps.rsmas.miami.edu/degree-tracks>)

A student must complete 24 credits of courses from RSMAS:

Courses (<https://graduate.rsmas.miami.edu/students/course-schedules>) will be updated from time to time and students should consult with a faculty advisor, or other designated person, prior to registering for any course not specifically listed above, or to ensure a course not listed will be credited toward this degree. RSMAS, Department of Marine Ecosystems and Society makes no representation that all of the above courses will be available to any given student at all times during the course of his or her studies.

For More Information

J.D. (University of Miami School of Law)

Sandy Abraham

Executive Liaison, Interdisciplinary Programs and Initiatives

Tel: 305-284-4030 E-mail: sabraham@law.miami.edu

M.P.S. (Rosenstiel School of Marine and Atmospheric Science)

Maria L. Estevanez (<https://people.miami.edu/profile/mestevanez@miami.edu>) (Track Advising: Coastal Zone Management, Marine Conservation)

Tel: 305-421-4012 E-mail: mestevanez@miami.edu

Dr. Frederick Hanselmann (<https://people.miami.edu/profile/fhanselmann@rsmas.miami.edu>) (Track Advising: Underwater Archaeology)

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Dr. Daniel D. Benetti (<https://people.miami.edu/profile/d.benetti@miami.edu>) (Track Advising: Aquaculture)

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Kandra Velez (<https://people.miami.edu/profile/kxv139@miami.edu>) (Admissions Advising - All Tracks)

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Craig W. Purcell (<https://people.miami.edu/profile/c.purcell2@umiami.edu>) (Admissions Advising - All Tracks)

Tel: 305-421-4340 E-mail: c.purcell2@umiami.edu

M.P.S. in Aquaculture

Aquaculture (AQU) (<http://mps.rsmas.miami.edu/degree-program/aquaculture>)

The MPS in Aquaculture focuses on the environmental, technological, social, economic, legal, and political aspects of sustainable aquaculture. The program covers all stages of planning and development, from site and species selection to feasibility studies, resource evaluation, hatchery and grow-out technology, and commercialization.

Course	Title	Credit Hours
Year One		
Fall		
MES 612	Aquaculture I	3
MES 660 & MES 661	Introduction to Marine Geographic Information Systems and Introduction to Marine Geographic Information Systems - Laboratory ((or ELECTIVE))	3
MES 602 or 625	Economics of Natural Resources or Fisheries Socioeconomics and Management	3
MES 617	Legal Environment and Business Planning in Aquaculture ^{NEW TITLE:} Aquaculture IV: Aquaculture Business, Regulatory, & Environmental Considerations	3
	Credit Hours	12
Spring		
MES 613	Aquaculture II Lab ^{NEW TITLE Aquaculture II: Advanced Techniques in Sustainable} Aquaculture (Lab Course)	3
MES 628	Seafood Market and Marketing	3
MBE 686 or MES 629	Fish Physiology ((or ELECTIVE)) or Biology, Ecology, and Management of Mangrove Ecosystems	3
MES 619	Aquaculture III (Field Course)	3
	Credit Hours	12

Summer		
MES 805	MPS Internship	6
	Credit Hours	6
	Total Credit Hours	30

Elective Options

Students may take any elective on the RSMAS campus with the consent of their faculty advisor. Below are a few examples of courses past students in this program used as electives.

Code	Title	Credit Hours
Business School electives are applicable, with approval from Academic Advisor		
BIL 623	Advanced Biology of Marine Invertebrates	4
MES 720	Coastal Law and Policy	3
MBE 676	Diseases of Marine Organisms	3
MES 620	Environmental Law	3
MES 710	International Ocean Law and Governance	3
MES 671	Marine Conservation Biology	3
MBE 642	Oceans and Human Health	3
MES 616	Ocean Policy and Development and Analysis	3
RSM 612	Statistics for Environmental Management	3
MBE 614	Tropical Marine Biology: A Field Course	3

M.P.S. in Coastal Zone Management

Coastal Zone Management (CZM (<http://mps.rsmas.miami.edu/coastal-zone-management>))

Students will be introduced to the legal and governance frameworks on topics such as coastal fisheries management, marine protected areas, port management, tourism development, environmental impact assessment, and oil exploration.

Code	Title	Credit Hours
Courses for this program are selected on a case by case basis during academic advisement.		30
Potential Courses		
MES 601	Political Ecology of Marine Management	
MES 602	Economics of Natural Resources	
MES 604	Fieldwork in Coastal Management: Tourism, Conservation, and Development	
MES 606	Advanced Fieldwork in Coastal Cultures	
MES 610	Environmental Planning and the Environmental Impact Statement	
MES 612	Aquaculture I	
MES 613	Aquaculture II Lab	
MES 619	Aquaculture III	
MES 618	Coastal Zone Management	
MES 620	Environmental Law	
MES 625	Fisheries Socioeconomics and Management	
MES 626	Submerged Cultural Resource Management	
MES 630	Port Operations and Policy	
MES 660 & MES 661	Introduction to Marine Geographic Information Systems and Introduction to Marine Geographic Information Systems - Laboratory	
MES 662	Spatial Analysis: Intermediate Course in Marine GIS	
MES 671	Marine Conservation Biology	
MES 616	Ocean Policy and Development and Analysis	
MES 617	Legal Environment and Business Planning in Aquaculture	
MES 664	Citizen and Participatory Science	

MES 670	Conservation and Management of Marine Mammals	
MES 608	Biometrics in Marine Science	
MES 673	Marine Conservation Outreach	
MES 677	Management and Conservation of Marine Ecosystems	
MES 710	International Ocean Law and Governance	
MBE 615	Tropical Marine Ecology	
MBE 618	Reef Coral Biology, Ecology, and Conservation	
MBE 621	Field Techniques and Instrumentation in Tropical Marine Ecology	
RSM 612	Statistics for Environmental Management	
RSM 667	Motorboat Operator Certificate Course	
RSM 600	Research Diving Techniques	
RSM 620	Climate and Society	
MES 805	MPS Internship (* Required)	
Total Credit Hours		30

M.P.S. in Exploration Science

Exploration Science (ESC) (<http://mps.rsmas.miami.edu/degree-program/exploration-science>)

Exploration Science is the applied practice and study of field research using a variety of methods, technologies, and approaches to drive question-based scientific endeavors.

This track is being offered at RSMAS in partnership with UM's Abess Center for Ecosystem Science and Policy (<http://www.cesp.miami.edu>). The Abess Center fosters innovative, interdisciplinary initiatives that bridge the gap between science and environmental policy.

For More Information Please Visit: <http://exploration.miami.edu>

Course	Title	Credit Hours
Year One		
Fall		
RSM 600	Research Diving Techniques ((or ELECTIVE))	3
RSM 667	Motorboat Operator Certificate Course	1-2
MES 664	Citizen and Participatory Science	3
MES 674	From Gold to Glory: History and Ethics of Exploration	3
MES 660 & MES 661	Introduction to Marine Geographic Information Systems and Introduction to Marine Geographic Information Systems - Laboratory	3
Credit Hours		13-14
Spring		
MES 665	Exploration Technology and Media	3
MBE 621	Field Techniques and Instrumentation in Tropical Marine Ecology ((or ELECTIVE))	3
MES 627	Exploration Science Field Studies (or ELECTIVE)	3
MES 662	Spatial Analysis: Intermediate Course in Marine GIS (or ELECTIVE)	3
Credit Hours		12
Summer		
MES 805	MPS Internship	6
Credit Hours		6
Total Credit Hours		31-32

Elective Options

Students may take any elective on the RSMAS campus with the consent of their faculty advisor. Below are a few examples of courses past students in this program used as electives.

Code	Title	Credit Hours
MES 606	Advanced Fieldwork in Coastal Cultures	3

MES 612	Aquaculture I	3
MBE 604	Biology of Marine Mammals	3
RSM 620	Climate and Society	3
MES 720	Coastal Law and Policy	3
MES 618	Coastal Zone Management	3
MES 620	Environmental Law	3
MES 604	Fieldwork in Coastal Management: Tourism, Conservation, and Development	3
MES 625	Fisheries Socioeconomics and Management	3
MES 671	Marine Conservation Biology	3
MBE 642	Oceans and Human Health	3
MES 601	Political Ecology of Marine Management	3
RSM 612	Statistics for Environmental Management	3
MBE 615	Tropical Marine Ecology	3

M.P.S. in Fisheries Management and Conservation

Fisheries Management and Conservation ((<http://mps.rsmas.miami.edu/degree-program/fisheries-conservation-management>) **FMC** (<http://mps.rsmas.miami.edu/fisheries-management-and-conservation>)) (<http://mps.rsmas.miami.edu/degree-program/fisheries-conservation-management>)

The MPS in Fisheries Management allows students to develop the professional skills required to be a fisheries scientist with curriculum options in various relevant areas of interest, such as fisheries management, fisheries surveys, and quantitative fisheries.

Course	Title	Credit Hours
Year One		
Fall		
RSM 665	Fish Ecology and Oceanography	3
MES 660 & MES 661	Introduction to Marine Geographic Information Systems and Introduction to Marine Geographic Information Systems - Laboratory ((Can be taken in the Fall or the Spring))	3
MES 625	Fisheries Socioeconomics and Management ((or ELECTIVE))	3
RSM 667	Motorboat Operator Certificate Course	1-2
MES 608	Biometrics in Marine Science	3
	Credit Hours	13-14
Spring		
MES 645	Marine Population Assessment Surveys and Analysis	3
MES 710	International Ocean Law and Governance ((or ELECTIVE))	3
MES 646	Marine Population Biology Processes and Modeling	3
MES 677	Management and Conservation of Marine Ecosystems	3
	Credit Hours	12
Summer		
MES 805	MPS Internship	6
	Credit Hours	6
	Total Credit Hours	31-32

Elective Options

Students may take any elective on the RSMAS campus with the consent of their faculty advisor. Below are a few examples of courses past students in this program used as electives.

Code	Title	Credit Hours
BIL 623	Advanced Biology of Marine Invertebrates	4
MBE 716	Bayesian Statistics for Marine Scientists	3

MBE 787	Biology and Systematics of Fishes	3
MES 720	Coastal Law and Policy	3
MES 618	Coastal Zone Management	3
MAS 647	Computer Simulation Systems	3
MBE 676	Diseases of Marine Organisms	3
MES 602	Economics of Natural Resources	3
MES 620	Environmental Law	3
MBE 678	Evolutionary Genetics	3
POL 631	Global Environment Politics	3
MES 710	International Ocean Law and Governance	3
RSM 621	Object-Oriented Programming and Agent-Based Modelling	3
MES 616	Ocean Policy and Development and Analysis	3
RSM 710	The Physical Environment of Marine Organisms	3
MES 601	Political Ecology of Marine Management	3
RSM 600	Research Diving Techniques	3

M.P.S. in Marine Conservation

Marine Conservation (MCO) (<http://mps.rsmas.miami.edu/degree-program/marine-conservation>)

The goal of the track is to advance conservation efforts, scientific literacy and communication, public outreach and integration, and education within the marine realm. Practical aspects of the program will vary between individuals but may include exposure to field methods and techniques, GIS and remote sensing of shallow water marine environments, shark behavioral ecology and conservation, the development of environmental impact statements, coastal law, the development of social media, scientific communication, and statistics for environmental management.

Course	Title	Credit Hours
Year One		
Fall		
MES 671	Marine Conservation Biology	3
RSM 600	Research Diving Techniques ((or ELECTIVE))	3
RSM 612 or MES 608	Statistics for Environmental Management ((or ELECTIVE)) or Biometrics in Marine Science	3
MES 620, 720, or 616	Environmental Law ((or ELECTIVE)) or Coastal Law and Policy or Ocean Policy and Development and Analysis	3
	Credit Hours	12
Spring		
MES 710 or 618	International Ocean Law and Governance or Coastal Zone Management	3
MES 673	Marine Conservation Outreach ((or ELECTIVE))	3
MES 660 & MES 661	Introduction to Marine Geographic Information Systems and Introduction to Marine Geographic Information Systems - Laboratory ((Can be taken in Fall or Spring))	3
ELECTIVE		3
	Credit Hours	12
Summer		
MES 805	MPS Internship	6
	Credit Hours	6
	Total Credit Hours	30

Additional Elective Options

Code	Title	Credit Hours
MES 606	Advanced Fieldwork in Coastal Cultures	3
RSM 620	Climate and Society	3

MES 720	Coastal Law and Policy	3
MES 602	Economics of Natural Resources	3
MES 604	Fieldwork in Coastal Management: Tourism, Conservation, and Development	3
MES 625	Fisheries Socioeconomics and Management	3
MES 626	Submerged Cultural Resource Management	3
MBE 642	Oceans and Human Health	3
RSM 600	Research Diving Techniques	3
MES 662	Spatial Analysis: Intermediate Course in Marine GIS	3
RSM 612	Statistics for Environmental Management	3
MBE 615	Tropical Marine Ecology	3

M.P.S. in Underwater Archaeology

Underwater Archaeology (UA (<http://mps.rsmas.miami.edu/underwater-archeology>)) (<http://mps.rsmas.miami.edu/degree-program/underwater-archaeology>))

The MPS Underwater Archaeology track (UARCH) is a two-year program that focuses on the theory, field techniques, and management practices necessary to work within the field of archaeology and the broader general field of marine sciences. Coursework integrates topics such as site mapping and documentation, interpretation of shipwrecks and submerged sites, best management practices, marine protected areas, and marine survey technology. UARCH students receive training as AAUS Science Divers during their first semester. Students will have opportunities to work side-by-side with professional archaeologists through internships and field projects with private, public, or non-governmental agencies, both nationally and internationally, and conduct relevant fieldwork.

Course	Title	Credit Hours
Year One		
Fall		
MES 632	Theory and Method in Underwater and Maritime Archaeology	3
MES 626	Submerged Cultural Resource Management	3
RSM 600	Research Diving Techniques	3
RSM 677	Special Topics (Motorboat Operator Certification Course - MOCC)	1-2
	Credit Hours	10-11
Spring		
MES 614	Underwater Archaeology Field Techniques	3
MES 615	Marine Archaeological Survey and Technology	3
MES 660 & MES 661	Introduction to Marine Geographic Information Systems and Introduction to Marine Geographic Information Systems - Laboratory	3
MES 672	The Archaeology of Seafaring	3
	Credit Hours	12
Summer		
MES 805	MPS Internship	6
MES 691	Maritime Archaeology Field Study	3
MES 692	Archaeological Study of Submerged Pre-Contact Sites (OPTIONAL)	3
MES 693	Maritime Archaeology and the Conquest of Mexico	3
	Credit Hours	15
	Total Credit Hours	37-38

Elective Options

Students may take any elective on the RSMAS campus with the consent of their faculty advisor. Below are a few examples of courses past students in this program used as electives.

Code	Title	Credit Hours
MES 606	Advanced Fieldwork in Coastal Cultures	3
MBE 716	Bayesian Statistics for Marine Scientists	3
MES 720	Coastal Law and Policy	3

MES 610	Environmental Planning and the Environmental Impact Statement	3
MES 710	International Ocean Law and Governance	3
MES 665	Exploration Technology and Media	3
MES 618	Coastal Zone Management	3
MES 616	Ocean Policy and Development and Analysis	3
MES 674	From Gold to Glory: History and Ethics of Exploration	3
MES 664	Citizen and Participatory Science	3
OCE 642	Physics of Remote Sensing I - Passive Systems	3
OCE 643	Physics of Remote Sensing II - Active Systems	3
RSM 646	Presentation Bootcamp	1

M.S. in Marine Ecosystems and Society

Program Requirements

Code	Title	Credit Hours
The MES M.S. degree requires 30 total credits. ¹		
Core Courses		3
MES M.S. students are required to complete one (1) of the following:		
MES 608	Biometrics in Marine Science	
or RSM 612	Statistics for Environmental Management	
Electives ²		21
Thesis Research		6
MES 810	Master's Thesis	
Additional Requirements		
RSM 700	Research Ethics	
Proposal Defense ³		
MES Seminar ⁴		
Total Credit Hours		30

¹ Minimum of 24 course credits and 6 thesis credits.

² The remaining course schedule will be developed by the student in consultation with the Chair of the thesis Committee.

³ Refer to the MES Program Handbook for specific guidelines.

⁴

- MES M.S. and Ph.D. students are required to attend all MES student seminars.
- Students will give one student seminar at the beginning of their third semester at RSMAS (not counting summers) and every year after, with the exception of the semester in which when they defend their thesis.

Ph.D. in Marine Ecosystems and Society

Program Requirements

Code	Title	Credit Hours
The MES Ph.D. degree requires 60 total credits. ¹		
Core Courses		6
MES 608	Biometrics in Marine Science	
MES 715	Advanced Biometrics in Marine Science	
Electives ²		24
Dissertation Research		30
MES 830	Doctoral Dissertation	
Required Examinations		
Comprehensive Examination ³		
Qualifying Examination ⁴		
Additional Requirements		
RSM 700	Research Ethics	

MES Seminar ⁵	
Educational Training Program (TA) ⁶	
RSM 771	Educational Training 1
RSM 772	Educational Training 2
RSM 773	Educational Training 3
Total Credit Hours	60

- 1 Minimum of 24 course credits and 12 dissertation credits.
- 2 The remaining course schedule will be developed by the student in consultation with the Chair of the Dissertation Committee.
- 3
 - MES Ph.D. students must pass a comprehensive exam no later than their third semester in residence, including summers.
 - The exam's format will be defined by the student's Committee Chair in consultation with the Committee.
- 4
 - At the end of the second year, a written qualifying examination is required of all Ph.D. students that focuses on the subject matter relevant to the successful execution of the proposed dissertation research.
 - The purpose of the qualifying examination is to demonstrate that the MES doctoral student has the necessary understanding and expertise in research and related fields to complete the dissertation research. The topic areas should be agreed upon by the student, Chair, and the dissertation Committee soon after the proposal defense. The student is strongly encouraged to discuss the specific topics with each member of the dissertation Committee well in advance of the examination, to clarify the expectations regarding content. The Committee is encouraged to provide specific readings or areas of knowledge they will test the student on. The format of the qualifying exam is decided by the dissertation Committee. It is the Chair's responsibility to provide the test and to have the student's Committee grade it in a timely manner.
 - The decision of passing or failing the qualifying examination rests with the dissertation Committee. The qualifying examination (written and, if required by the Committee, oral) must be successfully completed, as documented by the dissertation Committee, before the student can be admitted to candidacy.
 - In the event of a failure, a student may be reexamined once upon the recommendation of the student's Committee in consultation with the Academic Committee. If permitted, the reexamination must be hosted before the end of the following semester. An additional oral qualifying examination may be required by the student's Committee but may not serve as a substitute for the written examination, which is a Graduate School requirement.
- 5
 - MES M.S. and Ph.D. students are required to attend all MES student seminars.
 - Students will give one student seminar at the beginning of their third semester at RSMAS (not counting summers) and every year after, with the exception of the semester in which they defend their dissertation.
- 6
 - Ph.D. students are expected to be a Teaching Assistant (TA) for two courses while pursuing their degree.
 - The mandatory TA program will include training of new TAs, evaluation of their performance, and recognition of excellence. The goal is to make the experience as valuable as possible for the TA, the faculty, and the students taking our courses.
 - A training session and two teaching opportunities are offered as courses in educational training (RSM 771, RSM 772, RSM 773). Students will be registered accordingly.
 - Specific requirements for TAs are outlined in the RSMAS Student Handbook.

Marine Geosciences

Dept. Code: MGS

The Marine Geosciences (MGS) graduate program is focused on studying the geology, geophysics, and geochemistry of the earth system, beneath, within, and above the oceans.

Students work closely with faculty at the forefront of research on earthquakes, volcanoes, plate tectonics, hydrothermal seafloor vents, and paleoclimate. MGS faculty and students also emphasize interdisciplinary study where geological phenomena interact with or are influenced by processes generally studied in other disciplines, such as ocean currents, climate, and biological evolution.

MGS research uses pioneering remote sensing techniques to assess the earth's crustal movement and sedimentation in coastal zones. MGS degree programs are at the forefront of understanding carbonate deposit systems, and paleoclimate researchers are using stromatolites and reefs to learn more about past climate change by studying the interaction between biological and geological processes. Ocean observing systems, such as hydrological observatories, are playing prominently in research efforts as well.

Degree Programs

- Post-Bachelor's Certificate (p. 1169)
 - Offered for working professionals who seek specialization in Applied Carbonate Geology.
 - Requires 16 course credit hours for successful completion.
- Master of Science (M.S.)
 - Requires 30 credit hours, including 24 course credit hours and 6 research credit hours.
 - Interdisciplinary studies with expertise in physics, chemistry, mathematics, and/or biology are encouraged.
- Doctor of Philosophy (Ph.D.) (p. 1169)

- Requires 60 credit hours, including a minimum of 30 course credit hours and a minimum of 12 research credit hours.
- Interdisciplinary studies with expertise in physics, chemistry, mathematics, and/or biology are encouraged.

Post-Bachelor's Certificate Program

The goal of the certificate program is to provide first-rate continuing education to professionals or geology students who want to become experts in carbonate geology. To reach this goal courses are offered in carbonate sedimentology, seismic stratigraphy, petrophysics, and geochemistry for an advanced knowledge and understanding in carbonate systems. A successful completion of the program will require 16 course credits to be taken. There are ten electable 2-credit or 3-credit courses in the program. Participants will not write a thesis but the courses are structured in a way that classroom knowledge is directly used in subsequent laboratory classes and projects.

- Post-Bachelor's Certificate in Applied Carbonate Geology (<http://www.rsmas.miami.edu/assets/CertificateProgramFlyer-2017.pdf>)

Master of Science (M.S.) Programs

- M.S. in Marine Geosciences (MGS) (p. 1169)

Doctor of Philosophy (Ph.D.) Programs

- Ph.D. in Marine Geosciences (MGS) (p. 1170)

M.S. in Marine Geosciences Program Requirements

Code	Title	Credit Hours
The MGS M.S. degree requires 30 total credits. ¹		
Course Requirements ²		6
All MGS students must complete any two (2) courses in the MGS 610 Series:		
MGS 611	Earth Surface Processes	
MGS 613	Introductory Geochemistry *	
MGS 614	Geophysics	
Electives		18
Thesis Research		6
MGS 810	Master's Thesis	
Additional Requirements		
RSM 700	Research Ethics	
Comprehensive Examination ³		
MGS Seminar (MGS 701) ⁴		
Geotopics Lecture Series ⁵		
Total Credit Hours		30

¹ Minimum of 24 course credits and 6 thesis credits.

²

- The intent of these course requirements is to ensure preparation across the range of subfields within MGS. These requirements may be waived by permission of the MGS Program Academic Committee.
- If a student does not follow the above requirements and performs poorly in one of these subfields on the comprehensive exam, it may trigger a requirement to enroll in the respective course as a condition for further advancement in the MGS program.

* MGS 771 may substitute MGS 613.

- ³
- All students enrolled in the MGS academic program are required to take a comprehensive examination by the end of their third semester of graduate studies at RSMAS.
 - The purpose of the comprehensive examination is to evaluate the student's understanding of fundamental principles, reasoning skills, and to determine if any basic deficiencies are present in the student's background after two semesters of classes.
 - The examination will consist of a written part, which usually lasts about 6-8 hours, and an oral part, which lasts about 1 hour. The results of the written portion of the exam and performance of the oral exam determine the grade given by the examining board.
 - For the M.S. degree candidate, possible grades include **PASS** or **FAIL**.
 - A grade of **FAIL** indicates gaps in understanding or knowledge of basic geological, geochemical, or geophysical principles. The student can retake the exam a second time in order to achieve a passing grade. If failure occurs on the second attempt, the student can be dismissed from the MGS program.
 - A grade of **PASS** indicates acceptable comprehension of basic principles and allows the student to complete the M.S. degree. Following completion of the M.S. degree at UM, the student may apply for the Ph.D. program and is not required to retake the comprehensive examination, unless a period of more than four years has elapsed.
- ⁴ All MGS students are required to register for MGS 701 at least once and attend all meetings of the course throughout their tenure in the MGS program. Students are required to give presentations and actively participate in the course.
- ⁵ All MGS students are expected to attend the department weekly seminar Geotopics. The diverse lecture series presents recent and ongoing research by RSMAS faculty and visiting scientists. These presentations help provide a broad, well-rounded view of research topics in the earth sciences.

Ph.D. in Marine Geosciences

Program Requirements

Code	Title	Credit Hours
The MGS Ph.D. degree requires 60 total credits. ¹		
Course Requirements ²		6
All MGS students must complete any two (2) courses in the MGS 610 Series:		
MGS 611	Earth Surface Processes	
MGS 613	Introductory Geochemistry [*]	
MGS 614	Geophysics	
Electives		24
Dissertation Research		30
MGS 830	Doctoral Dissertation	
Required Examinations		
Comprehensive Examination ³		
Qualifying Examination ⁴		
Additional Requirements		
RSM 700	Research Ethics	
MGS Seminar (MGS 701) ⁵		
Geotopics Lecture Series ⁶		
Educational Training Program (TA) ⁷		
RSM 771	Educational Training 1	
RSM 772	Educational Training 2	
RSM 773	Educational Training 3	
Total Credit Hours		60

¹ Minimum of 30 course credits and 12 dissertation credits.

²

- The intent of these course requirements is to ensure preparation across the range of subfields within MGS. These requirements may be waived by permission of the MGS Program Academic Committee.
- If a student does not follow the above requirements and performs poorly in one of these subfields on the comprehensive exam, it may trigger a requirement to enroll in the respective course as a condition for further advancement in the MGS program.

^{*} MGS 771 may substitute MGS 613.

- 3
- All students enrolled in the MGS academic program are required to take a comprehensive examination by the end of their third semester of graduate studies at RSMAS.
 - The purpose of the comprehensive examination is to evaluate the student's understanding of fundamental principles, reasoning skills, and to determine if any basic deficiencies are present in the student's background after two semesters of classes.
 - The examination will consist of a written part, which usually lasts about 6-8 hours, and an oral part, which lasts about 1 hour. The results of the written portion of the exam and performance of the oral exam determine the grade given by the examining board.
 - For a Ph.D. student, a grade of either **PASS** or **FAIL** is given.
 - A **PASS** indicates that the student may proceed with additional course work, research proposal development, and preparation to take the qualifying examination.
 - Failure of the exam will require the student to retake the exam at a time to be determined by the Exam Committee and the MGS Academic Committee. This retake is usually scheduled no later than the end of the following semester. If failure occurs on the second attempt, the student can be dismissed from the MGS program.
- 4
- The qualifying examination should be taken by the end of the third year. The scheduling of the exam should be discussed with the Committee Chairperson and Dissertation Committee. A completed dissertation proposal demonstrating the ability to formulate and test a hypothesis must be submitted at least two weeks before the exam.
 - The purpose of the exam is to determine knowledge of (a) general principles of geology, geochemistry, and geophysics, (b) knowledge of the student's individual specialty, and (c) peripheral and supporting disciplines.
 - The Dissertation Committee administers a written examination on the subjects outlined above. An oral examination may follow the written exam if necessary to clarify answers, as judged by the Dissertation Committee.
 - Upon satisfactory completion of the qualifying exam, the student enters into candidacy for the Ph.D., provided all other requirements have been met.
 - If the qualifying exam is failed, the student may, at the discretion of the Dissertation Committee, be allowed one opportunity to be re-examined, but in this case no later than the end of the following semester.
 - No "partial passes" of the qualifying exam are allowed.
- 5
- All MGS students are required to register for MGS 701 at least once and attend all meetings of the course throughout their tenure in the MGS program. Students are required to give presentations and actively participate in the course.
- 6
- All MGS students are expected to attend the department weekly seminar Geotopics. The diverse lecture series presents recent and ongoing research by RSMAS faculty and visiting scientists. These presentations help provide a broad, well-rounded view of research topics in the earth sciences.
- 7
- Ph.D. students are expected to be a Teaching Assistant (TA) for two courses while pursuing their degree.
 - The mandatory TA program will include training of new TAs, evaluation of their performance, and recognition of excellence. The goal is to make the experience as valuable as possible for the TA, the faculty, and the students taking our courses.
 - A training session and two teaching opportunities are offered as courses in educational training (RSM 771, RSM 772, RSM 773). Students will be registered accordingly.
 - Specific requirements for TAs are outlined in the RSMAS Student Handbook.

Meteorology and Physical Oceanography

Dept. Code: MPO

The Meteorology and Physical Oceanography (MPO) graduate program was founded on the premise that oceanic and atmospheric dynamics are governed by a set of similar physical principles, and that much insight can be gained by studying their dynamics from a common perspective.

The MPO program requires students to develop expertise in both systems, and prepares students to conduct leading-edge research using a complementary set of theoretical, observational, and modeling approaches.

The MPO curriculum forms a strong foundation for research on a broad spectrum of topics that include air-sea interaction, the global thermohaline circulation, tropical cyclones, El Niño, the Madden-Julian Oscillations, and the evolution of the Earth's climate.

Degree Programs

- Master of Science (M.S.) (p. 1172)
 - Requires 30 credit hours, including 24 course credit hours and 6 research credit hours.
- Doctor of Philosophy (Ph.D.)
 - Requires 60 credit hours, including a minimum of 30 course credit hours and a minimum of 12 research credit hours.

Research Areas

The MPO program has a strong foundation in several areas in atmospheric and ocean sciences, including those presented below. Research is conducted using a variety of techniques from direct observation to theoretical and numerical modeling. Students come from a diverse range of educational backgrounds, including marine science, meteorology, physics, mathematics, and engineering.

Climate Variability and Change

Research covers a wide range of topics, both global and regional. We study climate variations on time scales from sub-seasonal to interannual to decadal, as well as ancient (paleo) climates and future climate changes. Efforts include analysis of satellite data, field observations and global data products, and a large focus on numerical climate modeling.

Large-Scale Ocean Circulation

Research covers a variety of topics, highlighting the ocean's role in climate, including dynamics and variability of boundary currents, meridional overturning and tropical circulations, as well interaction between large-scale, mesoscale and submesoscale circulations. Particular strengths include experimental oceanography, numerical modeling with a variety of comprehensive and conceptual models, data analysis and assimilation, and theoretical studies.

Tropical Dynamics

The tropics have global impacts, from weather effects and hurricanes to El Niño and other climate variations. Research involves the myriad interactions of water vapor and clouds with air and wind and the underlying tropical oceans and landscapes.

Hurricanes

RSMAS/MPO is ideally situated for the study of hurricanes through its location in Miami and its proximity to the NOAA Hurricane Research Division and National Hurricane Center. The research includes high-resolution coupled atmosphere-wave-ocean modeling, hurricane dynamics, and novel adaptive observing and data assimilation methods.

Regional and Coastal Oceanography

Studies focus on key processes in coastal and shelf areas, with special interest in regional seas around South Florida, the Gulf of Mexico and the Caribbean. Particular projects address events following the Deepwater Horizon oil spill, air-sea interaction associated with hurricanes, shelf dynamics, mixing, submesoscale variability, biological-physical interactions in ecosystems, coral reef studies and the Everglades Restoration. The research involves high-resolution numerical modeling, experimental studies and data assimilation.

Clouds, Aerosol, Precipitation, and Radiation Interactions (CAPRI)

The cloud microphysical processes important to the global energy balance occur at spatial and time scales of seconds and meters. MPO studies such processes with aircraft and surface-based remote sensing, in situ field measurements, and large-eddy simulations, and reconciles them with analyses done at the larger scales of satellites and regional climate models.

Satellite Remote Sensing

RSMAS hosts a real-time satellite reception and analysis facility. MPO is involved with retrieval algorithm development, validation and analysis of sea surface temperature, ocean color, sea surface topography and surface winds. These are analyzed in the context of climate research.

Master of Science (M.S.) Programs

- M.S. in Meteorology and Physical Oceanography (MPO) (p. 1172)

Doctor of Philosophy (Ph.D.) Programs

- Ph.D. in Meteorology and Physical Oceanography (MPO) (p. 1173)

M.S. in Meteorology and Physical Oceanography

Program Requirements

The applicable requirements will be those in effect during that academic year when the student first registered in the Program, unless stated otherwise in Handbook or by the Program Director.

All RSMAS courses are listed on the GSO website. All courses taken by students should be approved by their advisors. Students are recommended to consult with their advisors and the MPO Program Director regarding their choices of courses. Deviations from the requirements must be approved by the advisor and the MPO Academic Committee.

Code	Title	Credit Hours
The MPO M.S. degree requires 30 total credits. ¹		
Core Courses		12
All MPO M.S. students are required to take the following courses:		
MPO 603	Physical Oceanography	
MPO 611	Geophysical Fluid Dynamics I	
MPO 651	Introduction to Atmospheric Science	

MPO 712 or MPO 765	Large Scale Ocean Circulation: Models and Observations General Circulation of the Atmosphere	
Electives ²		12
Thesis Research		6
MPO 810	Master's Thesis	
Additional Requirements		
RSM 700	Research Ethics	
Comprehensive Examination ³		
MPO Seminar ⁴		
Total Credit Hours		30

¹ Minimum of 24 course credits and 6 thesis credits.

- ²
- The remaining course credits can be obtained by taking other graduate courses offered by MPO, RSMAS, or UM.
 - MPO M.S. candidates are not required to take a class outside MPO.

- ³
- Material from the required core courses will appear on the Comprehensive Examination (along with material from other courses from the first year).
 - Grade of **Master's Pass**, **Pass** or **High Pass** needed to fulfill requirement.
 - All M.S. and Ph.D. students are required to take the Comprehensive Examination. For full-time students, the Comprehensive Examination should be before the end of their first year of graduate studies at RSMAS. This examination will be arranged by a Comprehensive Examination Committee which comprises the MPO Graduate Program Director and the instructors (or their assignees) of the first year courses taken by the students.
 - The purpose of this examination is to evaluate students' understanding of materials in the courses completed up to the time of the examination and their capability of integrating these materials, and to determine whether the students are permitted to proceed to the M.S. or Ph.D. program.
 - The Comprehensive Examination will consist of an oral part and a written part.
 - The written part, which lasts no longer than 8 hours, consists of closed-book questions in the courses taken in the first year by each individual student. Each student must choose to answer four questions; at least one of the questions from GFD I and II must be answered.
 - The oral part, which lasts no longer than 2 hours for each student, may include questions from all the courses taken by the student.
 - The GPA comprises 20% of the Comprehensive Exam grade, and the written and oral parts of the Comprehensive Exams comprise 40% each.
 - A student's performance in this examination, together with his/her cumulative grade point average, will determine whether the grade of **High Pass**, **Pass**, **Master's Pass** or **Fail** is given by the Comprehensive Exam Committee. The examining board consists of faculty whose questions are answered by the student and any other RSMAS faculty who wish to participate.
 - **High Pass:** for students with no identifiable relevant weaknesses.
 - **Pass:** Students and advisors will receive feedback from the Comprehensive Exam committee on the strengths and weaknesses of the student, and possible recommendations of how to address those. This information can be used to help plan the next steps in the student's academic career.
 - *NOTE: This is a new category where a student is NOT required to defend a Master's thesis as was the case previously, but the student and advisor may of course still decide that a Masters in the appropriate next step.*
 - **Master's Pass:** Students with this result will be required to defend a Master's thesis before considering whether to pursue a Ph.D. Students and advisors will receive feedback from the Comprehensive Exam committee on the strengths and weaknesses of the student, and possible recommendations of how to address those.
 - **Fail:** Students with this result will have an opportunity to re-take the exam once.

- ⁴
- Attendance to the MPO seminars is required every semester.
 - MPO M.S. students must give at least one 15- minute presentation each year after the Comprehensive Examination.

Ph.D. in Meteorology and Physical Oceanography

Program Requirements

The applicable requirements will be those in effect during that academic year when the student first registered in the Program, unless stated otherwise in Handbook or by the Program Director.

All RSMAS courses are listed on the GSO website. All courses taken by students should be approved by their advisors. Students are recommended to consult with their advisors and the MPO Program Director regarding their choices of courses. Deviations from the requirements must be approved by the advisor and the MPO Academic Committee.

Code	Title	Credit Hours
The MPO Ph.D. degree requires 60 total credits. ¹		
Core Courses		15
All MPO Ph.D. students are required to take the following courses:		
MPO 603	Physical Oceanography	
MPO 611	Geophysical Fluid Dynamics I	
MPO 651	Introduction to Atmospheric Science	

MPO 711	Geophysical Fluid Dynamics II	
MPO 712 or MPO 765	Large Scale Ocean Circulation: Models and Observations General Circulation of the Atmosphere	
Electives ²		15
Dissertation Research		30
MPO 830	Doctoral Dissertation	
Required Examinations		
Comprehensive Examination ³		
Qualifying Examination ⁴		
Additional Requirements		
RSM 700	Research Ethics	
MPO Seminar ⁵		
Educational Training Program (TA) ⁶		
RSM 771	Educational Training 1	
RSM 772	Educational Training 2	
RSM 773	Educational Training 3	
Total Credit Hours		60

- ¹
- Minimum of 30 course credits and 12 dissertation credits.
 - Minimum 9 course credits should be taken from 700 level courses.
 - The credit transfer and waiver of required courses should be done during the first year of graduate study at RSMAS with approval from the graduate advisor and the MPO Academic Committee.
- ²
- The remaining course credits can be obtained by taking other graduate courses offered by MPO, RSMAS, or UM.
 - MPO Ph.D. students are required to take at least one 3-credit course outside the MPO program, unless they have arrived with an M.S. degree from another institution.
 - Courses with the 'RSM' designation count as an outside course.
- ³
- Material from the required core courses will appear on the Comprehensive Examination (along with material from other courses from the first year).
 - Grade of **Pass** or **High Pass** needed to fulfill requirement.
 - All M.S. and Ph.D. students are required to take the Comprehensive Examination. For full-time students, the Comprehensive Examination should be before the end of their first year of graduate studies at RSMAS. This examination will be arranged by a Comprehensive Examination Committee which comprises the MPO Graduate Program Director and the instructors (or their assignees) of the first year courses taken by the students.
 - The purpose of this examination is to evaluate students' understanding of materials in the courses completed up to the time of the examination and their capability of integrating these materials, and to determine whether the students are permitted to proceed to the M.S. or Ph.D. program.
 - The Comprehensive Examination will consist of an oral part and a written part.
 - The written part, which lasts no longer than 8 hours, consists of closed-book questions in the courses taken in the first year by each individual student. Each student must choose to answer four questions; at least one of the questions from GFD I and II must be answered.
 - The oral part, which lasts no longer than 2 hours for each student, may include questions from all the courses taken by the student.
 - The GPA comprises 20% of the Comprehensive Exam grade, and the written and oral parts of the Comprehensive Exams comprise 40% each.
 - A student's performance in this examination, together with his/her cumulative grade point average, will determine whether the grade of **High Pass**, **Pass**, **Master's Pass** or **Fail** is given by the Comprehensive Exam Committee. The examining board consists of faculty whose questions are answered by the student and any other RSMAS faculty who wish to participate.
 - **High Pass:** for students with no identifiable relevant weaknesses.
 - **Pass:** Students and advisors will receive feedback from the Comprehensive Exam committee on the strengths and weaknesses of the student, and possible recommendations of how to address those. This information can be used to help plan the next steps in the student's academic career.
 - *NOTE: This is a new category where a student is NOT required to defend a Master's thesis as was the case previously, but the student and advisor may of course still decide that a Masters in the appropriate next step.*
 - **Master's Pass:** Students with this result will be required to defend a Master's thesis before considering whether to pursue a Ph.D. Students and advisors will receive feedback from the Comprehensive Exam committee on the strengths and weaknesses of the student, and possible recommendations of how to address those.
 - **Fail:** Students with this result will have an opportunity to re-take the exam once.

- 4
- These guidelines complement those given in the UM Graduate Student Handbook.
 - All students are expected to take the Qualifying Exam and Proposal Defense by the end of their third year in the program. If the student needs to take the Exam in their fourth year, s/he will need to write a petition to the MPO Academic Committee with an explanation. A second extension after the end of the fourth year will not be permitted, unless there are exceptional circumstances.
 - While the exact format is left to the discretion of the Ph.D. Committee, a typical Oral Qualifying Exam comprises an hour of questions from the written Qualifying Exam and other related questions, and a second hour in which the student presents their Dissertation Proposal. It is recommended that the presentation emphasizes future work and is not a review of previous results, which are in the written Proposal.
 - Expectations of the Qualifying Exam
1. **Written Exam:** Written answers judged by each Committee member to demonstrate that the student has the ability to understand and investigate the concept asked in the question. The questions are usually related to the research described in the dissertation proposal.
 2. **Oral Exam:** Demonstration of oral communication skills in responding satisfactorily to questions raised by the Committee in relation to the written questions, and any other questions asked by the Committee members.
 3. **Dissertation Proposal:** Written by the student in clear English befitting the standard of writing in a peer-reviewed journal. The proposal should demonstrate the capability of the student to produce and present research that is of the quality suitable for a journal Article. Emphasis needs to be placed on the proposed research: the questions and hypotheses to be tested, the data and methodology used to test the hypotheses, and some anticipated results (which may or may not be realized). A student is encouraged to discuss the proposal with the advisor, but the writing must be his/her own.
- 5
- Attendance to the MPO seminars is required every semester.
 - MPO Ph.D. students must give at least one 15- minute presentation each year after completing the Comprehensive Exam, and a one-hour presentation after advancing to Ph.D. candidacy, and at least 6 months before the dissertation defense.
- 6
- Ph.D. students are expected to be a Teaching Assistant (TA) for two courses while pursuing their degree.
 - The mandatory TA program will include training of new TAs, evaluation of their performance, and recognition of excellence. The goal is to make the experience as valuable as possible for the TA, the faculty, and the students taking our courses.
 - A training session and two teaching opportunities are offered as courses in educational training (RSM 771, RSM 772, RSM 773). Students will be registered accordingly.
 - Specific requirements for TAs are outlined in the RSMAS Student Handbook.

Ocean Sciences

Dept. Code: OCE

The mission of the Ocean Sciences (OCE) graduate program is to provide our students with specialized knowledge in important ocean science sub-disciplines as well as a broad understanding of the ocean as a key component of the Earth System. Our students advance the understanding of physical, chemical, and biological processes in the ocean and their interactions. Students learn first-hand about instrumentation and methods to measure the ocean using both in-situ and space-based sensors, and about laboratory, analytical, and numerical models to understand oceanic processes. Our graduates develop into international leaders of ocean research, into teachers and communicators of ocean sciences, and into leaders and advisors of marine education, policy, and conservation.

OCE offers opportunities for students to participate in research cruises and join field campaigns aboard our Research Vessel Walton Smith and aboard other vessels around the world, to perform experiments in our state-of-the-art wind-wave-storm surge simulator (SUSTAIN), and to run ocean and climate model simulations using our supercomputer facility. The OCE faculty excels in a wide range of topics including ocean circulation and climate, ocean carbon cycle, air-sea interaction, remote sensing, and marine ecosystem dynamics.

Degree Programs

- Master of Professional Science (M.P.S.) (p. 1176)
 - Requires 30 credit hours, including 24 course credit hours and 6 internship credit hours.
- Master of Science (M.S.) (p. 1176)
 - Requires 30 credit hours, including 24 course credit hours and 6 research credit hours.
- Doctor of Philosophy (Ph.D.) (p. 1176)
 - Requires 60 credit hours, including a minimum of 27 course credit hours and a minimum of 12 research credit hours.

Research Areas

When admitted to the OCE graduate program, students will choose a research concentration based on their research interests.

Ocean Dynamics

This concentration covers the study of how the ocean moves on all scales, from turbulence and eddies to ocean gyres and the global thermohaline circulation, and how these motions impact and interact with Earth's climate. Scientists in OCE approach studies of Ocean Dynamics through sea-going experimentation and data analysis, development of conceptual modeling tools, data assimilation, numerical simulations, ocean prediction, and forecasting. Research topics include the dynamics and variability of boundary currents like the Gulf Stream,

basin-wide meridional overturning and heat transport, mesoscale and submesoscale dynamics and stirring, turbulence, water mass formation and ventilation, oil spills, and coastal and continental shelf processes.

Marine Biogeochemistry

Studies in this concentration focus on the physical, chemical, biological, and geological processes controlling the oceanic cycling of carbon, macronutrients (nitrogen, phosphorus, and silicon), and trace elements (e.g., iron). We conduct our work throughout the global ocean using advanced analytical and modeling techniques to assess the dynamics of these elements. Research topics include ocean acidification, nutrient limitation of productivity, global distributions of biogeochemical variables, tracers for time scales of water mass formation and circulation, air-sea exchange of materials, carbon fluxes, microbial processes, and speciation, distribution, and isotopic ratio of dissolved trace metals.

Air-Sea Interaction & Remote Sensing

The focus of this concentration is on sub-millimeter to mesoscale processes at and across the air-sea interface, from the oceanic thermocline to the atmospheric boundary layer. Research topics include surface fluxes and turbulent mixing events, wind-wave-current interactions, hurricane intensity changes, storm surge predictions, coupled tropical dynamics, underwater acoustics, internal and surface gravity waves, and coastal processes. OCE faculty, research staff, and students approach these studies using our unique wind-wave laboratory (SUSTAIN) and satellite-data facilities (CSTARS), and through field experimentation using ship-, buoy-, land-, and aircraft-based instrumentation. Coupled ocean-atmosphere modeling studies provide a framework to understand these observations, where one of the foci is tropical weather and hurricanes. Many of our research efforts have societal relevance in areas such as severe weather and wave forecasting, disaster monitoring and mitigation response, climate change, renewable energy developments, marine transportation and ship tracking, search and rescue, and pollutant dispersion.

Biophysical Interactions

This concentration addresses the study of ocean productivity, the distribution, transport, and behavior of planktonic organisms, and their complex interactions with higher trophic levels. Researchers in OCE take a multi-prong approach, coupling the development of biophysical models with experimental field and laboratory work. OCE scientists develop new techniques and instrumentation to observe and model planktonic organism behavior and their responses to environmental signals. Research topics include the study of harmful algal blooms, plankton distribution and patchiness, trophic interactions, larval dispersal and population connectivity, biological control of physical constraints, microbial dynamics, bioacoustics, and animal navigation.

Master of Professional Science (M.P.S.) Programs

There are two OCE tracks for the M.P.S. degree:

- M.P.S. in Applied Remote Sensing (ARS) (p. 1176)
- M.P.S. in Natural Hazards and Catastrophes (NHC) (p. 1177)

Master of Science (M.S.) Programs

- M.S. in Ocean Sciences (OCE) (p. 1179)

Doctor of Philosophy (Ph.D.) Programs

- Ph.D. in in Ocean Sciences (OCE) (p. 1182)

M.P.S. in Applied Remote Sensing

Applied Remote Sensing (ARS)

The MPS in "Applied Remote Sensing" (<http://mps.rsmas.miami.edu/degree-program/applied-remote-sensing>) offered by the University of Miami's Rosenstiel School of Marine and Atmospheric Science (RSMAS) and Center for Southeastern Tropical Advanced Remote Sensing (CSTARS) is tailored to the needs of students who seek to gain theoretical knowledge and practical, real-world experiences geared towards a successful career in the field of remote sensing in both public and private sectors. This program is also appropriate for those already in the workforce who require additional training or are looking to expand upon their knowledge and skills.

Course	Title	Credit Hours
Year One		
Fall		
OCE 642	Physics of Remote Sensing I - Passive Systems	3
OCE 686	Applied Remote Sensing	3
RSM 612	Statistics for Environmental Management (Or Elective)	3
MGS 686	Special Topics (Natural Hazards: Solid Earth & Oceans (Or Elective)	3
	Credit Hours	12

Spring		
OCE 643	Physics of Remote Sensing II - Active Systems	3
OCE 624	Applied Data Analysis (Or Elective)	3
MES 660 & MES 661	Introduction to Marine Geographic Information Systems and Introduction to Marine Geographic Information Systems - Laboratory (Can be taken in Fall or Spring) Or Elective	3
OCE 687	Applied Radar Remote Sensing	3
	Credit Hours	12
Summer		
OCE 805	MPS Internship	6
	Credit Hours	6
	Total Credit Hours	30

Elective Options

Students may take any elective on the RSMAS campus with the consent of their faculty advisor. Below are a few examples of courses past students in this program used as electives.

Code	Title	Credit Hours
ATM 731	Air-Sea Interaction	3
OCE 705	Chemical Oceanography	3
MES 720	Coastal Law and Policy	3
MES 602	Economics of Natural Resources	3
MES 620	Environmental Law	3
MES 610	Environmental Planning and the Environmental Impact Statement	3
ATM 651	Introduction to Atmospheric Science	3
MES 616	Ocean Policy and Development and Analysis	3
MES 630	Port Operations and Policy	3
OCE 603	Physical Oceanography	3
MBE 615	Tropical Marine Ecology	3
MES 677	Management and Conservation of Marine Ecosystems	3
ATM 662	Advanced Weather Forecasting	3
OCE 651	Applied Ocean Acoustics and Marine Mammals (Applied Ocean Acoustics and Marine Mammals)	3
OCE 676	Wave Propagation in the Ocean Environment	3
OCE 790	Mechanics and Thermodynamics of the Air-Sea Interface	3
MES 633	Decision Analysis: Natural Hazards and Catastrophes	3
MGS 634	Hydrological Hazards	3
OCE 637	Natural Hazards: Atmosphere and Ocean	3

M.P.S. in Natural Hazards and Catastrophes

Natural Hazards and Catastrophes (NHC (<http://mps.rsmas.miami.edu/natural-hazard-and-catastrophes>))

The University of Miami's Rosenstiel School of Marine and Atmospheric Science conducts world-class research on the earth systems responsible for these disasters, including the atmosphere, the ocean and solid earth. To meet society's need for a skilled workforce, the Natural Hazards and Catastrophes program (<http://mps.rsmas.miami.edu/natural-hazard-and-catastrophes>) offers an educational opportunity for students seeking to fill positions offered by the private and civil sectors to assess risks and exposures associated with natural hazards. The goal is to provide students with the skills and knowledge necessary to understand earth system natural hazards (atmospheric, oceanic, geological and hydrological) and the data analytics tools required to assess the associated risks (e.g. statistics, data management, programming, GIS, and remote sensing).

Course	Title	Credit Hours
Year One		
Fall		
RSM 612 or MES 608	Statistics for Environmental Management or Biometrics in Marine Science	3
MES 620	Environmental Law (or ELECTIVE)	3
MES 633	Decision Analysis: Natural Hazards and Catastrophes	3
MGS 635	Geological Hazards	3
	Credit Hours	12
Spring		
OCE 637	Natural Hazards: Atmosphere and Ocean	3
MGS 634	Hydrological Hazards	3
MES 660 & MES 661	Introduction to Marine Geographic Information Systems and Introduction to Marine Geographic Information Systems - Laboratory (Can be taken in Fall or Spring)	3
RSM 613	Statistical Modeling of Extreme and Rare Events (or ELECTIVE)	3
	Credit Hours	12
Summer		
OCE 805	MPS Internship	6
	Credit Hours	6
	Total Credit Hours	30

Elective Options

Students may take any elective on the RSMAS campus with the consent of their faculty advisor. Below are a few examples of courses past students in this program used as electives.

Code	Title	Credit Hours
OCE 676	Wave Propagation in the Ocean Environment	3
ATM 765	General Circulation of the Atmosphere	3
OCE 661	Tropical Atmosphere and Ocean	3
ATM 731	Air-Sea Interaction	3
MES 720	Coastal Law and Policy	3
MES 618	Coastal Zone Management	3
MES 620	Environmental Law	3
MES 610	Environmental Planning and the Environmental Impact Statement	3
MGS 614	Geophysics	3
EPH 612	Global Health	3
EPH 600	Introduction to Public Health	3
ATM 651	Introduction to Atmospheric Science	3
MES 630	Port Operations and Policy	3
OCE 642	Physics of Remote Sensing I - Passive Systems	3
OCE 643	Physics of Remote Sensing II - Active Systems	3
MGS 679	Plate Tectonics	3
MSC 321	Scientific Programming in the Atmospheric Sciences	3
CAE 660	Sustainable Construction	3
EPH 640	Urban Environment and Public Health	3
CAE 630	Water Resources Engineering II	3
OCE 721	Waves and Tides I	3
OCE 624	Applied Data Analysis	3

M.S. in Ocean Sciences

Program Requirements

The applicable requirements will be those in effect during that academic year when the student first registered in the Program, unless stated otherwise in Handbook or by the Program Director.

All RSMAS courses are listed on the GSO website. All courses taken by students should be approved by their advisors. Students are recommended to consult with their advisors and the OCE Program Director regarding their choices of courses. Deviations from the requirements must be approved by the advisor and the OCE Academic Committee.

OCE students follow one of four academic tracks: **Ocean Dynamics**, **Air-Sea Interaction and Remote Sensing**, **Marine Biogeochemistry**, or **Biophysical Interactions**.

Ocean Dynamics Track

Code	Title	Credit Hours
The OCE M.S. degree requires 30 total credits. ¹		
Core Courses		6
Choose 2 courses from the following:		
OCE 610	Ocean Biogeochemistry	
OCE 603	Physical Oceanography	
OCE 701	Mathematical Methods in Marine Physics	
Ocean Dynamics Track		6
OCE 611	Geophysical Fluid Dynamics I	
OCE 711	Geophysical Fluid Dynamics II	
Electives ²		12
Thesis Research		6
OCE 810	Master's Thesis	
Additional Requirements		
RSM 700	Research Ethics	
Comprehensive Examination ³		
OCE Seminar ⁴		
Total Credit Hours		30

¹ Minimum of 24 course credits and 6 thesis credits.

²

- The remaining course credits can be obtained by taking other graduate courses offered by OCE, RSMAS, or UM.
- OCE M.S. candidates are not required to take a class outside OCE.

³

- Material from the required core courses will appear on the Comprehensive Examination (along with material from other courses from the first year).
- Grade of **PhD-Pass** or **MS-Pass**.
 - A student receiving a grade of **PhD-Pass** has the option of bypassing the M.S. degree, but may choose to complete the M.S. degree.
- All M.S. and Ph.D. students are required to take the comprehensive examination. For full-time students, the comprehensive examination should be taken before the end of their first full year of graduate studies at RSMAS (beginning in the fall semester). This examination will be arranged by a comprehensive examination committee comprised of the OCE graduate program director and the instructors (or their assignees) of the required courses taken by the students.
- The purpose of this examination is to evaluate students' understanding of materials in the required courses, and their ability to integrate and apply these materials. The outcome of the comprehensive examination determines whether students are permitted to proceed to the M.S. or Ph.D. program.
- The comprehensive examination consists of oral and written components.
 - The written component, which lasts no longer than 8 hours, consists of a combination of open- and closed book questions on the material covered in the required courses taken by each student.
 - The oral component, which lasts no longer than 2 hours for each student, may include questions from all the courses taken by the student.
- Students and advisors will receive feedback from the comprehensive exam committee on the strengths and weaknesses of the student, and possible recommendations on how to address those.
- The outcome of the exam, which is determined by the comprehensive examination committee, is based on the student's performance on this examination, together with consideration of the student's first year academic record. Possible exam outcomes are:
 - PhD-Pass:** Students with this result may bypass the M.S. degree and start working toward earning a Ph.D. If the student chooses to, he/she may complete a M.S. degree before pursuing a Ph.D.
 - MS-Pass:** Students with this result are required to defend a master's thesis and get approval from his/her M.S. thesis committee before pursuing a Ph.D.
 - Fail:** Students with this result will have an opportunity to re-take the exam once.

- 4
- Attendance to the OCE, MPO or AMP seminars is required every semester.
 - In the same seminar series, each student is expected to give at least one 15-minute presentation each year after the student passes the comprehensive examination.

Air-Sea Interaction and Remote Sensing Track

Code	Title	Credit Hours
The OCE M.S. degree requires 30 total credits. ¹		
Core Courses		6
Choose 2 courses from the following:		
OCE 610	Ocean Biogeochemistry	
OCE 603	Physical Oceanography	
OCE 701	Mathematical Methods in Marine Physics	
Air-Sea Interaction and Remote Sensing Track		6
OCE 675	Fluid Mechanics	
OCE 676	Wave Propagation in the Ocean Environment	
Electives ²		12
Thesis Research		6
OCE 810	Master's Thesis	
Additional Requirements		
RSM 700	Research Ethics	
Comprehensive Examination ³		
OCE Seminar ⁴		
Total Credit Hours		30

¹ Minimum of 24 course credits and 6 thesis credits.

- ²
- The remaining course credits can be obtained by taking other graduate courses offered by OCE, RSMAS, or UM.
 - OCE M.S. candidates are not required to take a class outside OCE.

- ³
- Material from the required core courses will appear on the Comprehensive Examination (along with material from other courses from the first year).
 - Grade of **PhD-Pass** or **MS-Pass**.
 - A student receiving a grade of **PhD-Pass** has the option of bypassing the M.S. degree, but may choose to complete the M.S. degree.
 - All M.S. and Ph.D. students are required to take the comprehensive examination. For full-time students, the comprehensive examination should be taken before the end of their first full year of graduate studies at RSMAS (beginning in the fall semester). This examination will be arranged by a comprehensive examination committee comprised of the OCE graduate program director and the instructors (or their assignees) of the required courses taken by the students.
 - The purpose of this examination is to evaluate students' understanding of materials in the required courses, and their ability to integrate and apply these materials. The outcome of the comprehensive examination determines whether students are permitted to proceed to the M.S. or Ph.D. program.
 - The comprehensive examination consists of oral and written components.
 - The written component, which lasts no longer than 8 hours, consists of a combination of open- and closed book questions on the material covered in the required courses taken by each student.
 - The oral component, which lasts no longer than 2 hours for each student, may include questions from all the courses taken by the student.
 - Students and advisors will receive feedback from the comprehensive exam committee on the strengths and weaknesses of the student, and possible recommendations on how to address those.
 - The outcome of the exam, which is determined by the comprehensive examination committee, is based on the student's performance on this examination, together with consideration of the student's first year academic record. Possible exam outcomes are:
 - **PhD-Pass:** Students with this result may bypass the M.S. degree and start working toward earning a Ph.D. If the student chooses to, he/she may complete a M.S. degree before pursuing a Ph.D.
 - **MS-Pass:** Students with this result are required to defend a master's thesis and get approval from his/her M.S. thesis committee before pursuing a Ph.D.
 - **Fail:** Students with this result will have an opportunity to re-take the exam once.

- ⁴
- Attendance to the OCE, MPO or AMP seminars is required every semester.
 - In the same seminar series, each student is expected to give at least one 15-minute presentation each year after the student passes the comprehensive examination.

Marine Biogeochemistry Track

Code	Title	Credit Hours
The OCE M.S. degree requires 30 total credits. ¹		
Core Courses		6
Choose 2 courses from the following:		

OCE 610	Ocean Biogeochemistry	
OCE 603	Physical Oceanography	
OCE 701	Mathematical Methods in Marine Physics	
Marine Biogeochemistry Track		9
MBE 704	Biological Oceanography	
OCE 705	Chemical Oceanography	
OCE 612 or OCE 622	Marine Organic Geochemistry Marine Microbial Dynamics	
Electives²		9
Thesis Research		6
OCE 810	Master's Thesis	
Additional Requirements		
RSM 700	Research Ethics	
Comprehensive Examination ³		
OCE Seminar ³		
Total Credit Hours		30

- ¹ Minimum of 24 course credits and 6 thesis credits.
- ²
- The remaining course credits can be obtained by taking other graduate courses offered by OCE, RSMAS, or UM.
 - OCE M.S. candidates are not required to take a class outside OCE.
- ³
- Material from the required core courses will appear on the Comprehensive Examination (along with material from other courses from the first year).
 - Grade of **PhD-Pass** or **MS-Pass**.
 - A student receiving a grade of **PhD-Pass** has the option of bypassing the M.S. degree, but may choose to complete the M.S. degree.
 - All M.S. and Ph.D. students are required to take the comprehensive examination. For full-time students, the comprehensive examination should be taken before the end of their first full year of graduate studies at RSMAS (beginning in the fall semester). This examination will be arranged by a comprehensive examination committee comprised of the OCE graduate program director and the instructors (or their assignees) of the required courses taken by the students.
 - The purpose of this examination is to evaluate students' understanding of materials in the required courses, and their ability to integrate and apply these materials. The outcome of the comprehensive examination determines whether students are permitted to proceed to the M.S. or Ph.D. program.
 - The comprehensive examination consists of oral and written components.
 - The written component, which lasts no longer than 8 hours, consists of a combination of open- and closed book questions on the material covered in the required courses taken by each student.
 - The oral component, which lasts no longer than 2 hours for each student, may include questions from all the courses taken by the student.
 - Students and advisors will receive feedback from the comprehensive exam committee on the strengths and weaknesses of the student, and possible recommendations on how to address those.
 - The outcome of the exam, which is determined by the comprehensive examination committee, is based on the student's performance on this examination, together with consideration of the student's first year academic record. Possible exam outcomes are:
 - **PhD-Pass:** Students with this result may bypass the M.S. degree and start working toward earning a Ph.D. If the student chooses to, he/she may complete a M.S. degree before pursuing a Ph.D.
 - **MS-Pass:** Students with this result are required to defend a master's thesis and get approval from his/her M.S. thesis committee before pursuing a Ph.D.
 - **Fail:** Students with this result will have an opportunity to re-take the exam once.
- ⁴
- Attendance to the OCE, MPO or AMP seminars is required every semester.
 - In the same seminar series, each student is expected to give at least one 15-minute presentation each year after the student passes the comprehensive examination.

Biophysical Interactions Track

Code	Title	Credit Hours
The OCE M.S. degree requires 30 total credits. ¹		
Core Courses		6
Choose 2 courses from the following:		
OCE 610	Ocean Biogeochemistry	
OCE 603	Physical Oceanography	
OCE 701	Mathematical Methods in Marine Physics	
Biophysical Interactions Track		6
MBE 704	Biological Oceanography	
OCE 6XX - Math for Biophysical Interactions		
Electives²		12

Thesis Research	6
OCE 810	Master's Thesis
Additional Requirements	
RSM 700	Research Ethics
Comprehensive Examination ³	
OCE Seminar ⁴	
Total Credit Hours	30

- ¹ Minimum of 24 course credits and 6 thesis credits.
- ²
- The remaining course credits can be obtained by taking other graduate courses offered by OCE, RSMAS, or UM.
 - OCE M.S. candidates are not required to take a class outside OCE.
- ³
- Material from the required core courses will appear on the Comprehensive Examination (along with material from other courses from the first year).
 - Grade of **PhD-Pass** or **MS-Pass**.
 - A student receiving a grade of **PhD-Pass** has the option of bypassing the M.S. degree, but may choose to complete the M.S. degree.
 - All M.S. and Ph.D. students are required to take the comprehensive examination. For full-time students, the comprehensive examination should be taken before the end of their first full year of graduate studies at RSMAS (beginning in the fall semester). This examination will be arranged by a comprehensive examination committee comprised of the OCE graduate program director and the instructors (or their assignees) of the required courses taken by the students.
 - The purpose of this examination is to evaluate students' understanding of materials in the required courses, and their ability to integrate and apply these materials. The outcome of the comprehensive examination determines whether students are permitted to proceed to the M.S. or Ph.D. program.
 - The comprehensive examination consists of oral and written components.
 - The written component, which lasts no longer than 8 hours, consists of a combination of open- and closed book questions on the material covered in the required courses taken by each student.
 - The oral component, which lasts no longer than 2 hours for each student, may include questions from all the courses taken by the student.
 - Students and advisors will receive feedback from the comprehensive exam committee on the strengths and weaknesses of the student, and possible recommendations on how to address those.
 - The outcome of the exam, which is determined by the comprehensive examination committee, is based on the student's performance on this examination, together with consideration of the student's first year academic record. Possible exam outcomes are:
 - **PhD-Pass:** Students with this result may bypass the M.S. degree and start working toward earning a Ph.D. If the student chooses to, he/she may complete a M.S. degree before pursuing a Ph.D.
 - **MS-Pass:** Students with this result are required to defend a master's thesis and get approval from his/her M.S. thesis committee before pursuing a Ph.D.
 - **Fail:** Students with this result will have an opportunity to re-take the exam once.
- ⁴
- Attendance to the OCE, MPO or AMP seminars is required every semester.
 - In the same seminar series, each student is expected to give at least one 15-minute presentation each year after the student passes the comprehensive examination.

Ph.D. in Ocean Sciences

Program Requirements

The applicable requirements will be those in effect during that academic year when the student first registered in the Program, unless stated otherwise in Handbook or by the Program Director.

All RSMAS courses are listed on the GSO website. All courses taken by students should be approved by their advisors. Students are recommended to consult with their advisors and the OCE Program Director regarding their choices of courses. Deviations from the requirements must be approved by the advisor and the OCE Academic Committee.

OCE students follow one of four academic tracks: **Ocean Dynamics**, **Air-Sea Interaction and Remote Sensing**, **Marine Biogeochemistry**, or **Biophysical Interactions**.

Ocean Dynamics Track

Code	Title	Credit Hours
The OCE Ph.D. degree requires 60 total credits. ¹		
Core Courses		6
Choose 2 courses from the following:		
OCE 610	Ocean Biogeochemistry	
OCE 603	Physical Oceanography	
OCE 701	Mathematical Methods in Marine Physics	
Ocean Dynamics Track		6

OCE 611	Geophysical Fluid Dynamics I	
OCE 711	Geophysical Fluid Dynamics II	
Electives ²		15
Dissertation Research		33
OCE 830	Doctoral Dissertation	
Required Examinations		
Comprehensive Examination ³		
Qualifying Examination ⁴		
Additional Requirements		
Dallas Murphy Writing Workshop or Writing Skills Course (RSM 780)		
RSM 700	Research Ethics	
OCE Seminar ⁵		
Educational Training Program (TA) ⁶		
RSM 771	Educational Training 1	
RSM 772	Educational Training 2	
RSM 773	Educational Training 3	
Total Credit Hours		60

- ¹
- Minimum of 27 course credits and 12 dissertation credits.
 - Minimum of 9 course credits should be taken from 700 level courses.
- ²
- At least one 3-credit course must be taken outside the OCE program, unless the student came to RSMAS with an M.S. degree from another institution.
 - Courses with the 'RSM' designation count as outside courses.
 - The remaining course credits can be obtained by taking other graduate courses offered by OCE, RSMAS, or UM.
- ³
- Material from the required core courses will appear on the Comprehensive Examination (along with material from other courses from the first year).
 - A grade of **PhD-Pass** is required to bypass the M.S. degree and begin working towards the Ph.D.
 - Students earning a grade of **MS-Pass** may pursue a Ph.D. after completing the M.S. degree, subject to approval from their M.S. thesis committee.
 - All M.S. and Ph.D. students are required to take the comprehensive examination. For full-time students, the comprehensive examination should be taken before the end of their first full year of graduate studies at RSMAS (beginning in the fall semester). This examination will be arranged by a comprehensive examination committee comprised of the OCE graduate program director and the instructors (or their assignees) of the required courses taken by the students.
 - The purpose of this examination is to evaluate students' understanding of materials in the required courses, and their ability to integrate and apply these materials. The outcome of the comprehensive examination determines whether students are permitted to proceed to the M.S. or Ph.D. program.
 - The comprehensive examination consists of oral and written components.
 - The written component, which lasts no longer than 8 hours, consists of a combination of open- and closed book questions on the material covered in the required courses taken by each student.
 - The oral component, which lasts no longer than 2 hours for each student, may include questions from all the courses taken by the student.
 - Students and advisors will receive feedback from the comprehensive exam committee on the strengths and weaknesses of the student, and possible recommendations on how to address those.
 - The outcome of the exam, which is determined by the comprehensive examination committee, is based on the student's performance on this examination, together with consideration of the student's first year academic record. Possible exam outcomes are:
 - **PhD-Pass:** Students with this result may bypass the M.S. degree and start working toward earning a Ph.D. If the student chooses to, he/she may complete a M.S. degree before pursuing a Ph.D.
 - **MS-Pass:** Students with this result are required to defend a master's thesis and get approval from his/her M.S. thesis committee before pursuing a Ph.D.
 - **Fail:** Students with this result will have an opportunity to re-take the exam once.
- ⁴
- These guidelines complement those given in the UM Graduate Student Handbook.
 - Ph.D. students are expected to take the qualifying exam and proposal defense by the end of their third full year in the program (beginning in the fall semester). If a student needs to take the exam after that time, he/she will need to provide a written explanation to, and get approval from, the OCE academic committee.
 - While the exact format is left to the discretion of the Ph.D. committee, a typical oral qualifying exam consists of an hour of questions based on the written qualifying exam and other related questions, and a second hour in which the student presents his/her dissertation proposal. It is recommended that the presentation emphasizes future work, rather than a review of previous results, which are in the written proposal.
 - Expectations of the Qualifying Exam
1. **Written Exam.** The student's written answers should be judged by committee members to demonstrate that the student has adequately addressed each question on the exam. The questions are usually related to the research described in the dissertation proposal.
 2. **Oral Exam.** The student should demonstrate the ability to express him/herself clearly while providing satisfactory responses to questions raised by the committee that relate to the written qualifying exam questions, and any other questions asked by the committee members.
 3. **Dissertation Proposal.** The proposal should be written by the student in clear English. The proposal should demonstrate the capability of the student to produce and present research of a quality that, when completed, is suitable for submission to a peer-reviewed journal. Emphasis should be placed on the proposed research: the questions and hypotheses to be tested, the data and methodology used to test the hypotheses, and some anticipated results (which may or may not be realized). A student is encouraged to discuss the proposal with the advisor.

- 5
- Attendance to the OCE, MPO or AMP seminars is required every semester.
 - In the same seminar series, each student is expected to give at least one 15-minute presentation each year after the student passes the comprehensive examination.
- 6
- Ph.D. students are expected to be a Teaching Assistant (TA) for two courses while pursuing their degree.
 - The mandatory TA program will include training of new TAs, evaluation of their performance, and recognition of excellence. The goal is to make the experience as valuable as possible for the TA, the faculty, and the students taking our courses.
 - A training session and two teaching opportunities are offered as courses in educational training (RSM 771, RSM 772, RSM 773). Students will be registered accordingly.
 - Specific requirements for TAs are outlined in the RSMAS Student Handbook.

Air-Sea Interaction and Remote Sensing Track

Code	Title	Credit Hours
The OCE Ph.D. degree requires 60 total credits. ¹		
Core Courses		6
Choose 2 courses from the following:		
OCE 610	Ocean Biogeochemistry	
OCE 603	Physical Oceanography	
OCE 701	Mathematical Methods in Marine Physics	
Air-Sea Interaction and Remote Sensing Track		6
OCE 675	Fluid Mechanics	
OCE 676	Wave Propagation in the Ocean Environment	
Electives ²		15
Dissertation Research		33
OCE 830	Doctoral Dissertation	
Required Examinations		
Comprehensive Examination ³		
Qualifying Examination ⁴		
Additional Requirements		
Dallas Murphy Writing Workshop or Writing Skills Course (RSM 780)		
RSM 700	Research Ethics	
OCE Seminar ⁵		
Educational Training Program (TA) ⁶		
RSM 771	Educational Training 1	
RSM 772	Educational Training 2	
RSM 773	Educational Training 3	
Total Credit Hours		60

- ¹
- Minimum of 27 course credits and 12 dissertation credits.
 - Minimum of 9 course credits should be taken from 700 level courses.

- ²
- At least one 3-credit course must be taken outside the OCE program, unless the student came to RSMAS with an M.S. degree from another institution.
 - Courses with the 'RSM' designation count as outside courses.
 - The remaining course credits can be obtained by taking other graduate courses offered by OCE, RSMAS, or UM.

- 3
- Material from the required core courses will appear on the Comprehensive Examination (along with material from other courses from the first year).
 - A grade of **PhD-Pass** is required to bypass the M.S. degree and begin working towards the Ph.D.
 - Students earning a grade of **MS-Pass** may pursue a Ph.D. after completing the M.S. degree, subject to approval from their M.S. thesis committee.
 - All M.S. and Ph.D. students are required to take the comprehensive examination. For full-time students, the comprehensive examination should be taken before the end of their first full year of graduate studies at RSMAS (beginning in the fall semester). This examination will be arranged by a comprehensive examination committee comprised of the OCE graduate program director and the instructors (or their assignees) of the required courses taken by the students.
 - The purpose of this examination is to evaluate students' understanding of materials in the required courses, and their ability to integrate and apply these materials. The outcome of the comprehensive examination determines whether students are permitted to proceed to the M.S. or Ph.D. program.
 - The comprehensive examination consists of oral and written components.
 - The written component, which lasts no longer than 8 hours, consists of a combination of open- and closed book questions on the material covered in the required courses taken by each student.
 - The oral component, which lasts no longer than 2 hours for each student, may include questions from all the courses taken by the student.
 - Students and advisors will receive feedback from the comprehensive exam committee on the strengths and weaknesses of the student, and possible recommendations on how to address those.
 - The outcome of the exam, which is determined by the comprehensive examination committee, is based on the student's performance on this examination, together with consideration of the student's first year academic record. Possible exam outcomes are:
 - **PhD-Pass:** Students with this result may bypass the M.S. degree and start working toward earning a Ph.D. If the student chooses to, he/she may complete a M.S. degree before pursuing a Ph.D.
 - **MS-Pass:** Students with this result are required to defend a master's thesis and get approval from his/her M.S. thesis committee before pursuing a Ph.D.
 - **Fail:** Students with this result will have an opportunity to re-take the exam once.
- 4
- These guidelines complement those given in the UM Graduate Student Handbook.
 - Ph.D. students are expected to take the qualifying exam and proposal defense by the end of their third full year in the program (beginning in the fall semester). If a student needs to take the exam after that time, he/she will need to provide a written explanation to, and get approval from, the OCE academic committee.
 - While the exact format is left to the discretion of the Ph.D. committee, a typical oral qualifying exam consists of an hour of questions based on the written qualifying exam and other related questions, and a second hour in which the student presents his/her dissertation proposal. It is recommended that the presentation emphasizes future work, rather than a review of previous results, which are in the written proposal.
 - Expectations of the Qualifying Exam
 1. **Written Exam.** The student's written answers should be judged by committee members to demonstrate that the student has adequately addressed each question on the exam. The questions are usually related to the research described in the dissertation proposal.
 2. **Oral Exam.** The student should demonstrate the ability to express him/herself clearly while providing satisfactory responses to questions raised by the committee that relate to the written qualifying exam questions, and any other questions asked by the committee members.
 3. **Dissertation Proposal.** The proposal should be written by the student in clear English. The proposal should demonstrate the capability of the student to produce and present research of a quality that, when completed, is suitable for submission to a peer-reviewed journal. Emphasis should be placed on the proposed research: the questions and hypotheses to be tested, the data and methodology used to test the hypotheses, and some anticipated results (which may or may not be realized). A student is encouraged to discuss the proposal with the advisor.
- 5
- Attendance to the OCE, MPO or AMP seminars is required every semester.
 - In the same seminar series, each student is expected to give at least one 15-minute presentation each year after the student passes the comprehensive examination.
- 6
- Ph.D. students are expected to be a Teaching Assistant (TA) for two courses while pursuing their degree.
 - The mandatory TA program will include training of new TAs, evaluation of their performance, and recognition of excellence. The goal is to make the experience as valuable as possible for the TA, the faculty, and the students taking our courses.
 - A training session and two teaching opportunities are offered as courses in educational training (RSM 771, RSM 772, RSM 773). Students will be registered accordingly.
 - Specific requirements for TAs are outlined in the RSMAS Student Handbook.

Marine Biogeochemistry Track

Code	Title	Credit Hours
The OCE Ph.D. degree requires 60 total credits. ¹		
Core Courses		6
Choose 2 courses from the following:		
OCE 610	Ocean Biogeochemistry	
OCE 603	Physical Oceanography	
OCE 701	Mathematical Methods in Marine Physics	
Marine Biogeochemistry Track		9
MBE 704	Biological Oceanography	
OCE 705	Chemical Oceanography	
OCE 612	Marine Organic Geochemistry	
or OCE 622	Marine Microbial Dynamics	
Electives ²		12

Dissertation Research		33
OCE 830	Doctoral Dissertation	
Required Examinations		
Comprehensive Examination ³		
Qualifying Examination ⁴		
Additional Requirements		
Dallas Murphy Writing Workshop or Writing Skills Course (RSM 780)		
RSM 700	Research Ethics	
OCE Seminar ⁵		
Educational Training Program (TA) ⁶		
RSM 771	Educational Training 1	
RSM 772	Educational Training 2	
RSM 773	Educational Training 3	
Total Credit Hours		60

- ¹
- Minimum of 27 course credits and 12 dissertation credits.
 - Minimum of 9 course credits should be taken from 700 level courses.
- ²
- At least one 3-credit course must be taken outside the OCE program, unless the student came to RSMAS with an M.S. degree from another institution.
 - Courses with the 'RSM' designation count as outside courses.
 - The remaining course credits can be obtained by taking other graduate courses offered by OCE, RSMAS, or UM.
- ³
- Material from the required core courses will appear on the Comprehensive Examination (along with material from other courses from the first year).
 - A grade of **PhD-Pass** is required to bypass the M.S. degree and begin working towards the Ph.D.
 - Students earning a grade of **MS-Pass** may pursue a Ph.D. after completing the M.S. degree, subject to approval from their M.S. thesis committee.
 - All M.S. and Ph.D. students are required to take the comprehensive examination. For full-time students, the comprehensive examination should be taken before the end of their first full year of graduate studies at RSMAS (beginning in the fall semester). This examination will be arranged by a comprehensive examination committee comprised of the OCE graduate program director and the instructors (or their assignees) of the required courses taken by the students.
 - The purpose of this examination is to evaluate students' understanding of materials in the required courses, and their ability to integrate and apply these materials. The outcome of the comprehensive examination determines whether students are permitted to proceed to the M.S. or Ph.D. program.
 - The comprehensive examination consists of oral and written components.
 - The written component, which lasts no longer than 8 hours, consists of a combination of open- and closed book questions on the material covered in the required courses taken by each student.
 - The oral component, which lasts no longer than 2 hours for each student, may include questions from all the courses taken by the student.
 - Students and advisors will receive feedback from the comprehensive exam committee on the strengths and weaknesses of the student, and possible recommendations on how to address those.
 - The outcome of the exam, which is determined by the comprehensive examination committee, is based on the student's performance on this examination, together with consideration of the student's first year academic record. Possible exam outcomes are:
 - **PhD-Pass:** Students with this result may bypass the M.S. degree and start working toward earning a Ph.D. If the student chooses to, he/she may complete a M.S. degree before pursuing a Ph.D.
 - **MS-Pass:** Students with this result are required to defend a master's thesis and get approval from his/her M.S. thesis committee before pursuing a Ph.D.
 - **Fail:** Students with this result will have an opportunity to re-take the exam once.
- ⁴
- These guidelines complement those given in the UM Graduate Student Handbook.
 - Ph.D. students are expected to take the qualifying exam and proposal defense by the end of their third full year in the program (beginning in the fall semester). If a student needs to take the exam after that time, he/she will need to provide a written explanation to, and get approval from, the OCE academic committee.
 - While the exact format is left to the discretion of the Ph.D. committee, a typical oral qualifying exam consists of an hour of questions based on the written qualifying exam and other related questions, and a second hour in which the student presents his/her dissertation proposal. It is recommended that the presentation emphasizes future work, rather than a review of previous results, which are in the written proposal.
 - Expectations of the Qualifying Exam
1. **Written Exam.** The student's written answers should be judged by committee members to demonstrate that the student has adequately addressed each question on the exam. The questions are usually related to the research described in the dissertation proposal.
 2. **Oral Exam.** The student should demonstrate the ability to express him/herself clearly while providing satisfactory responses to questions raised by the committee that relate to the written qualifying exam questions, and any other questions asked by the committee members.
 3. **Dissertation Proposal.** The proposal should be written by the student in clear English. The proposal should demonstrate the capability of the student to produce and present research of a quality that, when completed, is suitable for submission to a peer-reviewed journal. Emphasis should be placed on the proposed research: the questions and hypotheses to be tested, the data and methodology used to test the hypotheses, and some anticipated results (which may or may not be realized). A student is encouraged to discuss the proposal with the advisor.
- ⁵
- Attendance to the OCE, MPO or AMP seminars is required every semester.
 - In the same seminar series, each student is expected to give at least one 15-minute presentation each year after the student passes the comprehensive examination.

- 6
- Ph.D. students are expected to be a Teaching Assistant (TA) for two courses while pursuing their degree.
 - The mandatory TA program will include training of new TAs, evaluation of their performance, and recognition of excellence. The goal is to make the experience as valuable as possible for the TA, the faculty, and the students taking our courses.
 - A training session and two teaching opportunities are offered as courses in educational training (RSM 771, RSM 772, RSM 773). Students will be registered accordingly.
 - Specific requirements for TAs are outlined in the RSMAS Student Handbook.

Biophysical Interactions Track

Code	Title	Credit Hours
The OCE Ph.D. degree requires 60 total credits. ¹		
Core Courses		6
Choose 2 courses from the following:		
OCE 610	Ocean Biogeochemistry	
OCE 603	Physical Oceanography	
OCE 701	Mathematical Methods in Marine Physics	
Biophysical Interactions Track		6
MBE 704	Biological Oceanography	
OCE 6XX - Math for Biophysical Interactions		
Electives ²		15
Dissertation Research		33
OCE 830	Doctoral Dissertation	
Required Examinations		
Comprehensive Examination ³		
Qualifying Examination ⁴		
Additional Requirements		
Dallas Murphy Writing Workshop or Writing Skills Course (RSM 780)		
RSM 700	Research Ethics	
OCE Seminar ⁵		
Educational Training Program (TA) ⁶		
RSM 771	Educational Training 1	
RSM 772	Educational Training 2	
RSM 773	Educational Training 3	
Total Credit Hours		60

¹

- Minimum of 27 course credits and 12 dissertation credits.
 - Minimum of 9 course credits should be taken from 700 level courses.

²

- At least one 3-credit course must be taken outside the OCE program, unless the student came to RSMAS with an M.S. degree from another institution.
- Courses with the 'RSM' designation count as outside courses.
- The remaining course credits can be obtained by taking other graduate courses offered by OCE, RSMAS, or UM.

- 3
- Material from the required core courses will appear on the Comprehensive Examination (along with material from other courses from the first year).
 - A grade of **PhD-Pass** is required to bypass the M.S. degree and begin working towards the Ph.D.
 - Students earning a grade of **MS-Pass** may pursue a Ph.D. after completing the M.S. degree, subject to approval from their M.S. thesis committee.
 - All M.S. and Ph.D. students are required to take the comprehensive examination. For full-time students, the comprehensive examination should be taken before the end of their first full year of graduate studies at RSMAS (beginning in the fall semester). This examination will be arranged by a comprehensive examination committee comprised of the OCE graduate program director and the instructors (or their assignees) of the required courses taken by the students.
 - The purpose of this examination is to evaluate students' understanding of materials in the required courses, and their ability to integrate and apply these materials. The outcome of the comprehensive examination determines whether students are permitted to proceed to the M.S. or Ph.D. program.
 - The comprehensive examination consists of oral and written components.
 - The written component, which lasts no longer than 8 hours, consists of a combination of open- and closed book questions on the material covered in the required courses taken by each student.
 - The oral component, which lasts no longer than 2 hours for each student, may include questions from all the courses taken by the student.
 - Students and advisors will receive feedback from the comprehensive exam committee on the strengths and weaknesses of the student, and possible recommendations on how to address those.
 - The outcome of the exam, which is determined by the comprehensive examination committee, is based on the student's performance on this examination, together with consideration of the student's first year academic record. Possible exam outcomes are:
 - **PhD-Pass:** Students with this result may bypass the M.S. degree and start working toward earning a Ph.D. If the student chooses to, he/she may complete a M.S. degree before pursuing a Ph.D.
 - **MS-Pass:** Students with this result are required to defend a master's thesis and get approval from his/her M.S. thesis committee before pursuing a Ph.D.
 - **Fail:** Students with this result will have an opportunity to re-take the exam once.
- 4
- These guidelines complement those given in the UM Graduate Student Handbook.
 - Ph.D. students are expected to take the qualifying exam and proposal defense by the end of their third full year in the program (beginning in the fall semester). If a student needs to take the exam after that time, he/she will need to provide a written explanation to, and get approval from, the OCE academic committee.
 - While the exact format is left to the discretion of the Ph.D. committee, a typical oral qualifying exam consists of an hour of questions based on the written qualifying exam and other related questions, and a second hour in which the student presents his/her dissertation proposal. It is recommended that the presentation emphasizes future work, rather than a review of previous results, which are in the written proposal.
 - Expectations of the Qualifying Exam
 1. Written Exam. The student's written answers should be judged by committee members to demonstrate that the student has adequately addressed each question on the exam. The questions are usually related to the research described in the dissertation proposal.
 2. Oral Exam. The student should demonstrate the ability to express him/herself clearly while providing satisfactory responses to questions raised by the committee that relate to the written qualifying exam questions, and any other questions asked by the committee members.
 3. Dissertation Proposal. The proposal should be written by the student in clear English. The proposal should demonstrate the capability of the student to produce and present research of a quality that, when completed, is suitable for submission to a peer-reviewed journal. Emphasis should be placed on the proposed research: the questions and hypotheses to be tested, the data and methodology used to test the hypotheses, and some anticipated results (which may or may not be realized). A student is encouraged to discuss the proposal with the advisor.
- 5
- Attendance to the OCE, MPO or AMP seminars is required every semester.
 - In the same seminar series, each student is expected to give at least one 15-minute presentation each year after the student passes the comprehensive examination.
- 6
- Ph.D. students are expected to be a Teaching Assistant (TA) for two courses while pursuing their degree.
 - The mandatory TA program will include training of new TAs, evaluation of their performance, and recognition of excellence. The goal is to make the experience as valuable as possible for the TA, the faculty, and the students taking our courses.
 - A training session and two teaching opportunities are offered as courses in educational training (RSM 771, RSM 772, RSM 773). Students will be registered accordingly.
 - Specific requirements for TAs are outlined in the RSMAS Student Handbook.

Medicine

Biochemistry and Molecular Biology

<http://bm.med.miami.edu>

Overview

Biochemistry and Molecular Biology are sciences at the epicenter of modern biomedical research. Understanding basic biochemical pathways is key to gaining new knowledge for the prevention and combating of disease, allowing for the expansion of current boundaries in medicine and science. In addition to medical applications, molecular biology is indispensable for the development of tools implemented for environmental and bionanotechnology problems. The Department of Biochemistry and Molecular Biology (BMB) at the University of Miami is committed to maintaining our discipline as a central science and strives for excellence by sustaining the current areas of strength, fostering interdisciplinary and clinical translational research, and expanding the research portfolio to evolving areas of inquiry and discovery. Our expertise in RNA biology, understanding DNA stability and repair, studying the biophysical nature of biomolecules, and gaining insight into cellular signaling pathways has been recently expanded by the arrival of researchers specialized in the design of natural and semi-synthetic biomolecules, as well as molecular-based devices that can be employed in translational medicine and other bionanotechnology applications. The commitment of the Miller School to increase growth in the basic sciences will continue to provide our department with new and exciting opportunities to enhance our prominence in biomedical research.

A chief mission of our department is to educate future generations of investigators and medical students to become critical thinkers and the leaders in their fields. The diverse composition of our department in regards to research interests creates a unique and intellectually stimulating learning environment for students at the undergraduate, graduate, and postgraduate levels. We offer a host of courses to fulfill the curriculum to obtain a BS in Biochemistry, a MS and a PhD in Biochemistry, as well as the basic science requirements for MD and MD / PhD students. Our courses address the basic principles of biochemistry and molecular biology as well as the emerging science and future of the fields.

The department serves the worldwide scientific community through leadership roles and active participation in national and international conferences, serving in study sections and on federal agency panels. Additionally, our department's faculty roster encompasses editors of journals and members of editorial boards, as well as board members of national and international governmental centers and members of advisory boards of companies in the private sector. Moreover, the Department is committed to serve the community by participating in a variety of outreach events to promote awareness of the importance of science and technology in relation to public health and the environment.

Our department is also unique for hosting the internationally recognized annual Miami Winter Symposium, created by Professor William Whelan, the first leader and Chair of the Department. The Miami Winter Symposium is currently managed by Nature Publishing and features world-renowned speakers in emerging areas of science and technology. This event cements our department's goal of furthering education and discovery in biochemistry and molecular biology on an international level.

Contact Information

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Miami, Florida 33136
305 243 2468

eileen.bello@med.miami.edu

Admission Requirements

Applicants to biomedical programs should have a bachelor degree in a biological or related discipline (e.g., psychology, chemistry, engineering, physics). Although there are no prerequisite requirements, courses in general biology, cell/molecular biology, calculus, general physics, organic chemistry, physical chemistry, and biochemistry are encouraged. Applications are generally accepted from September to December for fall entry only. Select applicants will be offered an interview.

Competitive Candidates Will Have the Following:

- Excellent academic record
- Competitive GRE exam scores
- Research experience in a laboratory setting
- Publications of abstract and / or papers
- Co-authorship in a peer-reviewed journal is recommended

- Strong letters of recommendation from research scientists who know the candidate well
- Motivation to pursue state-of-the-art biomedical research

Applicants Must Submit the Following:

- Online Application
- Application Fee
- Official Academic Transcripts
- GRE General Test
- English Proficiency Exam (non-native speakers)
- Statement of Purpose
- Resume / CV

Full application instructions can be found online (<http://biomed.med.miami.edu/apply>).

Doctoral Programs

- Ph.D. in Biochemistry and Molecular Biology (p. 1190)
- Executive Ph.D. in Biochemistry and Molecular Biology (p. 1194)

Ph.D. in Biochemistry and Molecular Biology

Overview

There are three different tracks in which students may enter and progress towards award of the PhD in Biochemistry and Molecular Biology. The first track involves admission through the Program in Biomedical Sciences (PIBS). Alternatively, students may apply and be directly admitted to the PhD program. Finally, the Executive PhD allows students to complete coursework and perform research at their place of work. In all cases, students are assisted in tailoring a program to match his or her interests. In general, students complete courses offered in a variety of formats, e.g., formal lectures, seminars, and workshops. Each BMB graduate program's curriculum is designed to provide broad knowledge in the various aspects of molecular biology and biochemistry in addition to intensive training in certain specialized areas of research according to the student's interests.

Curriculum Requirements

Ph.D. - PIBS Plan

Code	Title	Credit Hours
Biomedical Science Core		
PIB 700	Journal Club	1
PIB 701	Introduction to Biomedical Sciences	5
PIB 702	Scientific Reasoning	3
PIB 705	Biostatistics for the Biosciences	3
PIB 731	Laboratory Research	1-6
PIB 780	Research Ethics	1
PIB 782	Professional Development: Skills for Success I	1
PIB 783	Professional Development: Skills for Success II	1
BMB Required Courses		
BMB 701	Research Journal Club.	8-14
BMB 702	Biochemical Science Seminar	6
BMB 709	Advanced Biochemistry and Molecular Biology	3
BMB 714	Molecular Genetics	4
BMB 715	Structural Biology and Applications to Drug Discovery	2
Research Credits		
BMB 830	Doctoral Dissertation	-
BMB 840	Doctoral Dissertation- Post Candidacy	-
Total Credit Hours		63-74

Ph.D. - Direct Admit

Code	Title	Credit Hours
BMB Required Courses		
PIB 705	Biostatistics for the Biosciences	3
PIB 780	Research Ethics	1
PIB 782	Professional Development: Skills for Success I	1
PIB 783	Professional Development: Skills for Success II	1
BMB 701	Research Journal Club.	10-14
BMB 702	Biochemical Science Seminar	8
BMB 709	Advanced Biochemistry and Molecular Biology	3
BMB 714	Molecular Genetics	4
BMB 715	Structural Biology and Applications to Drug Discovery	2
Research Credits		27
BMB 830	Doctoral Dissertation	-
BMB 840	Doctoral Dissertation- Post Candidacy	-
Total Credit Hours		60-64

Suggested Plans of Study**Ph.D. - PIBS Plan**

Please note that the following is only a sample curriculum plan. Current students must discuss their plan with their program director to make adjustments as needed. It is the student's responsibility to contact the program to verify the information.

Course	Title	Credit Hours
Year One		
Fall		
PIB 701	Introduction to Biomedical Sciences	5
PIB 702	Scientific Reasoning	3
PIB 731	Laboratory Research	1
PIB 700	Journal Club	1
PIB 780	Research Ethics	1
PIB 782	Professional Development: Skills for Success I	1
Credit Hours		12
Spring		
PIB 700	Journal Club	1
PIB 705	Biostatistics for the Biosciences	3
PIB 731	Laboratory Research	1
PIB 783	Professional Development: Skills for Success II	1
BMB 709	Advanced Biochemistry and Molecular Biology	3
BMB 715	Structural Biology and Applications to Drug Discovery (Spring II Course)	2
Credit Hours		11
Summer		
BMB 840	Doctoral Dissertation- Post Candidacy	2
Credit Hours		2
Year Two		
Fall		
BMB 701	Research Journal Club.	1
BMB 702	Biochemical Science Seminar	1
BMB 714	Molecular Genetics	4
BMB 840	Doctoral Dissertation- Post Candidacy	2
Credit Hours		8
Spring		
BMB 701	Research Journal Club.	1

BMB 702	Biochemical Science Seminar	1
BMB 840	Doctoral Dissertation- Post Candidacy	2
	Credit Hours	4
Summer		
BMB 840	Doctoral Dissertation- Post Candidacy	2
	Credit Hours	2
Year Three		
Fall		
BMB 701	Research Journal Club.	1
BMB 702	Biochemical Science Seminar	1
BMB 840	Doctoral Dissertation- Post Candidacy	2
	Credit Hours	4
Spring		
BMB 701	Research Journal Club.	1
BMB 702	Biochemical Science Seminar	1
BMB 840	Doctoral Dissertation- Post Candidacy	2
	Credit Hours	4
Summer		
BMB 840	Doctoral Dissertation- Post Candidacy	2
	Credit Hours	2
Year Four		
Fall		
BMB 701	Research Journal Club.	1
BMB 840	Doctoral Dissertation- Post Candidacy	2
	Credit Hours	3
Spring		
BMB 701	Research Journal Club.	1
BMB 840	Doctoral Dissertation- Post Candidacy	2
	Credit Hours	3
Summer		
BMB 840	Doctoral Dissertation- Post Candidacy	2
	Credit Hours	2
Year Five		
Fall		
BMB 701	Research Journal Club.	1
BMB 840	Doctoral Dissertation- Post Candidacy	2
	Credit Hours	3
Spring		
BMB 840	Doctoral Dissertation- Post Candidacy	2
BMB 850	Research in Residence	0
BMB 701	Research Journal Club.	1
	Credit Hours	3
	Total Credit Hours	63

Ph.D. - Direct Admission Plan

Please note that the following is only a sample curriculum plan. Current students must discuss their plan with their program director to make adjustments as needed. It is the student's responsibility to contact the program to verify the information.

Course	Title	Credit Hours
Year One		
Fall		
PIB 780	Research Ethics	1
PIB 782	Professional Development: Skills for Success I	1

BMB 701	Research Journal Club.	1
BMB 702	Biochemical Science Seminar	1
BMB 714	Molecular Genetics	4
BMB 830	Doctoral Dissertation	2
	Credit Hours	10
Spring		
PIB 705	Biostatistics for the Biosciences	3
PIB 783	Professional Development: Skills for Success II	1
BMB 701	Research Journal Club.	1
BMB 702	Biochemical Science Seminar	1
BMB 709	Advanced Biochemistry and Molecular Biology	3
BMB 715	Structural Biology and Applications to Drug Discovery (Spring II Course)	2
BMB 830	Doctoral Dissertation	2
	Credit Hours	13
Summer		
BMB 840	Doctoral Dissertation- Post Candidacy	2
	Credit Hours	2
Year Two		
Fall		
BMB 701	Research Journal Club.	1
BMB 702	Biochemical Science Seminar	1
BMB 710	Advanced Topics in Biochemistry and Molecular Biology	3
BMB 840	Doctoral Dissertation- Post Candidacy	2
	Credit Hours	7
Spring		
BMB 701	Research Journal Club.	1
BMB 702	Biochemical Science Seminar	1
BMB 840	Doctoral Dissertation- Post Candidacy	2
	Credit Hours	4
Summer		
BMB 840	Doctoral Dissertation- Post Candidacy	2
	Credit Hours	2
Year Three		
Fall		
BMB 701	Research Journal Club.	1
BMB 702	Biochemical Science Seminar	1
BMB 840	Doctoral Dissertation- Post Candidacy	2
	Credit Hours	4
Spring		
BMB 701	Research Journal Club.	1
BMB 702	Biochemical Science Seminar	1
BMB 840	Doctoral Dissertation- Post Candidacy	2
	Credit Hours	4
Summer		
BMB 840	Doctoral Dissertation- Post Candidacy	2
	Credit Hours	2
Year Four		
Fall		
BMB 701	Research Journal Club.	1
BMB 840	Doctoral Dissertation- Post Candidacy	2
BMB 702	Biochemical Science Seminar	1
	Credit Hours	4

Spring		
BMB 840	Doctoral Dissertation- Post Candidacy	2
BMB 702	Biochemical Science Seminar	1
	Credit Hours	3
Summer		
BMB 840	Doctoral Dissertation- Post Candidacy	2
	Credit Hours	2
Year Five		
Fall		
BMB 701	Research Journal Club.	1
BMB 840	Doctoral Dissertation- Post Candidacy	2
	Credit Hours	3
Spring		
BMB 840	Doctoral Dissertation- Post Candidacy	2
BMB 850	Research in Residence	0
	Credit Hours	2
	Total Credit Hours	62

Executive Ph.D. in Biochemistry and Molecular Biology

Overview

There are three different tracks in which students may enter and progress towards award of the PhD in Biochemistry and Molecular Biology. The first track involves admission through the Program in Biomedical Sciences (PIBS). Alternatively, students may apply and be directly admitted to the PhD program. Finally, the Executive PhD allows students to complete coursework and perform research at their place of work. In all cases, students are assisted in tailoring a program to match his or her interests. In general, students complete courses offered in a variety of formats, e.g., formal lectures, seminars, and workshops. Each BMB graduate program's curriculum is designed to provide broad knowledge in the various aspects of molecular biology and biochemistry in addition to intensive training in certain specialized areas of research according to the student's interests.

Curriculum

Code	Title	Credit Hours
Required Courses		
BMB 701	Research Journal Club.	10-14
BMB 709	Advanced Biochemistry and Molecular Biology	3
BMB 710	Advanced Topics in Biochemistry and Molecular Biology	3-5
BMB 714	Molecular Genetics	4
BMB 715	Structural Biology and Applications to Drug Discovery	2
BMB 719	Fundamentals of Epigenetics	3
Research Credits		35
BMB 830	Doctoral Dissertation	-
BMB 840	Doctoral Dissertation- Post Candidacy	-
Total Credit Hours		60-66

Suggested Plan of Study

Please note that the following is only a sample curriculum plan. Current students must discuss their plan with their program director to make adjustments as needed. It is the student's responsibility to contact the program to verify the information.

Course	Title	Credit Hours
Year One		
Fall		
BMB 701	Research Journal Club.	1
BMB 714	Molecular Genetics	4
BMB 715	Structural Biology and Applications to Drug Discovery	2

BMB 830	Doctoral Dissertation	2
	Credit Hours	9
Spring		
BMB 701	Research Journal Club.	1
BMB 709	Advanced Biochemistry and Molecular Biology	3
BMB 719	Fundamentals of Epigenetics	3
BMB 830	Doctoral Dissertation	2
	Credit Hours	9
Summer		
BMB 840	Doctoral Dissertation- Post Candidacy	2
	Credit Hours	2
Year Two		
Fall		
BMB 701	Research Journal Club.	1
BMB 710	Advanced Topics in Biochemistry and Molecular Biology	3
BMB 840	Doctoral Dissertation- Post Candidacy	2
	Credit Hours	6
Spring		
BMB 701	Research Journal Club.	1
BMB 840	Doctoral Dissertation- Post Candidacy	2
	Credit Hours	3
Summer		
BMB 840	Doctoral Dissertation- Post Candidacy	2
	Credit Hours	2
Year Three		
Fall		
BMB 701	Research Journal Club.	1
BMB 840	Doctoral Dissertation- Post Candidacy	4
	Credit Hours	5
Spring		
BMB 701	Research Journal Club.	1
BMB 840	Doctoral Dissertation- Post Candidacy	4
	Credit Hours	5
Summer		
BMB 840	Doctoral Dissertation- Post Candidacy	4
	Credit Hours	4
Year Four		
Fall		
BMB 701	Research Journal Club.	1
BMB 840	Doctoral Dissertation- Post Candidacy	4
	Credit Hours	5
Spring		
BMB 701	Research Journal Club.	1
BMB 840	Doctoral Dissertation- Post Candidacy	4
	Credit Hours	5
Summer		
BMB 840	Doctoral Dissertation- Post Candidacy	4
	Credit Hours	4
Year Five		
Fall		
BMB 701	Research Journal Club.	1

BMB 840	Doctoral Dissertation- Post Candidacy	4
	Credit Hours	5
	Total Credit Hours	64

Biomedical Sciences

biomed.med.miami.edu

Overview

The University of Miami's Miller School of Medicine is a research powerhouse, achieving international recognition for breakthroughs and advanced knowledge in diabetes, cancer, spinal cord injury, AIDS, marine science, and many other areas. Our centers of excellence are continually ranked among the nation's best, including Bascom Palmer Eye Institute, The Miami Project to Cure Paralysis, and the Diabetes Research Institute. And our new institutes such as Interdisciplinary Stem Cell Institute, Miami Institute for Human Genomics, and the Center for Computational Sciences will further enhance research. The research conducted here continues to enrich the quality of life for people worldwide.

Master of Science in Biomedical Sciences

MiBS is a full-time program that packs a core curriculum in biochemistry, molecular biology, cell biology and physiology, along with several optional courses in three customized tracks – Medicine, Research or Drug Discovery. Our courses are taught by the same faculty that teach our medical and graduate students and will be tailored to meet your needs. In addition, students participate in physician and clinical shadowing or directed research to prepare you for a career in the biomedical sciences.

PhD Programs in Biomedical Sciences

The University of Miami Miller's School of Medicine (UMMSM) provides students a wide variety of research opportunities in the biological sciences across many disciplines and departments.

- Biochemistry & Molecular Biology (<http://biomed.med.miami.edu/graduate-programs/biochemistry-and-molecular-biology>)
- Cancer Biology (<http://biomed.med.miami.edu/graduate-programs/cancer-biology>)
- Human Genetics & Genomics (<http://biomed.med.miami.edu/graduate-programs/human-genetics-and-genomics>)
- Microbiology & Immunology (<http://biomed.med.miami.edu/graduate-programs/microbiology-and-immunology>)
- Molecular & Cellular Pharmacology (<http://biomed.med.miami.edu/graduate-programs/molecular-and-cellular-pharmacology>)
- Molecular Cell & Developmental Biology (<http://biomed.med.miami.edu/graduate-programs/molecular-cell-and-developmental-biology>)
- Neuroscience (<http://biomed.med.miami.edu/graduate-programs/neuroscience>)
- Physiology & Biophysics (<http://biomed.med.miami.edu/graduate-programs/physiology-and-biophysics>)

Contact Information

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Masters Program

M.S. in Biomedical Sciences (p. 1197)

Doctoral Program

PhD Program in Biomedical Sciences (p. 1199)

M.S. IN BIOMEDICAL SCIENCES

Overview

Our Master of Science in Biomedical Sciences (MiBS) program is a full-time program that packs a core curriculum in biochemistry, molecular biology, cell biology and physiology, along with several optional courses in three customized tracks – Medicine, Research or Drug Discovery. Our courses are taught by the same faculty that teach our medical and graduate students and will be tailored to meet your needs. In addition, students participate in physician and clinical shadowing or directed research to prepare you for a career in the biomedical sciences.

MiBS prepares recent undergraduates for medical or graduate school or a career in the biomedical industry. Our master's degree is an ideal way to use your gap year to build credentials and experience to propel yourself to any advanced degree. Students will have access to include hands-on faculty advising and mentoring to help you do your best and submit compelling applications. Students can begin our gap year program after their spring graduation and finish in time to start medical or graduate school the following August.

Contact Information

Arun Malhotra, PhD, Graduate Program Director
 William Orta, MBA, Graduate Program Coordinator
 305-243-3368
 mibs@miami.edu

Required Courses

Code	Title	Credit Hours
MBS 600	Journal Club	3
MBS 601	Biochemistry for the Biosciences	3
MBS 602	Molecular Biology for the Biosciences	3
MBS 603	Gross Anatomy and Histology	3
MBS 604	Advanced Molecular and Cell Biology	3
MBS 605	Cell Physiology	2
MBS 608	Basic Pathobiology	3
MBS 631	Laboratory Research or Physician Shadowing	6
Electives		4
Total Credit Hours		30

Elective Courses

Code	Title	Credit Hours
MBS 606	Human Physiology	2
MBS 607	Human Cardiovascular Physiology	2
MBS 611	Mechanisms of Drug Action	2
MBS 612	Structural Biology and Drug Design	2
MBS 613	Biostatistics for the Biosciences	3
MBS 614	Bioinformatics for Biosciences	3

Plan of Study

Course	Title	Credit Hours
Year One		
First Semester		
MBS 680	Professional Development Workshop	1
MBS 631	Laboratory Research or Physician Shadowing	3
	Credit Hours	4
Second Semester		
MBS 600	Journal Club	1
MBS 631	Laboratory Research or Physician Shadowing	3
MBS 601	Biochemistry for the Biosciences	3
MBS 602	Molecular Biology for the Biosciences	3
MBS 603	Gross Anatomy and Histology	3

MBS 604	Advanced Molecular and Cell Biology	3
	Credit Hours	16
Third Semester		
MBS 600	Journal Club	1
MBS 605	Cell Physiology	2
MBS 608	Basic Pathobiology	3
Electives		4
	Credit Hours	10
	Total Credit Hours	30

PHD PROGRAM IN BIOMEDICAL SCIENCES

<http://biomed.med.miami.edu/graduate-programs/programs-in-biomedical-sciences-pibs>

Overview

Programs in Biomedical Sciences (PIBS) at the University of Miami Miller's School of Medicine (UMMSM) provides students a wide variety of research opportunities in the biological sciences across many disciplines and departments.

First-year students take a core curriculum that builds a solid foundation in the biomedical sciences. The common coursework in the first semester ranges from molecules to cells to systems of human physiology. Lectures are balanced by breakout sessions, in which faculty members discuss the primary literature with students in small groups. Students have the flexibility to select breakout sessions that match their interests. The core curriculum also offers critical learning opportunities in biostatistics, genomic and analytical tools. In the second semester, students select individual modular courses offered in our eight disciplines. These courses cover topics of specific relevance to graduate programs or research topics. Students also complete a course in Biostatistics and a workshop in Bioinformatics.

PhD Program Selection

During their first year in the umbrella program, students complete three to four laboratory rotations in various disciplines. This opportunity allows students to explore their interests before selecting a program and dissertation mentor. Students match with mentors in specific programs and achieve program affiliation at the end of their first year in one of the following programs (for years two through five):

- Biochemistry & Molecular Biology (<http://biomed.med.miami.edu/graduate-programs/biochemistry-and-molecular-biology>)
- Cancer Biology (<http://biomed.med.miami.edu/graduate-programs/cancer-biology>)
- Human Genetics & Genomics (<http://biomed.med.miami.edu/graduate-programs/human-genetics-and-genomics>)
- Microbiology & Immunology (<http://biomed.med.miami.edu/graduate-programs/microbiology-and-immunology>)
- Molecular & Cellular Pharmacology (<http://biomed.med.miami.edu/graduate-programs/molecular-and-cellular-pharmacology>)
- Molecular Cell & Developmental Biology (<http://biomed.med.miami.edu/graduate-programs/molecular-cell-and-developmental-biology>)
- Neuroscience (<http://biomed.med.miami.edu/graduate-programs/neuroscience>)
- Physiology & Biophysics (<http://biomed.med.miami.edu/graduate-programs/physiology-and-biophysics>)

Contact Information

Office of Graduate and Postdoctoral Studies
 Rosenstiel Medical Sciences Building, Suite 1128
 1600 NW 10th Avenue, M857
 Miami, FL 33136
 305 243 1094
ogps@miami.edu

Curriculum Requirements

Code	Title	Credit Hours
PIB 700	Journal Club	2
PIB 701	Introduction to Biomedical Sciences	5
PIB 702	Scientific Reasoning	3
PIB 705	Biostatistics for the Biosciences	3
PIB 731	Laboratory Research	3-5
PIB 780	Research Ethics	1
PIB 782	Professional Development: Skills for Success I	1
PIB 783	Professional Development: Skills for Success II	1
PIB 830	Doctoral Dissertation	1
Total Credit Hours		20-22

Plan of Study

Students enrolled in the first year program for the PhD in Biomedical Sciences complete the following core requirements. The curricula for years two through five can be found in the program links above.

Course	Title	Credit Hours
Year One		
Fall		
PIB 701	Introduction to Biomedical Sciences	5
PIB 702	Scientific Reasoning	3
PIB 731	Laboratory Research (1 credit per lab rotation)	2
PIB 700	Journal Club	1
PIB 780	Research Ethics	1
PIB 782	Professional Development: Skills for Success I	1
	Credit Hours	13
Spring		
PIB 700	Journal Club	1
PIB 705	Biostatistics for the Biosciences	3
PIB 731	Laboratory Research	1-2
PIB 783	Professional Development: Skills for Success II	1
Program Electives: Select from List Below		
	Credit Hours	6-7
Summer		
PIB 830	Doctoral Dissertation	1
	Credit Hours	1
	Total Credit Hours	20-21

Program Elective Courses

The following program courses are available to first year students in their spring semester. It is generally recommended that students only take courses in the program they wish to enter. This will put students on a timely path to graduation. Your options will be discussed in your spring course advising appointment.

Code	Title	Credit Hours
BMB 714	Molecular Genetics	4
BMB 715	Structural Biology and Applications to Drug Discovery	2
CAB 710	Cancer Biochemistry and Molecular Biology	3
CAB 720	Dialogues with Cancer Clinicians (PIBS Module)	1
HGG 630	Variation and Disease	2
HGG 640	Family Studies and Genetic Analysis	2
MCP 704	Mechanisms of Drug Action	3
MCP 752	Systems Biology and Approaches in Pharmacology	3
MCP 753	Computational Pharmacology and Fundamentals of Drug Design	3
MDB 751	Advanced Cell Biology Approaches to Molecular Medicine	2-3
MDB 752	Current Topics in Mammalian Development	2-3
MDB 753	Histology	1
MIC 623	Mechanisms of Microbial Virulence	2
MIC 728	Principles of Immunology	3
NEU 721	Principles of Membrane Physiology and Biophysics I	2
NEU 722	Principles of Membrane Physiology and Biophysics II	2
PHS 610	Cell Physiology Biophysics	2
PHS 620	Neurophysiology	3
PHS 612	Systemic Physiology	4
PHS 741	Principles of Membrane Physiology and Biophysics I	2
PHS 742	Principles of Membrane Physiology and Biophysics II	2

Biostatistics

Masters Program in Biostatistics

- M.S. in Biostatistics (p. 1201)

Doctoral Program in Biostatistics

- Ph.D. in Biostatistics (p. 1202)

M.S. in Biostatistics

<http://www.biostat.med.miami.edu/academics/ms-in-biostatistics/>

The Master of Science (MS) in Biostatistics is an applied one year program intended for quantitative students seeking training in applied biostatistics. The program emphasizes applications and understanding of statistical concepts rather than theoretical and mathematical principles. The program is meant to be a terminal degree providing students with the necessary background for applying good biostatistical practices in real world settings. Students will gain practical skills that can be applied immediately to a variety of data settings, which includes, but is not limited to, the biological life sciences public health, medical studies, and health services research.

The degree consists of 33 credits covering introductory probability, biostatistics, introductory epidemiology and public health, computing, clinical trials, introductory survival analysis, and introductory mathematical statistics. Enrichment will be provided by a statistical practicum and a seminar course.

Pre-requisites include:

1. Introductory calculus
2. Introductory linear algebra
3. Introductory computing

Curriculum Requirements

Code	Title	Credit Hours
BST 605	Statistical Principles of Clinical Trials	3
BST 610	Introduction to Statistical Collaboration	3
BST 625	Survey of Statistical Computing	3
BST 650	Topics in Biostatistical Research ¹	2
BST 692	Case Studies in Biostatistics	3
EPH 600	Introduction to Public Health	3
EPH 621	Fundamentals of Epidemiology	3
EPH 703	Advanced Statistical Methods I	4
EPH 705	Advanced Statistical Methods II	3
EPH 751	Survival Analysis in Clinical Trials	3
MTH 624	Introduction to Probability Theory	3
Total Credit Hours		33

¹ BST 650 is taken for 1 credit in fall and 1 credit in spring.

Plan of Study

Course	Title	Credit Hours
First Year		
Fall		
BST 625	Survey of Statistical Computing	3
BST 650	Topics in Biostatistical Research	1
EPH 600	Introduction to Public Health	3
EPH 703	Advanced Statistical Methods I	4
MTH 624	Introduction to Probability Theory	3
Credit Hours		14
Spring		
BST 605	Statistical Principles of Clinical Trials	3
BST 650	Topics in Biostatistical Research	1
EPH 621	Fundamentals of Epidemiology	3

EPH 705	Advanced Statistical Methods II	3
EPH 751	Survival Analysis in Clinical Trials	3
	Credit Hours	13
Summer		
BST 610	Introduction to Statistical Collaboration	3
BST 692	Case Studies in Biostatistics	3
	Credit Hours	6
	Total Credit Hours	33

Ph.D. in Biostatistics

The PhD in Biostatistics, offered through the Division of Biostatistics in the Department of Public Health Sciences at the Miller School of Medicine, provides a flexible curriculum to cover the basics.

Admitted PhD students are expected to take a full suite of courses including several iterations of the seminar course, a consulting practicum (or advanced computing course), and a series of four to six courses that ensure the candidate has studied a subject matter discipline within biomedical research. PhD students are also expected to take high-level courses in statistical theory, survival analysis, and high-dimensional and complex data not generally taken by MS students. A sample program can be found here. (<http://www.biostat.med.miami.edu/academics/phd-in-biostatistics.html>)

PhD students are expected to pass a first-year written diagnostic exam at the end of their first year of study. A second oral and written exam will be administered at the end of the third year.

To obtain detailed program curricula on the PhD in Biostatistics, please contact our offices at the address below or visit our website. (<http://www.biostat.med.miami.edu>)

For further information, please contact:

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 Division of Biostatistics
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 1120 NW 14 Street, Room 1064
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 Website: <http://www.biostat.med.miami.edu/>

Curriculum Requirements

Code	Title	Credit Hours
EPH 600	Introduction to Public Health	3
BST 610	Introduction to Statistical Collaboration	3
EPH 621	Fundamentals of Epidemiology	3
BST 630	Longitudinal and Multilevel Data	3
BST 640	Modern Numerical Multivariate Methods	3
BST 650	Topics in Biostatistical Research	1
BST 665	Design and Analysis of Clinical Trials	3
BST 670	Bayes Data Analysis: Theory and Computing	3
BST 676	Introduction to Generalized Linear Models	3
BST 680	Advanced Statistical Theory	3
BST 690	Theory of Survival Analysis	3
BST 691	High Dimensional and Complex Data	3
Dissertation		12
BST 830	Doctoral Dissertation (pre-candidacy)	
BST 840	Doctoral Dissertation (Post-Candidacy)	
MTH 624	Introduction to Probability Theory	3
MTH 625	Introduction to Mathematical Statistics	3

MTH 642	Statistical Analysis	3
Electives		12
Total Credit Hours		67

Cancer Biology

<http://biomed.med.miami.edu/>

Overview

The Sheila and David Fuente Graduate Program in Cancer Biology is a University-wide interdisciplinary training program that involves faculty from the basic science and clinical departments of the University of Miami. The objective of this program is to provide a unique multidisciplinary training environment for highly qualified individuals that will prepare them for independent research and teaching careers. The overall philosophy of the program is to integrate basic and clinical research. The scientific focus is on the biology of cancer and the development of novel diagnostic and therapeutic approaches.

The program emphasizes a multidisciplinary approach which incorporates concepts and state-of-the-art techniques from molecular biology, biochemistry, cell biology, biostatistics, genetics, genomics, immunology, proteomics, structural biology, clinical oncology, and translational research programs at the Sylvester Comprehensive Cancer Center. An important goal of the program is to provide students with a strong background in basic biomedical research coupled with an understanding of clinical aspects of cancer including diagnostic, prognostic, and therapeutic intervention. To achieve this goal, the program utilizes a unique program of study that includes lectures from both basic and clinical researchers. In addition, the program has a two-tier mentoring system in which students receive guidance from both a research mentor and a physician mentor. The research mentor is the dissertation advisor, while the physician mentor will provide the student with a clinical perspective in oncology. Through this dual mentorship, students conduct their doctoral research and obtain clinical knowledge in their area of study. The program aims to instill in students the ability to design multidisciplinary research programs in which scientific research is driven by unmet clinical challenges.

The core course in Cancer Biochemistry and Molecular Biology is a prerequisite for all CAB courses. Other required courses include Tumor Biology, Translational to Clinical Research, Student Seminars, Special Topics in Cancer Research, Dialogues with Cancer Clinicians, and Logic and Reasoning in Translational Cancer Research. (Students can also choose electives in cancer epidemiology, cellular and molecular biology, immunology, pharmacology, and microbiology with permission of the CAB Director. After joining the program and choosing a research mentor, students formulate a proposal and take a qualifying exam. Their subsequent research is guided by an individually tailored dissertation committee, including the research advisor and physician mentor.)

Contact Information

Ralf Landgraf, PhD, (rlandgraf@med.miami.edu) Graduate Program Director
 Sarah Sandiford, (sls324@med.miami.edu) Senior Program Coordinator
 University of Miami, Miller School of Medicine
 Sylvester Comprehensive Cancer Center
 Sheila and David Fuente Graduate Program in Cancer Biology

1400 NW 10th Avenue, Dominion Tower Suite 412 (D79)
 Miami, Florida 33136
 305 243 2287

Admission Requirements

Applicants to biomedical programs should have a bachelor degree in a biological or related discipline (e.g., psychology, chemistry, engineering, physics). Although there are no prerequisite requirements, courses in general biology, cell/molecular biology, calculus, general physics, organic chemistry, physical chemistry, and biochemistry are encouraged. Applications are generally accepted from September to December for fall entry only.

Select applicants will be offered an interview.

COMPETITIVE CANDIDATES WILL HAVE THE FOLLOWING:

- Excellent academic record
- Competitive GRE exam scores
- Research experience in a laboratory setting
- Publications of abstract and / or papers
- Co-authorship in a peer-reviewed journal is recommended
- Strong letters of recommendation from research scientists who know the candidate well
- Motivation to pursue state-of-the-art biomedical research

APPLICANTS MUST SUBMIT THE FOLLOWING:

- Online Application
- Application Fee
- Official Academic Transcripts
- GRE General Test
- English Proficiency Exam (non-native speakers)
- Statement of Purpose
- Resume / CV

Full application instructions can be found online (<http://biomed.med.miami.edu/apply>).

Doctoral Programs

- Ph.D. in Cancer Biology (p. 1204)

Ph.D. in Cancer Biology

Curriculum Requirements

Code	Title	Credit Hours
Biomedical Sciences		
PIB 700	Journal Club	2
PIB 701	Introduction to Biomedical Sciences	5
PIB 702	Scientific Reasoning	3
PIB 705	Biostatistics for the Biosciences	3
PIB 706	Bioinformatics for the Biomedical Sciences	2-4
PIB 731	Laboratory Research	3-5
PIB 780	Research Ethics	1
PIB 782	Professional Development: Skills for Success I	1
PIB 783	Professional Development: Skills for Success II	1
PIB 830	Doctoral Dissertation	1
Core Courses		
CAB 701	CAB Student Seminar	4
CAB 705	Translational to Clinical Research	3
CAB 710	Cancer Biochemistry and Molecular Biology	3
CAB 713 is a required courses CAB 712, CAB 714 & CAB 715 can be done as electives:		2
CAB 712	Special Topics in Cancer Research - Viral Oncology and Tumor Immunology Module	
CAB 713	Special Topics in Cancer Research - Molecular Cancer Therapeutics Module	
CAB 714	Cancer Epidemiology, Prevention and Biobehavioral Oncology	
CAB 715	Special Topics in Cancer Research - Breast and Genitourinary Cancers Module	
CAB 720	Dialogues with Cancer Clinicians (PIBS Module)	1
CAB 750	Logic and Reasoning in Translational Cancer Research: Bench to Bedside Part 1	3
MDB 765	Tumor Biology	3
Dissertation (Includes 1 credit from PIB 830)		
Choose 23 credits from the following:		23
CAB 830	Dissertation Research - Pre Candidacy	
CAB 840	Doctoral Dissertation- Post Candidacy	
CAB 850	Research in Residence	
Total Credit Hours		64-68

Suggested Plan of Study

Course	Title	Credit Hours
Year One		
Fall		
PIB 701	Introduction to Biomedical Sciences	5
PIB 702	Scientific Reasoning	3
PIB 731	Laboratory Research	2
PIB 700	Journal Club	1
PIB 780	Research Ethics	1
PIB 782	Professional Development: Skills for Success I	1
	Credit Hours	13
Spring		
PIB 700	Journal Club	1
PIB 705	Biostatistics for the Biosciences	3
PIB 731	Laboratory Research	1
PIB 783	Professional Development: Skills for Success II	1
CAB 710	Cancer Biochemistry and Molecular Biology	3
CAB 720	Dialogues with Cancer Clinicians (PIBS Module)	1
	Credit Hours	10
Summer		
PIB 830	Doctoral Dissertation	1
	Credit Hours	1
Year Two		
Fall		
CAB 701	CAB Student Seminar	1
CAB 705	Translational to Clinical Research	0
MDB 765	Tumor Biology	3
CAB 830	Dissertation Research - Pre Candidacy	2
	Credit Hours	6
Spring		
PIB 706	Bioinformatics for the Biomedical Sciences (Students take either PIB 706 or an elective that meets the Bioinformatics requirement)	2-4
CAB 701	CAB Student Seminar	1
CAB 705	Translational to Clinical Research	1
CAB 713 is a required course. CAB 712, CAB 714 & CAB 715 can be done as electives:		2
CAB 712	Special Topics in Cancer Research - Viral Oncology and Tumor Immunology Module (Offered Alternate Years Spring 2019, 2021, 2023)	
CAB 713	Special Topics in Cancer Research - Molecular Cancer Therapeutics Module (Offered Alternate Years Spring 2019, 2021, 2023)	
CAB 714	Cancer Epidemiology, Prevention and Biobehavioral Oncology	
CAB 715	Special Topics in Cancer Research - Breast and Genitourinary Cancers Module (Offered Alternate Years Spring 2018, 2020, 2022)	
CAB 830	Dissertation Research - Pre Candidacy	2
	Credit Hours	8-10
Summer		
CAB 840	Doctoral Dissertation- Post Candidacy	2
	Credit Hours	2
Year Three		
Fall		
CAB 701	CAB Student Seminar	1
CAB 705	Translational to Clinical Research	0

CAB 750	Logic and Reasoning in Translational Cancer Research: Bench to Bedside Part 1 (Offered Alternate Years Fall 2019, 2021, 2023)	3
CAB 840	Doctoral Dissertation- Post Candidacy	2
	Credit Hours	6
Spring		
CAB 701	CAB Student Seminar	1
CAB 705	Translational to Clinical Research	1
CAB 840	Doctoral Dissertation- Post Candidacy	2
	Credit Hours	4
Summer		
CAB 840	Doctoral Dissertation- Post Candidacy	2
	Credit Hours	2
Year Four		
Fall		
CAB 705	Translational to Clinical Research	0
CAB 840	Doctoral Dissertation- Post Candidacy	2
	Credit Hours	2
Spring		
CAB 705	Translational to Clinical Research	1
CAB 840	Doctoral Dissertation- Post Candidacy	2
	Credit Hours	3
Summer		
CAB 840	Doctoral Dissertation- Post Candidacy	2
	Credit Hours	2
Year Five		
Fall		
CAB 840	Doctoral Dissertation- Post Candidacy	2
	Credit Hours	2
Spring		
CAB 840	Doctoral Dissertation- Post Candidacy	2
	Credit Hours	2
Summer		
CAB 850	Research in Residence	1
	Credit Hours	1
	Total Credit Hours	64-66

Students are encouraged to take pertinent elective courses under guidance of their Dissertation Committee and research mentor. Electives must be approved by CAB graduate program director.

- Required course credits: 36 cr. [700 level courses (required or elective)]
- Dissertation research: 24 cr.

Clinical and Translational Investigation

<http://miamictsi.org/education/masters-program>

Overview

The Master of Science in Clinical and Translational Investigation (MSCTI) at the University of Miami offers a structured educational program that trains students in the principles and practice of translational science and clinical research. Our multidisciplinary program has been designed to prepare practitioners and researchers to adapt to translational science and to overcome the perceived bottlenecks that inhibit translational research. We equip our students with the tools to navigate the complexities of translational research design, methodology, regulatory and ethical challenges.

Drawing upon the University of Miami Miller School of Medicine's mission to educate the next generation of medical leaders and to lead life-changing discoveries that transform patient care through innovative research, the Master of Science in Clinical and Translational Investigation (MSCTI)

degree program's mission is to educate the next generation of investigators who demonstrate the ability to review, design, and conduct high-quality, multidisciplinary clinical and translational research independently.

Our educational objective is to provide an instructor-led educational curriculum that introduces students to key areas of clinical and translational research, and to produce graduates who demonstrate core competencies in clinical and translational research. Students will learn how to design independent and collaborative research projects and become well-versed in key aspects of clinical and translational investigation.

Course of Study

The Masters in Clinical and Translational Investigation can typically be completed in 4-6 consecutive terms (Fall, Spring, Summer) depending on the goals and professional responsibilities of the student. The 30 credit-hour program includes completion of structured taught courses and completion of a master's thesis which may take the form of a completed research grant proposal or publishable manuscript. Successful completion of the MSCTI requires students to maintain a GPA of 3.0 or greater with no grade below C in any courses and successful completion of the master's thesis.

Students who intend to complete the MSCTI program part-time must discuss their plan with their employer and make adjustments as needed to attend course lectures. Students who are studying with an F1 visa must enroll in a minimum of nine credits per semester.

Contact Information

Tatjana Rundek (trundek@med.miami.edu), MD, PhD., Program Director.

Barry Hudson (bhudson@med.miami.edu), Ph.D., Program Director

MSCTI Program Manager

MS Clinical and Translational Investigation Website

305 243 6398

Admissions Requirements

Admission Requirements

We accept applications from individuals who meet any of the following criteria:

- Individuals who have completed terminal healthcare degrees (e.g., MD, PhD, DO, RN) who are interested in pursuing additional formal didactic training to become independent investigators in clinical and/or translational science;
- Individuals who have completed terminal scientific degrees (e.g., Ph.D., DSci) who are interested in pursuing additional formal didactic training to improve knowledge and skills related to translation of basic to clinical applications; and
- Individuals who are currently enrolled in a terminal degree program (e.g., MD, PhD) who are interested in adding a year to their program to obtain a MCTSI concurrent with their terminal degree.
- Students who have completed a Bachelor's degree who have outstanding academic credentials and an interest in obtaining a MS prior to a career in clinical translational research or a graduate program will also be eligible.

Detailed information about the application package requirements can be found here (<http://biomed.miami.edu/apply/apply-mscti>).

Master's Programs

- M.S. in Clinical and Translational Investigation (p. 1207)

M.S. in Clinical and Translational Investigation

Curriculum Requirements

Code	Title	Credit Hours
Core Courses		
CTI 605	Introduction to Team Science and Entrepreneurship	2
CTI 602	Writing for Translational and Clinical Science	2
CTI 603	Research Ethics	3
CTI 805	Capstone Project / Master's Thesis	6
EPH 604	Clinical Trials	3
EPH 621	Fundamentals of Epidemiology	3
HGG 630	Variation and Disease	2
Electives		
Bioinformatics (One of the Following)		
BTE 685	Topics in Business Technology	
EPH 751	Survival Analysis in Clinical Trials	

EPH 651	Research Methods	
HGG 660	Bioinformatics Theory and Practice	
Biostatistics (One of the Following)		
EPH 601	Medical Biostatistics I	
EPH 602	Biostatistics II	
BST 625	Survey of Statistical Computing	
BST 665	Design and Analysis of Clinical Trials	
EPH 703	Advanced Statistical Methods I	
Cultural Diversity and Community Engagement (One of the Following)		
EPH 647	Community Based Participatory Research	
EPH 617	Disease Prevention and Health Promotion	
EPH 612	Global Health	
EPH 632	U.S. Health Systems	
Total Credit Hours		30

Program Plan for Part-time Professional Students

Course	Title	Credit Hours
Year One		
Fall		
CTI 605	Introduction to Team Science and Entrepreneurship	2
EPH 621	Fundamentals of Epidemiology	3
EPH 601	Medical Biostatistics I	3
Credit Hours		8
Spring		
CTI 602	Writing for Translational and Clinical Science	2
HGG 630	Variation and Disease	2
Credit Hours		4
Summer I		
EPH 604	Clinical Trials	3
Credit Hours		3
Year Two		
Fall		
CTI 805	Capstone Project / Master's Thesis	6
EPH 647	Community Based Participatory Research	3
Credit Hours		9
Spring		
CTI 603	Research Ethics	3
EPH 603	Medical Biostatistics	3
Credit Hours		6
Total Credit Hours		30

Program Plan for Full-time Students

This plan is ideal for students who want to complete the program full-time as well as students on F-1 visas.

Course	Title	Credit Hours
Year One		
Fall		
CTI 605	Introduction to Team Science and Entrepreneurship	2
EPH 601	Medical Biostatistics I	3
EPH 621	Fundamentals of Epidemiology	3
EPH 617	Disease Prevention and Health Promotion	3
Credit Hours		11

Spring		
CTI 602	Writing for Translational and Clinical Science	2
CTI 805	Capstone Project / Master's Thesis	6
HGG 630	Variation and Disease	2
	Credit Hours	10
Summer		
EPH 604	Clinical Trials	3
	Credit Hours	3
Year Two		
Fall		
CTI 603	Research Ethics	3
EPH 751	Survival Analysis in Clinical Trials	3
	Credit Hours	6
	Total Credit Hours	30

Dermatology

Overview

The Department of Dermatology and Cutaneous Surgery (<http://dermatology.med.miami.edu/master-of-science-in-skin-biology>) offers a unique Masters of Science in Skin Biology and Dermatological Science (MS-SBDS) program. The program prepares students for careers and leadership in skin science and industry. The curriculum covers basic science and laboratory techniques, as well as management skills, grant & regulatory issues, enterprise issues, and clinical problems.

The Master of Science in Skin Biology and Dermatological Sciences program (MS in SBDS) is unique in its depth and breadth because it covers basic science research and laboratory techniques. In addition, the degree considers a variety of additional skills to help you succeed in industry and academia, for it considers management skills, grant writing, regulatory issues, enterprise formation issues, and clinical problems.

Skin biology includes many biological processes: development, perpetual differentiation and barrier maintenance, stem cell biology, tissue repair and regeneration, neogenesis, native and adapted immunity, and genetic disorders just to name a few. The areas represented in our research base include aging, microbiology, inflammation, immunology, genomics, pharmacology, biochemistry, cell and stem cell biology as well as clinical research using areas of a variety of skin disorders, aging, aesthetics, cancer, and wounds as a clinical touchpoint.

Training in all these aspects is currently not provided by any single program in the United States. Thus, a Master's degree in Skin Biology and Dermatological Sciences will impart a unique skill set and research background. There is a growing need for knowledgeable health care professionals. Health care providers, policy makers, research scientists, academic practices in the US and in the rest of the world, as well as makers of skin and skin care products from devices, drugs and cosmeceuticals and their workers need trained personnel. The coursework in this degree program will offer essential scientific knowledge, management, and administrative skills that will be helpful for individuals desiring a skin sciences oriented career.

Program Options

Master of Science (MSc.) in Skin Biology and Dermatological Sciences (MS in SBDS), offers a Thesis path and Non-Thesis path.

- Thesis Path: The MSc. with thesis path requires completion of a laboratory research project and thesis. This option is tailored for students interested in doing research or contemplating work for a Ph.D. degree or academic career.
- Non-Thesis Path: The MSc. without thesis option is designed for students who wish to improve their knowledge in Skin Biology and related sciences through a rigorous series of courses. The program may fit for people from industries or organizations.

Both thesis and non-thesis options are also helpful for students seeking to apply to medical school or a dermatology residency program.

Contact

Jie Li, MD, PhD, Graduate Program Director
 David Lewis, PhD, Graduate Program Coordinator
 MS in Skin Biology and Dermatological Sciences
 305 243 6875

M.S. in Skin Biology and Dermatological Sciences (p. 1209)

M.S. in Skin Biology and Dermatological Sciences

Curriculum Requirements Non-Thesis Track

Code	Title	Credit Hours
Core Requirements		
DER 601	Introduction to Dermatology	1
DER 602	Skin Anatomy and Histology	1
DER 603	Skin Biology and Pathophysiology	2
DER 605	Microbiology and Immunology of the Skin	3
DER 606	Dermato-epidemiology	2
DER 607	Dermatopharmacology	2
DER 608	Photobiology and Photomedicine	1
DER 609	Skin Carcinogenesis	2
DER 610	Clinical Skin Diseases	2
DER 611	Visualizing the Skin	2
DER 612	Grant Writing	1
DER 613	Techniques in Skin Research	1
DER 614	Innovation in Dermatology	1
DER 615	Dermatology Health Care Delivery	1
DER 622	Introduction to Dermatopathology	1
DER 623	Techniques in Skin Research- II	1
DER 631	Advances in Dermatology	1
DER 632	Advances in Dermatology	1
DER 633	Advances in Dermatology	1
DER 641	Frontiers in Sciences	1
DER 642	Frontiers in Sciences	1
DER 643	Frontiers in Sciences	1
Total Credit Hours		30

Curriculum Requirements Thesis Track

Code	Title	Credit Hours
Core Requirements		
DER 601	Introduction to Dermatology	1
DER 602	Skin Anatomy and Histology	1
DER 603	Skin Biology and Pathophysiology	2
DER 605	Microbiology and Immunology of the Skin	3
DER 606	Dermato-epidemiology	2
DER 607	Dermatopharmacology	2
DER 608	Photobiology and Photomedicine	1
DER 609	Skin Carcinogenesis	2
DER 610	Clinical Skin Diseases	2
DER 611	Visualizing the Skin	2
DER 612	Grant Writing	1
DER 613	Techniques in Skin Research	1
DER 614	Innovation in Dermatology	1
DER 615	Dermatology Health Care Delivery	1
DER 622	Introduction to Dermatopathology	1
DER 623	Techniques in Skin Research- II	1
DER 631	Advances in Dermatology	1
DER 632	Advances in Dermatology	1
DER 633	Advances in Dermatology	1
DER 641	Frontiers in Sciences	1
DER 642	Frontiers in Sciences	1

DER 643	Frontiers in Sciences	1
Research Rotation		
Take 1 credit of Research Rotation - course depends upon the semester taken:		
Fall - DER 661		
Spring DER 662		
Summer - DER 663		
Research Thesis		
DER 700	Thesis	6
Total Credit Hours		37

Plan of Study (Non-Thesis Track)

Course	Title	Credit Hours
Year One		
Fall		
DER 601	Introduction to Dermatology	1
DER 602	Skin Anatomy and Histology	1
DER 603	Skin Biology and Pathophysiology	2
DER 605	Microbiology and Immunology of the Skin	3
DER 606	Dermato-epidemiology	2
DER 631	Advances in Dermatology	1
DER 641	Frontiers in Sciences	1
Credit Hours		11
Spring		
DER 607	Dermatopharmacology	2
DER 608	Photobiology and Photomedicine	1
DER 609	Skin Carcinogenesis	2
DER 610	Clinical Skin Diseases	2
DER 613	Techniques in Skin Research	1
DER 622	Introduction to Dermatopathology	1
DER 632	Advances in Dermatology	1
DER 642	Frontiers in Sciences	1
Credit Hours		11
Summer		
DER 611	Visualizing the Skin	2
DER 612	Grant Writing	1
DER 614	Innovation in Dermatology	1
DER 615	Dermatology Health Care Delivery	1
DER 623	Techniques in Skin Research- II	1
DER 633	Advances in Dermatology	1
DER 643	Frontiers in Sciences	1
Credit Hours		8
Total Credit Hours		30

Plan of Study (Thesis Track)

Course	Title	Credit Hours
Year One		
Fall		
DER 601	Introduction to Dermatology	1
DER 602	Skin Anatomy and Histology	1
DER 603	Skin Biology and Pathophysiology	2
DER 605	Microbiology and Immunology of the Skin	3
DER 606	Dermato-epidemiology	2

DER 631	Advances in Dermatology	1
DER 641	Frontiers in Sciences	1
	Credit Hours	11
Spring		
DER 607	Dermatopharmacology	2
DER 608	Photobiology and Photomedicine	1
DER 609	Skin Carcinogenesis	2
DER 610	Clinical Skin Diseases	2
DER 613	Techniques in Skin Research	1
DER 622	Introduction to Dermatopathology	1
DER 632	Advances in Dermatology	1
DER 642	Frontiers in Sciences	1
	Credit Hours	11
Summer		
DER 611	Visualizing the Skin	2
DER 612	Grant Writing	1
DER 614	Innovation in Dermatology	1
DER 615	Dermatology Health Care Delivery	1
DER 623	Techniques in Skin Research- II	1
DER 633	Advances in Dermatology	1
DER 643	Frontiers in Sciences	1
DER 663	Research Rotation	1
*Can be taken as DER 661 in the Fall Semester or DER 662 in the Spring Semester		
	Credit Hours	9
Year Two		
Fall		
DER 700	Thesis	6
	Credit Hours	6
	Total Credit Hours	37

Human Genetics and Genomics

<http://biomed.med.miami.edu/graduate-programs/human-genetics-and-genomics>

Overview

The Interdepartmental PhD Program in Human Genetics and Genomics is a multi-disciplinary program aimed at training scientists broadly in areas of human genetics and genomics relevant to human health and disease. The emerging practice of “precision medicine,” whereby clinical treatment decisions are based in part on an individual’s genomic profile, depends on “genomic literacy” among practitioners, researchers and patients. Human Genetics and Genomics is a multidisciplinary field that requires training in three core competencies: clinical, molecular, and statistical genetics. Individuals earning PhDs in Human Genetics and Genomics will have various career options, including clinical laboratory (after fellowship training and board certification), research laboratory or computational research in academia, healthcare, and the biotechnology industry.

During the first year PIBS curriculum, students will have the opportunity to take two introductory short courses: Variation & Disease and Family Studies & Genetic Analysis. Rotations through faculty laboratories provide students with hands-on experience in various research areas. The rotations also provide the student the background necessary to select a dissertation advisor and area of research.

During the second year, the curriculum focuses on core coursework in molecular and computational genetics, biostatistics, and seminars and journal clubs.

Also, during the second year, students choose to pursue one of two tracks within the program: molecular genetics or computational genetics. Course requirements differ slightly between these two paths: students in the molecular genetics track will take Advanced Topics in Molecular Genetics while the Computational Genetics track students take Design and Analysis of Human Genomic Studies and a second course in biostatistics.

During the second and third years of study, students formulate and defend a dissertation proposal. All students participate in a 1-credit hour clinical rotation and complete a teaching practicum any time after passing the Qualifying Examination.

Contact Information

We would be pleased to respond to any questions you may have and look forward to your inquiry.

Susan H. Blanton, PhD, (SBlanton@med.miami.edu) Graduate Program Director
Dori McLean, (DMclean@med.miami.edu) Manager, Programs

University of Miami, Miller School of Medicine
The Dr. John T. Macdonald Foundation Department of Human Genetics
Interdepartmental PhD Program in Human Genetics and Genomics
1501 N.W. 10th Avenue, BRB 432 (M860)
Miami, FL 33136
305 243 8779

Applying to the Program

Admission Requirements

Applicants to biomedical programs should have a bachelor degree in a biological or related discipline (e.g., psychology, chemistry, engineering, physics). Although there are no prerequisite requirements, courses in general biology, cell/molecular biology, calculus, general physics, organic chemistry, physical chemistry, and biochemistry are encouraged. Applications are generally accepted from September to December for fall entry only. Select applicants will be offered an interview.

Competitive candidates will have the following:

- Excellent academic record
- Competitive GRE exam scores
- Research experience in a laboratory setting
- Publications of abstracts and / or papers
- Co-authorship in a peer-reviewed journal is recommended
- Strong letters of recommendation from research scientists who know the candidate well
- Motivation to pursue state-of-the-art biomedical research

Applicants must submit the following:

- Online Application
- Application Fee
- Official Academic Transcripts
- GRE General Test
- English Proficiency Exam (non-native speakers)
- Statement of Purpose
- Resume / CV

Full application instructions can be found at: biomed.med.miami.edu/apply (<http://biomed.med.miami.edu/apply>)

Doctoral Programs

- Ph.D. in Human Genetics and Genomics (p. 1213)

Ph.D. in Human Genetics and Genomics

Curriculum Requirements

Code	Title	Credit Hours
Biomedical Science Core		
PIB 700	Journal Club	2
PIB 701	Introduction to Biomedical Sciences	5
PIB 702	Scientific Reasoning	3
PIB 705	Biostatistics for the Biosciences	3
PIB 731	Laboratory Research	1-5
PIB 780	Research Ethics	1
PIB 782	Professional Development: Skills for Success I	1
PIB 783	Professional Development: Skills for Success II	1
PIB 785	PIBS Bioinformatics Workshop	1

PIB 830	Doctoral Dissertation	1
Human Genetics & Genomics Required Courses		
HGG 601	Seminar/Journal Club ¹	7-14
HGG 630	Variation and Disease ((taken during PIBS year))	2
HGG 631	Genes in Populations	3
HGG 640	Family Studies and Genetic Analysis ((taken during PIBS year))	2
HGG 660	Bioinformatics Theory and Practice	3
HGG 680	Genome Ethics and Public Policy	3
HGG 681	Human Genetics Clinical Rotation	1
HGG 689	Human Genetics and Genomics Teaching Practicum	1
Computational / Molecular Track Course Requirements ²		3-6
HGG 621	Design and Analysis of Human Genomic Studies ³	
EPH 602	Biostatistics II ³	
HGG 650	Advanced Topics in Molecular Genetics ⁴	
Research Credits		18-24
HGG 830	Doctoral Dissertation - Pre-Candidacy	
HGG 840	Doctoral Dissertation - Post Candidacy	
HGG 850	Research in Residence	
Total Credit Hours		62-82

¹ HGG 601 is required for all HGG students - 1 semester credit each fall and spring semester.

² All students must complete course requirements for either Computational or Molecular track.

³ HGG 621 / EPH 602: Required for Computational Track students only (may be taken as elective otherwise).

⁴ HGG 650: Required for Molecular Track students only (may be taken as elective otherwise)..

* The molecular track requires a minimum of 62 credits. The computational track requires a minimum of 65 credits.

Program Plan

The PhD in Human Genetics and Genomics (HGG) curriculum allows candidates to pursue a track in *molecular* or *computational* genetics by their second year of training; however, all students complete a core curriculum in the first three years of graduate study. Students will also participate in seminars and journal clubs in the fall and spring semesters, through all years of study.

First-year students interested in Human Genetics and Genomics are strongly encouraged to take two introductory HGG short courses in the spring semester: HGG 630 – Variation and Disease and HGG 640 – Family Studies and Genetic Analysis which are requirements for completing the HGG degree. Courses in computational / quantitative skills, including biostatistics and bioinformatics will also form part of the first year PIBS curriculum. Each PIBS student completes at least three lab rotations of nine weeks each and chooses a dissertation laboratory (and graduate program) during the latter half of the spring semester. If necessary a fourth rotation may be possible, and in this case a laboratory choice may be deferred until June. All first year students will make short presentations to a group of faculty after each lab rotation. For these presentations the students will be divided into four groups with related research interests.

After choosing a mentor and laboratory at the end of the first year, a student becomes a member of the HGG Program. Students select and follow a track in *molecular* genetics or *computational* genetics in the first semester of year 2. At this point course requirements differ slightly between these two paths: Students in the *molecular* genetics track take Advanced Topics in Molecular Genetics (HGG 650) in the second semester, while the *computational* genetics track students take a second course in biostatistics (EPH 602) and a course in Design and Analysis of Human Genomic Studies (HGG 621).

In addition to the required core courses, all students participate in a clinical rotation and serve one semester as a teaching assistant for a core course any time after passing the Qualifying Examination.

It is expected that on average, students will complete the program in five years. Please review the complete course descriptions on the COURSE tab above. The general core curriculum is shown in the Plan of Study below:

Plan of Study - Molecular Track

Course	Title	Credit Hours
Year One		
Fall		
PIB 701	Introduction to Biomedical Sciences	5
PIB 702	Scientific Reasoning	3

PIB 731	Laboratory Research ((1 credit per lab rotation))	2
PIB 700	Journal Club	1
PIB 780	Research Ethics	1
PIB 782	Professional Development: Skills for Success I	1
	Credit Hours	13
Spring		
PIB 700	Journal Club	1
PIB 705	Biostatistics for the Biosciences	3
PIB 731	Laboratory Research	1-2
PIB 783	Professional Development: Skills for Success II	1
HGG 630	Variation and Disease (HGG program short course - Spring I)	2
HGG 640	Family Studies and Genetic Analysis (HGG program short course - Spring II)	2
	Credit Hours	10-11
Summer		
PIB 830	Doctoral Dissertation	1
	Credit Hours	1
Year Two		
Fall		
HGG 601	Seminar/Journal Club	1
HGG 631	Genes in Populations	3
HGG 830	Doctoral Dissertation - Pre-Candidacy	1
	Credit Hours	5
Spring		
HGG 601	Seminar/Journal Club	1
HGG 650	Advanced Topics in Molecular Genetics (Molecular Track Requirement)	3
HGG 660	Bioinformatics Theory and Practice	3
HGG 830	Doctoral Dissertation - Pre-Candidacy	1
	Credit Hours	8
Summer		
HGG 680	Genome Ethics and Public Policy	3
HGG 830	Doctoral Dissertation - Pre-Candidacy	1
	Credit Hours	4
Year Three		
Fall		
HGG 601	Seminar/Journal Club	1
HGG 830	Doctoral Dissertation - Pre-Candidacy	1
	Credit Hours	2
Spring		
HGG 601	Seminar/Journal Club	1
HGG 840	Doctoral Dissertation - Post Candidacy	1
	Credit Hours	2
Summer		
HGG 840	Doctoral Dissertation - Post Candidacy	1
	Credit Hours	1
Year Four		
Fall		
HGG 601	Seminar/Journal Club	1
HGG 681	Human Genetics Clinical Rotation (Can be completed anytime after passing QE and Admission to Candidacy is achieved (Year 3, 4, or 5))	1
HGG 840	Doctoral Dissertation - Post Candidacy	2
	Credit Hours	4

Spring		
HGG 601	Seminar/Journal Club	1
HGG 689	Human Genetics and Genomics Teaching Practicum (Can be completed anytime after passing QE and Admission to Candidacy is achieved (Year 3, 4, or 5))	1
HGG 840	Doctoral Dissertation - Post Candidacy	2
	Credit Hours	4
Summer		
HGG 840	Doctoral Dissertation - Post Candidacy	1
	Credit Hours	1
Year Five		
Fall		
HGG 601	Seminar/Journal Club	1
HGG 840	Doctoral Dissertation - Post Candidacy	2
	Credit Hours	3
Spring		
HGG 601	Seminar/Journal Club	1
HGG 840	Doctoral Dissertation - Post Candidacy	2
HGG 850	Research in Residence (Final Semester)	1
	Credit Hours	4
	Total Credit Hours	62-63

Plan of Study - Computational Track

Course	Title	Credit Hours
Year One		
Fall		
PIB 701	Introduction to Biomedical Sciences	5
PIB 702	Scientific Reasoning	3
PIB 731	Laboratory Research ((1 credit per lab rotation))	2
PIB 700	Journal Club	1
PIB 780	Research Ethics	1
PIB 782	Professional Development: Skills for Success I	1
	Credit Hours	13
Spring		
PIB 700	Journal Club	1
PIB 705	Biostatistics for the Biosciences	3
PIB 731	Laboratory Research	1-2
PIB 783	Professional Development: Skills for Success II	1
HGG 630	Variation and Disease (HGG program short course - Spring I)	2
HGG 640	Family Studies and Genetic Analysis (HGG program short course - Spring II)	2
	Credit Hours	10-11
Summer		
PIB 830	Doctoral Dissertation	1
	Credit Hours	1
Year Two		
Fall		
HGG 601	Seminar/Journal Club	1
HGG 621	Design and Analysis of Human Genomic Studies (Computational Track Requirement)	3
HGG 631	Genes in Populations	3
HGG 830	Doctoral Dissertation - Pre-Candidacy	1
	Credit Hours	8

Spring		
HGG 601	Seminar/Journal Club	1
HGG 660	Bioinformatics Theory and Practice	3
HGG 830	Doctoral Dissertation - Pre-Candidacy	1
EPH 602	Biostatistics II (Computational Track Requirement)	3
	Credit Hours	8
Summer		
HGG 680	Genome Ethics and Public Policy	3
HGG 830	Doctoral Dissertation - Pre-Candidacy	1
	Credit Hours	4
Year Three		
Fall		
HGG 601	Seminar/Journal Club	1
HGG 830	Doctoral Dissertation - Pre-Candidacy	1
	Credit Hours	2
Spring		
HGG 601	Seminar/Journal Club	1
HGG 840	Doctoral Dissertation - Post Candidacy	1
	Credit Hours	2
Summer		
HGG 840	Doctoral Dissertation - Post Candidacy	1
	Credit Hours	1
Year Four		
Fall		
HGG 601	Seminar/Journal Club	1
HGG 681	Human Genetics Clinical Rotation (Can be completed anytime after passing QE and Admission to Candidacy is achieved (Year 3, 4, or 5))	1
HGG 840	Doctoral Dissertation - Post Candidacy	2
	Credit Hours	4
Spring		
HGG 601	Seminar/Journal Club	1
HGG 689	Human Genetics and Genomics Teaching Practicum (Can be completed anytime after passing QE and Admission to Candidacy is achieved (Year 3, 4, or 5))	1
HGG 840	Doctoral Dissertation - Post Candidacy	2
	Credit Hours	4
Summer		
HGG 840	Doctoral Dissertation - Post Candidacy	1
	Credit Hours	1
Year Five		
Fall		
HGG 601	Seminar/Journal Club	1
HGG 840	Doctoral Dissertation - Post Candidacy	2
	Credit Hours	3
Spring		
HGG 601	Seminar/Journal Club	1
HGG 840	Doctoral Dissertation - Post Candidacy	2
HGG 850	Research in Residence (Final Semester)	1
	Credit Hours	4
	Total Credit Hours	65-66

MD Program

General Information

The University of Miami Miller School of Medicine enrolls approximately 198 students each year. One-hundred and fifty will be in the MD program and 48 in the 4-year, combined degree, MD-MPH Program. It has been a long-standing policy of the School of Medicine to admit students with diverse backgrounds. Therefore, qualified non-traditional students, women, socio-economically disadvantaged students, and minorities underrepresented in medicine, are especially encouraged to apply.

U.S. Citizenship

All applicants must be US citizens or permanent residents of the United States with an alien registration receipt (green) card in their possession at the time they complete the AMCAS application. Applicants who apply as permanent residents will be required to submit a photocopy of their alien registration receipt card.

Florida Residents

Since the School of Medicine is no longer subsidized by the State of Florida, Florida residents are not given preference in admissions decisions. For tuition purposes, a Florida resident is one whose parents or guardians (or the applicant, if independent) have established legal residence in, and resided permanently in, the State of Florida for twelve consecutive months immediately prior to the first day of classes. Applicants can not claim Florida residency simply on the fact that they lived in Florida coincident with attending a college or university. To receive initial consideration as a Florida resident, applicants must declare Florida as their state of residence on their AMCAS application. Exceptions to this requirement will not be granted.

Residents of Other States

The Miller School of Medicine has made a significant commitment to enroll more students from outside the state of Florida. This departure from previous policy reflects the growing national prominence of the School of Medicine and the national and international reputation of our clinical facilities and specialty centers, and our outstanding research programs.

Financial Assistance Information

The University of Miami Miller School of Medicine is a private medical school. It has been a priority of the medical school to keep the tuition and fees very reasonable. Please visit our Financial Assistance Website. (<http://mededu.med.miami.edu/contact-us/student-financial-assistance>)

Additional Information

For additional information, write, call, or send an email message to:

Office of Admissions (R-159)

University of Miami Miller School of Medicine
PO Box 016159
Miami, FL 33101
(305)-243-3234
(305)-243-6548 (FAX)
med.admissions@miami.edu (admissions@miami.edu)

Curriculum Requirements

Code	Title	Credit Hours
MDR 501	Molecular Basis of Life	4
MDR 502	Cellular Function and Regulation	4
MDR 503	Host Defense, Pathogens, and Pathology	6
MDR 504	Human Structure	8
MDR 506	Neuroscience and Behavioral Science	8
MDR 507	Cardiovascular System	7
MDR 508	Problem Based Learning I	0.25
MDR 509	Problem Based Learning II	0.25
MDR 518	Doctoring I the Art and Practice of Medicine I	4
MDR 519	Doctoring II: The Art and Practice of Medicine II	4
MDR 530	Epidemiology I	1
MDR 610	Respiratory System	5
MDR 612	Renal System	5

MDR 613	Endocrine and Reproductive Systems	5
MDR 614	Gastrointestinal System and Nutrition	5
MDR 615	Hematology/Oncology	5
MDR 616	Dermatology and Ophthalmology	2
MDR 619	Case Based Learning - Infection and Inflammation	4
MDR 620	Problem Based Learning III	0.5
MDR 621	Problem Based Learning IV	0.5
MDR 628	Doctoring III: The Art and Practice of Medicine III	4
MDR 629	Doctoring 4 the Art and Practice of Medicine	4
MDR 630	Epidemiology II	1
MDR 702	Interprofessional Patient Safety	1
MDR 703	Core Family and Community Medicine	4
MDR 705	Core Generalist Primary Care Clerkship	4
MDR 706	Core Internal Medicine Clerkship	8
MDR 707	Neurology Clerkship	4
MDR 708	Core Obstetrics and Gynecology Clerkship	6
MDR 709	Core Pediatrics Clerkship	6
MDR 710	Core Psychiatry Clerkship	6
MDR 711	Core Surgery Clerkship	8
MDR 712	Anesthesiology Clerkship	2
MDR 812	Emergency Medicine Clerkship	4
MDR 909	Radiology Clerkship	4
MDR 957	Geriatrics and Palliative Medicine Clerkship	4
Sub-Internship A		4
Sub-Internship B		4
800+ Elective		14
Total Credit Hours		170.5

Sub-Internship A Options

Code	Title	Credit Hours
MDR 819	Family Medicine Sub-I	4
MDR 847	JMH Medicine Sub-I	4
MDR 857	Maternal Fetal Medicine Sub-I	4
MDR 892	Pediatric Intensive Care Unit Sub-I	4
MDR 897	Pediatrics Sub-I	4
MDR 958	UMH Medicine Sub-I	4
MDR 959	JFK Medicine Sub-I	4
MDR 961	MIA VAMC Medicine Sub-I	4
MDR 1028	HCH Medicine Sub-I	4

Sub-Internship B Options

Code	Title	Credit Hours
MDR 852	Neurosurgery Sub-I	4
MDR 856	Gynecologic Oncology Sub-I	4
MDR 863	Orthopedic Trauma Sub-I	4
MDR 875	Otolaryngology Sub-I	4
MDR 917	Burn Unit Sub-I	4
MDR 919	Cardiothoracic Surgery Sub-I	4
MDR 920	General Surgery EI Sub-I	4
MDR 921	General Surgery EII Sub-I	4
MDR 922	General Surgery EIII Sub-I	4
MDR 927	Pediatric Surgery Sub-I	4

MDR 937	Urology Sub-I	4
MDR 941	HCH Cardiothoracic Surgery Sub-I	4
MDR 943	General Surgery E IV Sub-I	4
MDR 944	MIA VAMC General Surgery Sub-I	4
MDR 948	JFK Surgery Sub-I	4
MDR 1029	Plastic Surgery SUB-I	4

Elective Options

Code	Title	Credit Hours
Electives may include any 800+ level course EXCEPT the following:		
MDR 805	Geriatrics: Morse Center Palm Beach	2
MDR 812	Emergency Medicine Clerkship	4
MDR 909	Radiology Clerkship	4
MDR 957	Geriatrics and Palliative Medicine Clerkship	4
MDR 990	HCH Emergency Medicine Clerkship	4
MDR 1003	Public Health Sub-Internship	4
MDR 1030	Transition to Clinical Rotations	1

Plan of Study

Course	Title	Credit Hours
Year One		
MDR 501	Molecular Basis of Life	4
MDR 502	Cellular Function and Regulation	4
MDR 503	Host Defense, Pathogens, and Pathology	6
MDR 504	Human Structure	8
MDR 506	Neuroscience and Behavioral Science	8
MDR 507	Cardiovascular System	7
MDR 508	Problem Based Learning I	0.25
MDR 509	Problem Based Learning II	0.25
MDR 518	Doctoring I the Art and Practice of Medicine I	4
MDR 519	Doctoring II: The Art and Practice of Medicine II	4
MDR 530	Epidemiology I	1
	Credit Hours	46.5
Year Two		
MDR 610	Respiratory System	5
MDR 612	Renal System	5
MDR 613	Endocrine and Reproductive Systems	5
MDR 614	Gastrointestinal System and Nutrition	5
MDR 615	Hematology/Oncology	5
MDR 616	Dermatology and Ophthalmology	2
MDR 619	Case Based Learning - Infection and Inflammation	4
MDR 620	Problem Based Learning III	0.5
MDR 621	Problem Based Learning IV	0.5
MDR 628	Doctoring III: The Art and Practice of Medicine III	4
MDR 629	Doctoring 4 the Art and Practice of Medicine	4
MDR 630	Epidemiology II	1
	Credit Hours	41
Year Three		
MDR 702	Interprofessional Patient Safety	1
MDR 703	Core Family and Community Medicine	4
MDR 705	Core Generalist Primary Care Clerkship	4
MDR 706	Core Internal Medicine Clerkship	8

MDR 708	Core Obstetrics and Gynecology Clerkship	6
MDR 709	Core Pediatrics Clerkship	6
MDR 710	Core Psychiatry Clerkship	6
MDR 711	Core Surgery Clerkship	8
	Credit Hours	43
Year Four		
MDR 707	Neurology Clerkship	4
MDR 712	Anesthesiology Clerkship	2
MDR 812	Emergency Medicine Clerkship	4
MDR 909	Radiology Clerkship	4
MDR 957	Geriatrics and Palliative Medicine Clerkship	4
Sub-Internship A		4
Sub-Internship B		4
800+ Elective		14
	Credit Hours	40
	Total Credit Hours	170.5

MD/JD Program

The University of Miami School of Law (<http://www.law.miami.edu>) in partnership with the University's Miller School of Medicine propose to offer a joint MD/JD degree program. The law curriculum prepares medical students for careers in health sector law, leadership and policy. It also prepares future physicians for legal aspects of running a private medical practice or heading a group practice.

This joint program allows students to obtain both MD and JD degrees in six years.

The first two years are spent in the MD program. Years three and four are focused on the JD degree and the final two years are spent completing the MD degree and the final JD credits.

In the third year, students will complete the standard first year J.D. curriculum at the School of Law for a total of 32 credits. During the fourth year, it is expected that students will complete a total of 33 credits. There are an additional 12 credits of coursework to be completed in the School of Law which will take the form of summer courses and/or intersession courses. The total number of credits to be completed through coursework at the Law School for the JD degree is 77. The remaining 11 of the 88 required JD credits will be transferred from the Medical School course work and will be double-counted toward both degrees. These credits may include co-listed courses, such as the Idea of a Hospital, an interdisciplinary course co-listed in both the Law School and Medical School (as well as other UM Schools). Students will be able to take co-listed courses and register in the program where the student would like the credits to apply. Of course, co-listed courses are particularly suitable to double-counting for the J.D. degree when taken as a Medical School course.

The Law School expects the list of recommended courses to expand in the future. Opportunities for practicums and externships will be developed as part of this program. Students will receive their J.D. degree during the May graduation of their sixth year of the joint program because some of the credits to be transferred from the School of Medicine will be taken their 6th year when electives are built into the medical school curriculum. An elective course offering which will be required for this joint degree is the Medical Legal Clinic (offered as either a 2-credit or 4-credit course) sponsored by the Law School and offered through the School of Medicine. Students who have completed all but the last five credits may walk at Law School graduation with their law school cohort. (Please note that the 11 credits from the Medical School to be transferred to the J.D. program may not be from any Medical School courses taken prior to matriculation in the Law School.)

Curriculum Requirements - Medicine

Code	Title	Credit Hours
MDR 501	Molecular Basis of Life	4
MDR 502	Cellular Function and Regulation	4
MDR 503	Host Defense, Pathogens, and Pathology	6
MDR 504	Human Structure	8
MDR 506	Neuroscience and Behavioral Science	8
MDR 507	Cardiovascular System	7
MDR 508	Problem Based Learning I	0.25
MDR 509	Problem Based Learning II	0.25
MDR 518	Doctoring I the Art and Practice of Medicine I	4
MDR 519	Doctoring II: The Art and Practice of Medicine II	4
MDR 530	Epidemiology I	1

MDR 610	Respiratory System	5
MDR 612	Renal System	5
MDR 613	Endocrine and Reproductive Systems	5
MDR 614	Gastrointestinal System and Nutrition	5
MDR 615	Hematology/Oncology	5
MDR 616	Dermatology and Ophthalmology	2
MDR 619	Case Based Learning - Infection and Inflammation	4
MDR 620	Problem Based Learning III	0.5
MDR 621	Problem Based Learning IV	0.5
MDR 628	Doctoring III: The Art and Practice of Medicine III	4
MDR 629	Doctoring 4 the Art and Practice of Medicine	4
MDR 630	Epidemiology II	1
MDR 702	Interprofessional Patient Safety	1
MDR 703	Core Family and Community Medicine	4
MDR 705	Core Generalist Primary Care Clerkship	4
MDR 706	Core Internal Medicine Clerkship	8
MDR 707	Neurology Clerkship	4
MDR 708	Core Obstetrics and Gynecology Clerkship	6
MDR 709	Core Pediatrics Clerkship	6
MDR 710	Core Psychiatry Clerkship	6
MDR 711	Core Surgery Clerkship	8
MDR 712	Anesthesiology Clerkship	2
MDR 812	Emergency Medicine Clerkship	4
MDR 909	Radiology Clerkship	4
MDR 957	Geriatrics and Palliative Medicine Clerkship	4
Sub-Internship A		4
Sub-Internship B		4
800+ Elective		14
Total Credit Hours		170.5

Sub-Internship A Options

Code	Title	Credit Hours
MDR 819	Family Medicine Sub-I	4
MDR 847	JMH Medicine Sub-I	4
MDR 857	Maternal Fetal Medicine Sub-I	4
MDR 892	Pediatric Intensive Care Unit Sub-I	4
MDR 897	Pediatrics Sub-I	4
MDR 958	UMH Medicine Sub-I	4
MDR 959	JFK Medicine Sub-I	4
MDR 961	MIA VAMC Medicine Sub-I	4
MDR 1028	HCH Medicine Sub-I	4

Sub-Internship B Options

Code	Title	Credit Hours
MDR 852	Neurosurgery Sub-I	4
MDR 856	Gynecologic Oncology Sub-I	4
MDR 863	Orthopedic Trauma Sub-I	4
MDR 875	Otolaryngology Sub-I	4
MDR 917	Burn Unit Sub-I	4
MDR 919	Cardiothoracic Surgery Sub-I	4
MDR 920	General Surgery EI Sub-I	4
MDR 921	General Surgery EII Sub-I	4

MDR 922	General Surgery EIII Sub-I	4
MDR 927	Pediatric Surgery Sub-I	4
MDR 937	Urology Sub-I	4
MDR 941	HCH Cardiothoracic Surgery Sub-I	4
MDR 943	General Surgery E IV Sub-I	4
MDR 944	MIA VAMC General Surgery Sub-I	4
MDR 948	JFK Surgery Sub-I	4
MDR 1029	Plastic Surgery SUB-I	4

Elective Options

Code	Title	Credit Hours
Electives may include any 800+ level course EXCEPT the following:		
MDR 805	Geriatrics: Morse Center Palm Beach	2
MDR 812	Emergency Medicine Clerkship	4
MDR 909	Radiology Clerkship	4
MDR 957	Geriatrics and Palliative Medicine Clerkship	4
MDR 990	HCH Emergency Medicine Clerkship	4
MDR 1003	Public Health Sub-Internship	4
MDR 1030	Transition to Clinical Rotations	1

Plan of Study

Course	Title	Credit Hours
Year One		
MDR 501	Molecular Basis of Life	4
MDR 502	Cellular Function and Regulation	4
MDR 503	Host Defense, Pathogens, and Pathology	6
MDR 504	Human Structure	8
MDR 506	Neuroscience and Behavioral Science	8
MDR 507	Cardiovascular System	7
MDR 508	Problem Based Learning I	0.25
MDR 509	Problem Based Learning II	0.25
MDR 518	Doctoring I: The Art and Practice of Medicine I	4
MDR 519	Doctoring II: The Art and Practice of Medicine II	4
MDR 530	Epidemiology I	1
	Credit Hours	46.5
Year Two		
MDR 610	Respiratory System	5
MDR 612	Renal System	5
MDR 613	Endocrine and Reproductive Systems	5
MDR 614	Gastrointestinal System and Nutrition	5
MDR 615	Hematology/Oncology	5
MDR 616	Dermatology and Ophthalmology	2
MDR 619	Case Based Learning - Infection and Inflammation	4
MDR 620	Problem Based Learning III	0.5
MDR 621	Problem Based Learning IV	0.5
MDR 628	Doctoring III: The Art and Practice of Medicine III	4
MDR 629	Doctoring 4 the Art and Practice of Medicine	4
MDR 630	Epidemiology II	1
	Credit Hours	41
Year Three		
MDR 710	Core Psychiatry Clerkship	6

Law Requirements		
	Credit Hours	6
Year Four		
Law Requirements		
	Credit Hours	0
Year Five		
MDR 702	Interprofessional Patient Safety	1
MDR 703	Core Family and Community Medicine	4
MDR 705	Core Generalist Primary Care Clerkship	4
MDR 706	Core Internal Medicine Clerkship	8
MDR 707	Neurology Clerkship	4
MDR 708	Core Obstetrics and Gynecology Clerkship	6
MDR 709	Core Pediatrics Clerkship	6
MDR 711	Core Surgery Clerkship	8
Law Requirements		
	Credit Hours	41
Year Six		
MDR 712	Anesthesiology Clerkship	2
MDR 812	Emergency Medicine Clerkship	4
MDR 909	Radiology Clerkship	4
MDR 957	Geriatrics and Palliative Medicine Clerkship	4
Sub-Internship A		4
Sub-Internship B		4
800+ Elective		14
	Credit Hours	36
	Total Credit Hours	170.5

MD/MBA Program

The University of Miami Business School (<http://bus.miami.edu>) offers a joint M.D./M.B.A. degree program in partnership with the Miller School of Medicine. The business curriculum prepares future physicians for the business complexities related to running a private medical practice or heading a group practice, as well as prepare medical students for careers in health sector management, leadership and policy.

The M.D./M.B.A. program adds an additional year to the four-year medical school curriculum. The M.B.A. coursework ranges from financial reporting and corporate strategy to the legal aspects of health administration.

MD/MBA candidates have the option of choosing a Research Track (project based which provides practical hands on experience) or an Elective Track (provides business electives). Please refer to the curriculum for details.

Questions about the M.D. portion of the program should be directed to Senior Associate Dean Alex Mechaber, M.D., at the Miller School of Medicine, AMechabe@med.miami.edu (MOConnell@med.miami.edu), while questions about the MBA portion should be directed to Admission Advisors at the Miami Business School, 305-284-2510 or mba@miami.edu.

M.D. students are required to submit a Full-Time (<https://www.applyweb.com/apply/miamibus>)MBA online application to be considered for the M.D./M.B.A. Program.

The application deadline for this program is April 1st of each year.

Curriculum Requirements - Medicine

Code	Title	Credit Hours
MDR 501	Molecular Basis of Life	4
MDR 502	Cellular Function and Regulation	4
MDR 503	Host Defense, Pathogens, and Pathology	6
MDR 504	Human Structure	8
MDR 506	Neuroscience and Behavioral Science	8
MDR 507	Cardiovascular System	7

MDR 508	Problem Based Learning I	0.25
MDR 509	Problem Based Learning II	0.25
MDR 518	Doctoring I the Art and Practice of Medicine I	4
MDR 519	Doctoring II: The Art and Practice of Medicine II	4
MDR 530	Epidemiology I	1
MDR 610	Respiratory System	5
MDR 612	Renal System	5
MDR 613	Endocrine and Reproductive Systems	5
MDR 614	Gastrointestinal System and Nutrition	5
MDR 615	Hematology/Oncology	5
MDR 616	Dermatology and Ophthalmology	2
MDR 619	Case Based Learning - Infection and Inflammation	4
MDR 620	Problem Based Learning III	0.5
MDR 621	Problem Based Learning IV	0.5
MDR 628	Doctoring III: The Art and Practice of Medicine III	4
MDR 629	Doctoring 4 the Art and Practice of Medicine	4
MDR 630	Epidemiology II	1
MDR 702	Interprofessional Patient Safety	1
MDR 703	Core Family and Community Medicine	4
MDR 705	Core Generalist Primary Care Clerkship	4
MDR 706	Core Internal Medicine Clerkship	8
MDR 707	Neurology Clerkship	4
MDR 708	Core Obstetrics and Gynecology Clerkship	6
MDR 709	Core Pediatrics Clerkship	6
MDR 710	Core Psychiatry Clerkship	6
MDR 711	Core Surgery Clerkship	8
MDR 712	Anesthesiology Clerkship	2
MDR 812	Emergency Medicine Clerkship	4
MDR 909	Radiology Clerkship	4
MDR 957	Geriatrics and Palliative Medicine Clerkship	4
Sub-Internship A		4
Sub-Internship B		4
800+ Elective		14
Total Credit Hours		170.5

Sub-Internship A Options

Code	Title	Credit Hours
MDR 819	Family Medicine Sub-I	4
MDR 847	JMH Medicine Sub-I	4
MDR 857	Maternal Fetal Medicine Sub-I	4
MDR 892	Pediatric Intensive Care Unit Sub-I	4
MDR 897	Pediatrics Sub-I	4
MDR 958	UMH Medicine Sub-I	4
MDR 959	JFK Medicine Sub-I	4
MDR 961	MIA VAMC Medicine Sub-I	4
MDR 1028	HCH Medicine Sub-I	4

Sub-Internship B Options

Code	Title	Credit Hours
MDR 852	Neurosurgery Sub-I	4
MDR 856	Gynecologic Oncology Sub-I	4
MDR 863	Orthopedic Trauma Sub-I	4

MDR 875	Otolaryngology Sub-I	4
MDR 917	Burn Unit Sub-I	4
MDR 919	Cardiothoracic Surgery Sub-I	4
MDR 920	General Surgery EI Sub-I	4
MDR 921	General Surgery EII Sub-I	4
MDR 922	General Surgery EIII Sub-I	4
MDR 927	Pediatric Surgery Sub-I	4
MDR 937	Urology Sub-I	4
MDR 941	HCH Cardiothoracic Surgery Sub-I	4
MDR 943	General Surgery E IV Sub-I	4
MDR 944	MIA VAMC General Surgery Sub-I	4
MDR 948	JFK Surgery Sub-I	4
MDR 1029	Plastic Surgery SUB-I	4

Elective Options

Code	Title	Credit Hours
Electives may include any 800+ level course EXCEPT the following:		
MDR 805	Geriatrics: Morse Center Palm Beach	2
MDR 812	Emergency Medicine Clerkship	4
MDR 909	Radiology Clerkship	4
MDR 957	Geriatrics and Palliative Medicine Clerkship	4
MDR 990	HCH Emergency Medicine Clerkship	4
MDR 1003	Public Health Sub-Internship	4
MDR 1030	Transition to Clinical Rotations	1

Plan of Study

Course	Title	Credit Hours
Year One		
MDR 501	Molecular Basis of Life	4
MDR 502	Cellular Function and Regulation	4
MDR 503	Host Defense, Pathogens, and Pathology	6
MDR 504	Human Structure	8
MDR 506	Neuroscience and Behavioral Science	8
MDR 507	Cardiovascular System	7
MDR 508	Problem Based Learning I	0.25
MDR 509	Problem Based Learning II	0.25
MDR 518	Doctoring I the Art and Practice of Medicine I	4
MDR 519	Doctoring II: The Art and Practice of Medicine II	4
MDR 530	Epidemiology I	1
	Credit Hours	46.5
Year Two		
MDR 610	Respiratory System	5
MDR 612	Renal System	5
MDR 613	Endocrine and Reproductive Systems	5
MDR 614	Gastrointestinal System and Nutrition	5
MDR 615	Hematology/Oncology	5
MDR 616	Dermatology and Ophthalmology	2
MDR 619	Case Based Learning - Infection and Inflammation	4
MDR 620	Problem Based Learning III	0.5
MDR 621	Problem Based Learning IV	0.5
MDR 628	Doctoring III: The Art and Practice of Medicine III	4
MDR 629	Doctoring 4 the Art and Practice of Medicine	4

MDR 630	Epidemiology II	1
	Credit Hours	41
Year Three		
MDR 702	Interprofessional Patient Safety	1
MDR 703	Core Family and Community Medicine	4
MDR 705	Core Generalist Primary Care Clerkship	4
MDR 706	Core Internal Medicine Clerkship	8
MDR 708	Core Obstetrics and Gynecology Clerkship	6
MDR 709	Core Pediatrics Clerkship	6
MDR 710	Core Psychiatry Clerkship	6
MDR 711	Core Surgery Clerkship	8
	Credit Hours	43
Year Four		
MBA Requirements		
4 weeks of MDR courses are required in Spring.		
4 weeks of MDR courses are required in Fall.		
	Credit Hours	0
Year Five		
MDR 707	Neurology Clerkship	4
MDR 712	Anesthesiology Clerkship	2
MDR 812	Emergency Medicine Clerkship	4
MDR 909	Radiology Clerkship	4
MDR 957	Geriatrics and Palliative Medicine Clerkship	4
Sub-Internship A		4
Sub-Internship B		4
800+ Elective		14
	Credit Hours	40
	Total Credit Hours	170.5

MD/MPH Program

The educational mission of the University of Miami Miller School of Medicine interdisciplinary MD/MPH dual degree program is to graduate physicians with the ability and desire to improve the health of all populations, especially those most vulnerable and underserved, by alleviating suffering and eliminating healthcare disparities through their leadership in patient care, research, education, health care administration and the community.

Four-Year MD-MPH Program:

The University of Miami Miller School of Medicine (UMMSM) MD/MPH program is unique in several ways. There are very few four-year MD/MPH dual degree programs offered at medical schools in the United States. Our program integrates significant components of the MPH coursework into the curriculum beginning in the first year and culminating in a required four-week clerkship in Public Health in the fourth year. In addition, the medical school has partnered with the Palm Beach County Health Department <http://www.pbchd.com>. This partnership provides opportunities to work with public health professionals in one of the country's most academic and comprehensive public health departments.

The program is designed to provide graduates with the clinical and research skills required to approach health problems from a population and prevention perspective by integrating the roles of the biological sciences and clinical practice into the broader sets of knowledge and practices used in public health. We will graduate physicians who are provided the academic knowledge and skills, as well as the clinical experience to improve the health of all populations, especially those most vulnerable and underserved.

The MD/MPH dual degree program is an educational track at the UMMSM that will provide:

- Both degrees in four years
- Integrated and innovative training in both clinical medicine and public health
- In depth training in public health that provides the skills needed to reduce death and disability at the population level
- Two years of study at the Miami campus followed by two years at our regional medical campus in Palm Beach and Broward Counties working in our community teaching hospitals and clinics and with Department of Health professionals and faculty physicians in community settings
- Sustainable partnerships that provide opportunities to assess and improve public health, working with Public Health physicians in clinical and public health activities during clinical rotations

- Opportunities for community-based research to complete the required special project for the MPH degree (capstone)

Curriculum Requirements - Medicine

Code	Title	Credit Hours
MDR 550	CMC Introduction to the Medical Profession	3
MDR 551	CMC Fundamentals of Biomedical Science I	8
MDR 552	CMC Integration of Public Health and Medicine 1	1
MDR 553	CMC Physicianship Skills I	2
MDR 554	CMC Fundamentals of Biomedical Science II	5
MDR 555	CMC Fundamentals of Biomedical Science III	6
MDR 556	CMC Integration of Public Health and Medicine 2	2
MDR 557	CMC Physicianship Skills II	3
MDR 558	CMC Neuroscience and Behavioral Science	9
MDR 559	CMC Cardiovascular System	7
MDR 650	CMC Gastrointestinal System and Nutrition	5
MDR 651	CMC Respiratory System	5
MDR 652	CMC Renal System	5
MDR 653	CMC Inflammation and Infectious Disease	4
MDR 654	CMC Hematology and Oncology	5
MDR 655	CMC Endocrinology and Reproductive System	5
MDR 656	CMC Integration of Public Health and Medicine 3	5.5
MDR 657	CMC Physicianship Skills 3	5
MDR 659	CMC Dermatology and Ophthalmology	2
MDR 756	RMC Core Integrated Internal Medicine Clerkship	12
MDR 757	JFK Neurology Clerkship	4
MDR 758	RMC Core Obstetrics and Gynecology Clerkship	6
MDR 759	RMC Core Pediatrics Clerkship	6
MDR 760	RMC Core Psychiatry Clerkship	6
MDR 761	RMC Core Integrated Surgery Clerkship	12
MDR 764	RMC Core Family Medicine Clerkship	6
MDR 765	RMC Community Public Health Practicum	2
MDR 805	Geriatrics: Morse Center Palm Beach	2
MDR 990	HCH Emergency Medicine Clerkship	4
MDR 1003	Public Health Sub-Internship	4
MDR 1030	Transition to Clinical Rotations	1
Sub-Internship A or B		4
800+ Elective		14
Total Credit Hours		170.5

Sub-Internship A Options

Code	Title	Credit Hours
MDR 819	Family Medicine Sub-I	4
MDR 847	JMH Medicine Sub-I	4
MDR 857	Maternal Fetal Medicine Sub-I	4
MDR 892	Pediatric Intensive Care Unit Sub-I	4
MDR 897	Pediatrics Sub-I	4
MDR 958	UMH Medicine Sub-I	4
MDR 959	JFK Medicine Sub-I	4
MDR 961	MIA VAMC Medicine Sub-I	4
MDR 1028	HCH Medicine Sub-I	4

Sub-Internship B Options

Code	Title	Credit Hours
MDR 852	Neurosurgery Sub-I	4
MDR 856	Gynecologic Oncology Sub-I	4
MDR 863	Orthopedic Trauma Sub-I	4
MDR 875	Otolaryngology Sub-I	4
MDR 917	Burn Unit Sub-I	4
MDR 919	Cardiothoracic Surgery Sub-I	4
MDR 920	General Surgery EI Sub-I	4
MDR 921	General Surgery EII Sub-I	4
MDR 922	General Surgery EIII Sub-I	4
MDR 927	Pediatric Surgery Sub-I	4
MDR 937	Urology Sub-I	4
MDR 941	HCH Cardiothoracic Surgery Sub-I	4
MDR 943	General Surgery E IV Sub-I	4
MDR 944	MIA VAMC General Surgery Sub-I	4
MDR 948	JFK Surgery Sub-I	4
MDR 1029	Plastic Surgery SUB-I	4

Elective Options

Code	Title	Credit Hours
Electives may include any 800+ level course EXCEPT the following:		
MDR 805	Geriatrics: Morse Center Palm Beach	2
MDR 812	Emergency Medicine Clerkship	4
MDR 909	Radiology Clerkship	4
MDR 957	Geriatrics and Palliative Medicine Clerkship	4
MDR 990	HCH Emergency Medicine Clerkship	4
MDR 1003	Public Health Sub-Internship	4
MDR 1030	Transition to Clinical Rotations	1

Curriculum Requirements - Public Health

Code	Title	Credit Hours
EPH 600	Introduction to Public Health	3
EPH 603	Medical Biostatistics	3
EPH 617	Disease Prevention and Health Promotion	3
EPH 621	Fundamentals of Epidemiology	3
EPH 641	Aspects of Environmental Health	3
EPH 651	Research Methods	3
EPH 652	Health Policy	3
EPH 653	Leading Changes in Public Health	3
EPH 655	Health Economics and Financing	3
EPH 660	Public Health Seminar	3
EPH 680	Practical Field Experience	3
EPH 681	Capstone Experience Project	3
Total Credit Hours		36

Plan of Study - Medical

Course	Title	Credit Hours
Year One		
MDR 550	CMC Introduction to the Medical Profession	3
MDR 551	CMC Fundamentals of Biomedical Science I	8
MDR 552	CMC Integration of Public Health and Medicine 1	1

MDR 553	CMC Physicianship Skills I	2
MDR 554	CMC Fundamentals of Biomedical Science II	5
MDR 555	CMC Fundamentals of Biomedical Science III	6
MDR 556	CMC Integration of Public Health and Medicine 2	2
MDR 557	CMC Physicianship Skills II	3
MDR 558	CMC Neuroscience and Behavioral Science	9
MDR 559	CMC Cardiovascular System	7
	Credit Hours	46
Year Two		
MDR 650	CMC Gastrointestinal System and Nutrition	5
MDR 651	CMC Respiratory System	5
MDR 652	CMC Renal System	5
MDR 653	CMC Inflammation and Infectious Disease	4
MDR 654	CMC Hematology and Oncology	5
MDR 655	CMC Endocrinology and Reproductive System	5
MDR 656	CMC Integration of Public Health and Medicine 3	5.5
MDR 657	CMC Physicianship Skills 3	5
MDR 659	CMC Dermatology and Ophthalmology	2
	Credit Hours	41.5
Year Three		
MDR 756	RMC Core Integrated Internal Medicine Clerkship	12
MDR 758	RMC Core Obstetrics and Gynecology Clerkship	6
MDR 759	RMC Core Pediatrics Clerkship	6
MDR 760	RMC Core Psychiatry Clerkship	6
MDR 761	RMC Core Integrated Surgery Clerkship	12
MDR 764	RMC Core Family Medicine Clerkship	6
MDR 1030	Transition to Clinical Rotations	1
	Credit Hours	49
Year Four		
MDR 757	JFK Neurology Clerkship	4
MDR 765	RMC Community Public Health Practicum	2
MDR 805	Geriatrics: Morse Center Palm Beach	2
MDR 990	HCH Emergency Medicine Clerkship	4
MDR 1003	Public Health Sub-Internship	4
Sub-Internship A or B		4
800+ Elective		14
	Credit Hours	34
	Total Credit Hours	170.5

Plan of Study - Public Health

Course	Title	Credit Hours
Year One		
Fall I		
EPH 600	Introduction to Public Health ¹	3
EPH 603	Medical Biostatistics	3
EPH 621	Fundamentals of Epidemiology	3
	Credit Hours	9
Spring I		
EPH 617	Disease Prevention and Health Promotion	3
EPH 680	Practical Field Experience	3
	Credit Hours	6

Year Two		
Fall		
EPH 641	Aspects of Environmental Health	3
	Credit Hours	3
Spring		
EPH 655	Health Economics and Financing	3
	Credit Hours	3
Summer		
EPH 651	Research Methods	3
EPH 652	Health Policy	3
EPH 653	Leading Changes in Public Health	3
	Credit Hours	9
Year Four		
Fall		
EPH 660	Public Health Seminar	3
EPH 681	Capstone Experience Project	3
	Credit Hours	6
	Total Credit Hours	36

MEDICAL SCIENTIST TRAINING PROGRAM (MD/PHD)

<http://mdphd.med.miami.edu/>

Overview

The Miller School of Medicine Medical Science Training Program (MD-PhD Program) provides a unique training environment for exceptionally qualified individuals who want to pursue careers in academic medicine and research. The curriculum comprises the school's outstanding preclinical and clinical training, rigorous PhD graduate training and several elements, including professional development workshops and other activities, specifically designed to enhance the MSTP training experience. There has been a long tradition of research excellence and physician scientist training at the Miller School of Medicine. With the opportunities for basic and clinical research here, Miami's diverse population and access to Latin America and the Caribbean, the backdrop of a vibrant city, make the Miller School a unique place for MSTP training.

PhD Programs

The following doctoral programs, described elsewhere in this bulletin, participate in the MSTP. The MSTP office can provide you with further information about these programs and the research interests of their faculty.

- Biochemistry & Molecular Biology (<http://biomed.med.miami.edu/graduate-programs/biochemistry-and-molecular-biology>)
- Biomedical Engineering (p. 1095)
- Biostatistics (<http://www.biostat.med.miami.edu/academics/phd-in-biostatistics>)
- Cancer Biology (<http://biomed.med.miami.edu/graduate-programs/cancer-biology>)
- Epidemiology (<http://publichealth.med.miami.edu/graduate/academic-programs/phd-in-epidemiology>)
- Human Genetics & Genomics (<http://biomed.med.miami.edu/graduate-programs/human-genetics-and-genomics>)
- Microbiology and Immunology (<http://biomed.med.miami.edu/graduate-programs/microbiology-and-immunology>)
- Molecular Cell & Developmental Biology (<http://biomed.med.miami.edu/graduate-programs/molecular-cell-and-developmental-biology>)
- Molecular and Cellular Pharmacology (<http://biomed.med.miami.edu/graduate-programs/molecular-and-cellular-pharmacology>)
- Neuroscience (<http://biomed.med.miami.edu/graduate-programs/neuroscience>)
- Physiology and Biophysics (<http://biomed.med.miami.edu/graduate-programs/physiology-and-biophysics>)
- Prevention Science & Community Health (<http://publichealth.med.miami.edu/graduate/academic-programs/phd-in-prevention-science>)

Contact Information

Sandra Lemmon, PhD, Program Director
 Alessia Fornoni, MD, PhD, Associate Program Director
 Theresa Votolato, MS, Senior Program Coordinator

University of Miami, Miller School of Medicine
 MD/PhD Program Office
 PO Box 016189
 Miami, Florida 33101-6189
 305 243 6278
mdphd@miami.edu

Admission Requirements

Admission to the MSTP is highly competitive, and interested applicants are advised to apply early in the fall. AMCAS applications must be received by the Medical Admissions Office no later than December 15. Applicants must complete the minimum course requirements (<http://admissions.med.miami.edu/md-programs/general-md/prerequisites>) of the MD Program to be considered for the MSTP. The Graduate Record Examination (GRE) is not required for matriculation into the MSTP.

Competitive applicants will have the following:

- Completed AMCAS & Secondary Application for MSTP
- Excellent academic record
- Strong MCAT scores
- Significant research experience
- Co-authorship on abstracts and / or peer-reviewed papers is desirable
- Strong letters of recommendation from research mentors and other scientists who can specifically address the applicant's potential as a physician scientist

- Motivation to pursue a career as a physician scientist

Applications from under-represented groups, including minorities, individuals with disabilities and women, are encouraged.

All MSTP applicants are reviewed by both the MD Program Admissions Committee and the MSTP Program Admissions Committee. These evaluations proceed independently, and a student will still be considered for the MD program even after an unfavorable review by the MSTP. A successful applicant is granted admission to both the MD Program and the MSTP.

Full application instructions can be found here (<http://mdphd.med.miami.edu/Admissions>).

Curriculum Requirements - Medicine

Code	Title	Credit Hours
MDR 501	Molecular Basis of Life	4
MDR 502	Cellular Function and Regulation	4
MDR 503	Host Defense, Pathogens, and Pathology	6
MDR 504	Human Structure	8
MDR 506	Neuroscience and Behavioral Science	8
MDR 507	Cardiovascular System	7
MDR 508	Problem Based Learning I	0.25
MDR 509	Problem Based Learning II	0.25
MDR 518	Doctoring I the Art and Practice of Medicine I	4
MDR 519	Doctoring II: The Art and Practice of Medicine II	4
MDR 530	Epidemiology I	1
MDR 610	Respiratory System	5
MDR 612	Renal System	5
MDR 613	Endocrine and Reproductive Systems	5
MDR 614	Gastrointestinal System and Nutrition	5
MDR 615	Hematology/Oncology	5
MDR 616	Dermatology and Ophthalmology	2
MDR 619	Case Based Learning - Infection and Inflammation	4
MDR 620	Problem Based Learning III	0.5
MDR 621	Problem Based Learning IV	0.5
MDR 628	Doctoring III: The Art and Practice of Medicine III	4
MDR 629	Doctoring 4 the Art and Practice of Medicine	4
MDR 630	Epidemiology II	1
MDR 702	Interprofessional Patient Safety	1
MDR 703	Core Family and Community Medicine	4
MDR 705	Core Generalist Primary Care Clerkship	4
MDR 706	Core Internal Medicine Clerkship	8
MDR 707	Neurology Clerkship	4
MDR 708	Core Obstetrics and Gynecology Clerkship	6
MDR 709	Core Pediatrics Clerkship	6
MDR 710	Core Psychiatry Clerkship	6
MDR 711	Core Surgery Clerkship	8
MDR 712	Anesthesiology Clerkship	2
MDR 812	Emergency Medicine Clerkship	4
MDR 909	Radiology Clerkship	4
MDR 957	Geriatrics and Palliative Medicine Clerkship	4
Sub-Internship A		4
Sub-Internship B		4
800+ Elective		14
Total Credit Hours		170.5

Sub-Internship A Options

Code	Title	Credit Hours
MDR 819	Family Medicine Sub-I	4
MDR 847	JMH Medicine Sub-I	4
MDR 857	Maternal Fetal Medicine Sub-I	4
MDR 892	Pediatric Intensive Care Unit Sub-I	4
MDR 897	Pediatrics Sub-I	4
MDR 958	UMH Medicine Sub-I	4
MDR 959	JFK Medicine Sub-I	4
MDR 961	MIA VAMC Medicine Sub-I	4
MDR 1028	HCH Medicine Sub-I	4

Sub-Internship B Options

Code	Title	Credit Hours
MDR 852	Neurosurgery Sub-I	4
MDR 856	Gynecologic Oncology Sub-I	4
MDR 863	Orthopedic Trauma Sub-I	4
MDR 875	Otolaryngology Sub-I	4
MDR 917	Burn Unit Sub-I	4
MDR 919	Cardiothoracic Surgery Sub-I	4
MDR 920	General Surgery EI Sub-I	4
MDR 921	General Surgery EII Sub-I	4
MDR 922	General Surgery EIII Sub-I	4
MDR 927	Pediatric Surgery Sub-I	4
MDR 937	Urology Sub-I	4
MDR 941	HCH Cardiothoracic Surgery Sub-I	4
MDR 943	General Surgery E IV Sub-I	4
MDR 944	MIA VAMC General Surgery Sub-I	4
MDR 948	JFK Surgery Sub-I	4
MDR 1029	Plastic Surgery SUB-I	4

Elective Options

Code	Title	Credit Hours
Electives may include any 800+ level course EXCEPT the following:		
MDR 805	Geriatrics: Morse Center Palm Beach	2
MDR 812	Emergency Medicine Clerkship	4
MDR 909	Radiology Clerkship	4
MDR 957	Geriatrics and Palliative Medicine Clerkship	4
MDR 990	HCH Emergency Medicine Clerkship	4
MDR 1003	Public Health Sub-Internship	4
MDR 1030	Transition to Clinical Rotations	1

Curriculum Requirements - PHD

The following doctoral programs, described elsewhere in this bulletin, participate in the MSTP. Follow the link for each program's curriculum requirements:

- Biochemistry & Molecular Biology (<http://bulletin.miami.edu/graduate-academic-programs/medicine/biochemistry-molecular-biology/biochemistry-and-molecular-biology-phd/#curriculumtext>)
- Biomedical Engineering (<http://bulletin.miami.edu/graduate-academic-programs/engineering/biomedical-engineering/biomedical-engineering-phd>)
- Biostatistics (<http://bulletin.miami.edu/graduate-academic-programs/medicine/biostatistics/biostatistics-phd/#curriculumtext>)
- Cancer Biology (<http://bulletin.miami.edu/graduate-academic-programs/medicine/cancer-biology/cancer-biology-phd>)
- Epidemiology (<http://bulletin.miami.edu/graduate-academic-programs/medicine/public-health/epidemiology-phd/#curriculumtext>)

- Human Genetics & Genomics (<http://bulletin.miami.edu/graduate-academic-programs/medicine/human-genetics-genomics/human-genetics-and-genomics-phd>)
- Microbiology and Immunology (<http://bulletin.miami.edu/graduate-academic-programs/medicine/microbiology-immunology/microbiology-and-immunology-phd>)
- Molecular Cell & Developmental Biology (<http://bulletin.miami.edu/graduate-academic-programs/medicine/molecular-cell-developmental-biology/#curriculumtext>)
- Molecular and Cellular Pharmacology (<http://bulletin.miami.edu/graduate-academic-programs/medicine/molecular-cellular-pharmacology/#curriculumtext>)
- Neuroscience (<http://bulletin.miami.edu/graduate-academic-programs/medicine/neuroscience/#programplantext>)
- Physiology and Biophysics (<http://bulletin.miami.edu/graduate-academic-programs/medicine/physiology-biophysics/#curriculumtext>)
- Prevention Science & Community Health (<http://bulletin.miami.edu/graduate-academic-programs/medicine/public-health/prevention-science-community-health-phd/#curriculumtext>)

Suggested Plan of Study

The University of Miami, Miller School of Medicine's MSTP Program is designed to be a 7-8 year path with components that allow for an integrated experience throughout the training period. The program combines training through the well-known medical education offered at the UMMSM and its diverse biomedical doctoral programs. Students are able to select among ten PhD graduate training programs (<http://biomed.miami.edu/graduate-programs/mstp/requirements/biomedical-curriculum>), including traditional basic sciences and interdisciplinary graduate programs, as well as Epidemiology and Biomedical Engineering.

Medical Studies : Years One and Two

Course	Title	Credit Hours
Year One		
PIB 700	Journal Club	1
PIB 731	Laboratory Research	3
MDR 501	Molecular Basis of Life	4
MDR 502	Cellular Function and Regulation	4
MDR 503	Host Defense, Pathogens, and Pathology	6
MDR 504	Human Structure	8
MDR 506	Neuroscience and Behavioral Science	8
MDR 507	Cardiovascular System	7
MDR 518	Doctoring I the Art and Practice of Medicine I	4
MDR 519	Doctoring II: The Art and Practice of Medicine II	4
MDR 530	Epidemiology I	1
	Credit Hours	50
	Total Credit Hours	50

Course	Title	Credit Hours
Year Two		
PIB 700	Journal Club	1
PIB 731	Laboratory Research	6
MDR 610	Respiratory System	5
MDR 612	Renal System	5
MDR 613	Endocrine and Reproductive Systems	5
MDR 614	Gastrointestinal System and Nutrition	5
MDR 615	Hematology/Oncology	5
MDR 616	Dermatology and Ophthalmology	2
MDR 619	Case Based Learning - Infection and Inflammation	4
MDR 620	Problem Based Learning III	0.5
MDR 628	Doctoring III: The Art and Practice of Medicine III	4
MDR 629	Doctoring 4 the Art and Practice of Medicine	4
MDR 630	Epidemiology II	1
	Credit Hours	47.5
	Total Credit Hours	47.5

Graduate Studies :

MSTP students complete their PhD coursework and research between Medical School Years 1 & 2 and 3 & 4. Suggested plans of study for PhD programs can be found via the following links:

- Biochemistry & Molecular Biology (<http://bulletin.miami.edu/graduate-academic-programs/medicine/biochemistry-molecular-biology/biochemistry-and-molecular-biology-phd/#planofstudytext>)
- Biomedical Engineering (<http://bulletin.miami.edu/graduate-academic-programs/engineering/biomedical-engineering/biomedical-engineering-phd>)
- Biostatistics (<http://bulletin.miami.edu/graduate-academic-programs/medicine/biostatistics/biostatistics-phd/#curriculumtext>)
- Cancer Biology (<http://bulletin.miami.edu/graduate-academic-programs/medicine/cancer-biology/cancer-biology-phd/#planofstudytext>)
- Epidemiology (<http://bulletin.miami.edu/graduate-academic-programs/medicine/public-health/epidemiology-phd/#planofstudytext>)
- Human Genetics & Genomics (<http://bulletin.miami.edu/graduate-academic-programs/medicine/human-genetics-genomics/human-genetics-and-genomics-phd/#planofstudytext>)
- Microbiology and Immunology (<http://bulletin.miami.edu/graduate-academic-programs/medicine/microbiology-immunology/microbiology-and-immunology-phd/#planofstudytext>)
- Molecular Cell & Developmental Biology (<http://bulletin.miami.edu/graduate-academic-programs/medicine/molecular-cell-developmental-biology/#programplantext>)
- Molecular and Cellular Pharmacology (<http://bulletin.miami.edu/graduate-academic-programs/medicine/molecular-cellular-pharmacology/#programplantext>)
- Neuroscience (<http://bulletin.miami.edu/graduate-academic-programs/medicine/neuroscience/#programplantext>)
- Physiology and Biophysics (<http://bulletin.miami.edu/graduate-academic-programs/medicine/physiology-biophysics/#programplantext>)
- Prevention Science & Community Health (<http://bulletin.miami.edu/graduate-academic-programs/medicine/public-health/prevention-science-community-health-phd/#programplantext>)

Medical Studies : Years Three and Four

Course	Title	Credit Hours
Year Three		
MDR 702	Interprofessional Patient Safety	1
MDR 703	Core Family and Community Medicine	4
MDR 705	Core Generalist Primary Care Clerkship	4
MDR 706	Core Internal Medicine Clerkship	8
MDR 708	Core Obstetrics and Gynecology Clerkship	6
MDR 709	Core Pediatrics Clerkship	6
MDR 710	Core Psychiatry Clerkship	6
MDR 711	Core Surgery Clerkship	8
	Credit Hours	43
	Total Credit Hours	43

Course	Title	Credit Hours
Year Four		
MDR 707	Neurology Clerkship	4
MDR 712	Anesthesiology Clerkship	2
MDR 812	Emergency Medicine Clerkship	4
MDR 909	Radiology Clerkship	4
MDR 957	Geriatrics and Palliative Medicine Clerkship	4
Sub-Internship A		4
Sub-Internship B		4
800+ Elective		14
	Credit Hours	40
	Total Credit Hours	40

MD/MS in Genomic Medicine

Be a part of the future of genomic and personalized medicine!

This 4-year concurrent master's degree in Genomic Medicine will provide you with the background, knowledge, and understanding to integrate the ever expanding field of genomics into your practice. No matter which medical specialty you choose, genomic medicine is increasingly becoming an integral part of patient care with the use of predictive clinical sequencing, pharmacogenetics, and whole genome analysis.

Educational Mission of the MD/MS Program in Genomic Medicine

The educational mission of the program is to graduate clinicians with the ability to integrate genomic knowledge into their clinical practice. In collaboration with the Hussman Institute for Human Genomics, graduates will be trained in human genetics, family history, diagnostic genomic tests, high throughput sequencing, pharmacogenomics and the newest genomic concepts and approaches. The MD/MS degree will prepare students to be leaders in the adoption and integration of these methods in routine clinical care.

The MD/MS degree program in Genomic Medicine will provide:

- Both degrees obtained during 4 year MD degree
- Integrated and innovative training in both clinical and human genomics
- Online coursework coupled with small group learning sessions for smooth integration into your schedule
- Hands-on experience analyzing and interpreting genome sequence data
- Capstone experience featuring clinical case descriptions, journal club, and individual research projects

Applying for the MD/MS Program in Genomic Medicine: Online application (<http://biomed.med.miami.edu/apply/apply-md-ms-in-genomic-medicine>)

- Applicants must be accepted first-year medical students in the UM Miller School of Medicine. The first block of MS courses begin in the 2nd academic semester (spring) of the first year.
- Applications are due by November 1st of each year.
- The academic prerequisites are the same as those for the regular MD program.
- Graduate Record Exam (GRE) test scores are not required to apply to the program.
- Applicants will be notified of their acceptance status in late November or early December for coursework that will begin in the Spring semester of the first year of medical school.
- Acceptance is contingent upon successful completion of first semester coursework.
- Tuition is equal to UM Miller School of Medicine dual degree tuition.

For additional information (<http://medgen.med.miami.edu/education/msgm>), please contact Dori McLean, Manager of Programs, DMclean@med.miami.edu . (dmclean@med.miami.edu)

Curriculum Requirements

The curriculum below outlines the additional course work required to earn the Master's in Genomic Medicine (MSGM). These courses are completed concurrently with the traditional MD curriculum which is outlined under the MD Program curriculum tab (p. 1218). Please review additional information under the Plan of Study tab (p. 1237)

Code	Title	Credit Hours
GNM 602	Clinical Applications of Genomic Medicine II	3
GNM 605	Research Ethics	1
GNM 610	Clinical Applications of Genomic Medicine I	3
GNM 630	Clinical Applications of Genomic Medicine III	4
GNM 631	Genomic Medicine Laboratory	3
GNM 660	Computational Methods for Genomic Medicine	3
GNM 680	Genomic Ethics and Public Policy	3
GNM 690	MSGM Capstone	6-12
MDR 890	Genetics and Metabolic Diseases (two 2-week rotations are required for a total of 4 credits)	2-4

Plan of Study

The Master's in Genomic Medicine (MSGM) coursework is concurrent with the UM Miller School of Medicine MD Program beginning in Spring semester of the first year and ending upon completion of the MD program in the 4th year. Each course is made up of self-guided online instruction and reading and in-person small group work. In the first two years, self-guided instruction is expected to require approximately 3 hours per week of

time commitment. Small group work is an additional 3-hour block of time per week that will be determined upon the MD program schedule for that semester. Up to 3 additional hours per week may be required for assignments, projects, and review. Years 3 and 4 contain a clinical clerkship elective and the MSGM Capstone that will culminate in a written portfolio and public presentation of the Capstone experience.

Course	Title	Credit Hours
Year One		
Fall		
Application process occurs during fall semester and no courses are offered for Year 1.		
	Credit Hours	0
Spring		
GNM 610	Clinical Applications of Genomic Medicine I	3
GNM 680	Genomic Ethics and Public Policy	3
	Credit Hours	6
Year Two		
Fall		
GNM 602	Clinical Applications of Genomic Medicine II	3
GNM 605	Research Ethics	1
GNM 660	Computational Methods for Genomic Medicine	3
	Credit Hours	7
Spring		
GNM 630	Clinical Applications of Genomic Medicine III	4
GNM 631	Genomic Medicine Laboratory	3
	Credit Hours	7
Year Three		
Fall		
MDR 890	Genetics and Metabolic Diseases (two 2-week sessions - 2 credits each (shared credits with MD Program (taken anytime during Year 3 and/or Year 4))	4
	Credit Hours	4
Year Four		
Spring		
GNM 690	MSGM Capstone	6-12
	Credit Hours	6-12
	Total Credit Hours	30-36

MD/MPH Program

The educational mission of the University of Miami Miller School of Medicine interdisciplinary MD/MPH dual degree program is to graduate physicians with the ability and desire to improve the health of all populations, especially those most vulnerable and underserved, by alleviating suffering and eliminating healthcare disparities through their leadership in patient care, research, education, health care administration and the community.

Four-Year MD-MPH Program:

The University of Miami Miller School of Medicine (UMMSM) MD/MPH program is unique in several ways. There are very few four-year MD/MPH dual degree programs offered at medical schools in the United States. Our program integrates significant components of the MPH coursework into the curriculum beginning in the first year and culminating in a required four-week clerkship in Public Health in the fourth year. In addition, the medical school has partnered with the Palm Beach County Health Department <http://www.pbchd.com>. This partnership provides opportunities to work with public health professionals in one of the country's most academic and comprehensive public health departments.

The program is designed to provide graduates with the clinical and research skills required to approach health problems from a population and prevention perspective by integrating the roles of the biological sciences and clinical practice into the broader sets of knowledge and practices used in public health. We will graduate physicians who are provided the academic knowledge and skills, as well as the clinical experience to improve the health of all populations, especially those most vulnerable and underserved.

The MD/MPH dual degree program is an educational track at the UMMSM that will provide:

- Both degrees in four years

- Integrated and innovative training in both clinical medicine and public health
- In depth training in public health that provides the skills needed to reduce death and disability at the population level
- Two years of study at the Miami campus followed by two years at our regional medical campus in Palm Beach and Broward Counties working in our community teaching hospitals and clinics and with Department of Health professionals and faculty physicians in community settings
- Sustainable partnerships that provide opportunities to assess and improve public health, working with Public Health physicians in clinical and public health activities during clinical rotations
- Opportunities for community-based research to complete the required special project for the MPH degree (capstone)

Curriculum Requirements - Public Health

Code	Title	Credit Hours
EPH 600	Introduction to Public Health	3
EPH 603	Medical Biostatistics	3
EPH 617	Disease Prevention and Health Promotion	3
EPH 621	Fundamentals of Epidemiology	3
EPH 641	Aspects of Environmental Health	3
EPH 651	Research Methods	3
EPH 652	Health Policy	3
EPH 653	Leading Changes in Public Health	3
EPH 655	Health Economics and Financing	3
EPH 660	Public Health Seminar	3
EPH 680	Practical Field Experience	3
EPH 681	Capstone Experience Project	3
Total Credit Hours		36

Curriculum Requirements - Medicine

Code	Title	Credit Hours
MDR 550	CMC Introduction to the Medical Profession	3
MDR 551	CMC Fundamentals of Biomedical Science I	8
MDR 552	CMC Integration of Public Health and Medicine 1	1
MDR 553	CMC Physicianship Skills I	2
MDR 554	CMC Fundamentals of Biomedical Science II	5
MDR 555	CMC Fundamentals of Biomedical Science III	6
MDR 556	CMC Integration of Public Health and Medicine 2	2
MDR 557	CMC Physicianship Skills II	3
MDR 558	CMC Neuroscience and Behavioral Science	9
MDR 559	CMC Cardiovascular System	7
MDR 650	CMC Gastrointestinal System and Nutrition	5
MDR 651	CMC Respiratory System	5
MDR 652	CMC Renal System	5
MDR 653	CMC Inflammation and Infectious Disease	4
MDR 654	CMC Hematology and Oncology	5
MDR 655	CMC Endocrinology and Reproductive System	5
MDR 656	CMC Integration of Public Health and Medicine 3	5.5
MDR 657	CMC Physicianship Skills 3	5
MDR 659	CMC Dermatology and Ophthalmology	2
MDR 756	RMC Core Integrated Internal Medicine Clerkship	12
MDR 757	JFK Neurology Clerkship	4
MDR 758	RMC Core Obstetrics and Gynecology Clerkship	6
MDR 759	RMC Core Pediatrics Clerkship	6
MDR 760	RMC Core Psychiatry Clerkship	6
MDR 761	RMC Core Integrated Surgery Clerkship	12
MDR 764	RMC Core Family Medicine Clerkship	6

MDR 765	RMC Community Public Health Practicum	2
MDR 805	Geriatrics: Morse Center Palm Beach	2
MDR 990	HCH Emergency Medicine Clerkship	4
MDR 1003	Public Health Sub-Internship	4
MDR 1030	Transition to Clinical Rotations	1
Sub-Internship A or B		4
800+ Elective		14
Total Credit Hours		170.5

Sub-Internship A Options

Code	Title	Credit Hours
MDR 819	Family Medicine Sub-I	4
MDR 847	JMH Medicine Sub-I	4
MDR 857	Maternal Fetal Medicine Sub-I	4
MDR 892	Pediatric Intensive Care Unit Sub-I	4
MDR 897	Pediatrics Sub-I	4
MDR 958	UMH Medicine Sub-I	4
MDR 959	JFK Medicine Sub-I	4
MDR 961	MIA VAMC Medicine Sub-I	4
MDR 1028	HCH Medicine Sub-I	4

Sub-Internship B Options

Code	Title	Credit Hours
MDR 852	Neurosurgery Sub-I	4
MDR 856	Gynecologic Oncology Sub-I	4
MDR 863	Orthopedic Trauma Sub-I	4
MDR 875	Otolaryngology Sub-I	4
MDR 917	Burn Unit Sub-I	4
MDR 919	Cardiothoracic Surgery Sub-I	4
MDR 920	General Surgery EI Sub-I	4
MDR 921	General Surgery EII Sub-I	4
MDR 922	General Surgery EIII Sub-I	4
MDR 927	Pediatric Surgery Sub-I	4
MDR 937	Urology Sub-I	4
MDR 941	HCH Cardiothoracic Surgery Sub-I	4
MDR 943	General Surgery E IV Sub-I	4
MDR 944	MIA VAMC General Surgery Sub-I	4
MDR 948	JFK Surgery Sub-I	4
MDR 1029	Plastic Surgery SUB-I	4

Elective Options

Code	Title	Credit Hours
Electives may include any 800+ level course EXCEPT the following:		
MDR 805	Geriatrics: Morse Center Palm Beach	2
MDR 812	Emergency Medicine Clerkship	4
MDR 909	Radiology Clerkship	4
MDR 957	Geriatrics and Palliative Medicine Clerkship	4
MDR 990	HCH Emergency Medicine Clerkship	4
MDR 1003	Public Health Sub-Internship	4
MDR 1030	Transition to Clinical Rotations	1

Plan of Study - Public Health

Course	Title	Credit Hours
Year One		
Fall I		
EPH 600	Introduction to Public Health ¹	3
EPH 601	Medical Biostatistics I (EPH 601 section "02" for MD/MPH is 3 credits)	3
EPH 621	Fundamentals of Epidemiology	3
	Credit Hours	9
Spring I		
EPH 617	Disease Prevention and Health Promotion	3
EPH 680	Practical Field Experience	3
	Credit Hours	6
Year Two		
Fall		
EPH 641	Aspects of Environmental Health	3
	Credit Hours	3
Spring		
EPH 655	Health Economics and Financing	3
	Credit Hours	3
Summer		
EPH 651	Research Methods	3
EPH 652	Health Policy	3
EPH 653	Leading Changes in Public Health	3
	Credit Hours	9
Year Four		
Fall		
EPH 660	Public Health Seminar	3
EPH 681	Capstone Experience Project	3
	Credit Hours	6
	Total Credit Hours	36

¹ Year One "Fall" = second summer session prior to fall semester.

Plan of Study - Medical

Course	Title	Credit Hours
Year One		
MDR 550	CMC Introduction to the Medical Profession	3
MDR 551	CMC Fundamentals of Biomedical Science I	8
MDR 552	CMC Integration of Public Health and Medicine 1	1
MDR 553	CMC Physicianship Skills I	2
MDR 554	CMC Fundamentals of Biomedical Science II	5
MDR 555	CMC Fundamentals of Biomedical Science III	6
MDR 556	CMC Integration of Public Health and Medicine 2	2
MDR 557	CMC Physicianship Skills II	3
MDR 558	CMC Neuroscience and Behavioral Science	9
MDR 559	CMC Cardiovascular System	7
	Credit Hours	46
Year Two		
MDR 650	CMC Gastrointestinal System and Nutrition	5
MDR 651	CMC Respiratory System	5
MDR 652	CMC Renal System	5
MDR 653	CMC Inflammation and Infectious Disease	4

MDR 654	CMC Hematology and Oncology	5
MDR 655	CMC Endocrinology and Reproductive System	5
MDR 656	CMC Integration of Public Health and Medicine 3	5.5
MDR 657	CMC Physicianship Skills 3	5
MDR 659	CMC Dermatology and Ophthalmology	2
	Credit Hours	41.5
Year Three		
MDR 756	RMC Core Integrated Internal Medicine Clerkship	12
MDR 758	RMC Core Obstetrics and Gynecology Clerkship	6
MDR 759	RMC Core Pediatrics Clerkship	6
MDR 760	RMC Core Psychiatry Clerkship	6
MDR 761	RMC Core Integrated Surgery Clerkship	12
MDR 764	RMC Core Family Medicine Clerkship	6
MDR 1031	Minimally Invasive Gynecologic Surgery	2-4
	Credit Hours	50-52
Year Four		
MDR 757	JFK Neurology Clerkship	4
MDR 765	RMC Community Public Health Practicum	2
MDR 805	Geriatrics: Morse Center Palm Beach	2
MDR 990	HCH Emergency Medicine Clerkship	4
MDR 1003	Public Health Sub-Internship	4
	Sub-Internship A or B	4
	800+ Elective	14
	Credit Hours	34
	Total Credit Hours	171.5-173.5

Sub-Internship A Options

Code	Title	Credit Hours
MDR 819	Family Medicine Sub-I	4
MDR 847	JMH Medicine Sub-I	4
MDR 857	Maternal Fetal Medicine Sub-I	4
MDR 892	Pediatric Intensive Care Unit Sub-I	4
MDR 897	Pediatrics Sub-I	4
MDR 958	UMH Medicine Sub-I	4
MDR 959	JFK Medicine Sub-I	4
MDR 961	MIA VAMC Medicine Sub-I	4
MDR 1028	HCH Medicine Sub-I	4

Sub-Internship B Options

Code	Title	Credit Hours
MDR 852	Neurosurgery Sub-I	4
MDR 856	Gynecologic Oncology Sub-I	4
MDR 863	Orthopedic Trauma Sub-I	4
MDR 875	Otolaryngology Sub-I	4
MDR 917	Burn Unit Sub-I	4
MDR 919	Cardiothoracic Surgery Sub-I	4
MDR 920	General Surgery EI Sub-I	4
MDR 921	General Surgery EII Sub-I	4
MDR 922	General Surgery EIII Sub-I	4
MDR 927	Pediatric Surgery Sub-I	4
MDR 937	Urology Sub-I	4
MDR 941	HCH Cardiothoracic Surgery Sub-I	4

MDR 943	General Surgery E IV Sub-I	4
MDR 944	MIA VAMC General Surgery Sub-I	4
MDR 948	JFK Surgery Sub-I	4
MDR 1029	Plastic Surgery SUB-I	4

Elective Options

Code	Title	Credit Hours
Electives may include any 800+ level course EXCEPT the following:		
MDR 805	Geriatrics: Morse Center Palm Beach	2
MDR 812	Emergency Medicine Clerkship	4
MDR 909	Radiology Clerkship	4
MDR 957	Geriatrics and Palliative Medicine Clerkship	4
MDR 990	HCH Emergency Medicine Clerkship	4
MDR 1003	Public Health Sub-Internship	4
MDR 1030	Transition to Clinical Rotations	1

Microbiology and Immunology

<http://biomed.med.miami.edu>

Overview

Microbiology and Immunology is a multidisciplinary program encompassing the areas of cellular and molecular immunology, virology, microbial genetics, and pathogenic bacteriology.

The goals of the department's graduate program are to provide each student with the opportunity to acquire the theoretical background and conceptual framework with the technical research skills necessary to attain a PhD. During the first year of study, a broad educational base in all disciplines together with laboratory rotations introduce students to the diverse array of research topics. Students then choose one area of concentration for their research. The varied interests of the faculty provide numerous opportunities for student participation and a broad choice in dissertation research.

Active research in immunology includes the areas of cytotoxicity, programmed cell death, cytokine receptor signaling, clinical and experimental bone marrow transplantation, stem cell biology, gene therapy for cancer treatment, antigen recognition, cell differentiation and communication, aging of the immune system, interleukins, genetic control of immunoglobulin production, gene activation, and evolution of the immune response. Research in other areas includes molecular biology of virus-host interaction in both animal and human systems, control and regulation of bacterial pathogenesis, selective tumor chemotherapy and radiation therapy, and therapy of parasitic infections.

Goals

The goals of the MIC Graduate Program include training and acquisition of:

- A broad scientific reasoning ability and knowledge base in Microbiology and Immunology
- Technical skills required for experiments in the area of specialization
- Presentation skills required for teaching, scientific talks, manuscripts, and grants
- A preparation for a scientific career in academia, industry, or teaching within 5 ½ years

Contact Information

Enrique Mesri, PhD (EMesri@med.miami.edu), Graduate Program Director
Santos I. Cayetano (s.cayetano@med.miami.edu), Senior Program Coordinator

Office of Graduate and Postdoctoral Studies
Rosenstiel Medical Sciences Building, Suite 1128-A
1600 NW 10th Avenue, M857
Miami, FL 33136
305 243 2478

Admission Requirements

Applicants to biomedical programs should have a bachelor degree in a biological or related discipline (e.g., psychology, chemistry, engineering, physics). Although there are no prerequisite requirements, courses in general biology, cell/molecular biology, calculus, general physics, organic

chemistry, physical chemistry, and biochemistry are encouraged. Applications are generally accepted from September to December for fall entry only. Select applicants will be offered an interview.

Competitive Candidates will have the following:

- Excellent academic record
- Competitive GRE exam scores
- Research experience in a laboratory setting
- Publications of abstract and / or papers
- Co-authorship in a peer-reviewed journal is recommended
- Strong letters of recommendation from research scientists who know the candidate well
- Motivation to pursue state-of-the-art biomedical research

Applicants must submit the following:

- Online Application
- Application Fee
- Official Academic Transcripts
- GRE General Test
- English Proficiency Exam (non-native speakers)
- Statement of Purpose
- Resume / CV

Full application instructions can be found here (<http://biomed.med.miami.edu/apply>).

Doctoral Programs

- Ph.D. in Microbiology and Immunology (p. 1244)

Ph.D. in Microbiology and Immunology

Curriculum Requirements

Code	Title	Credit Hours
Biomedical Science Core		
PIB 700	Journal Club	2
PIB 701	Introduction to Biomedical Sciences	5
PIB 702	Scientific Reasoning	3
PIB 705	Biostatistics for the Biosciences	3
PIB 731	Laboratory Research	3-6
PIB 780	Research Ethics	1
PIB 782	Professional Development: Skills for Success I	1
PIB 783	Professional Development: Skills for Success II	1
PIB 785	PIBS Bioinformatics Workshop	1
PIB 830	Doctoral Dissertation	1
Microbiology & Immunology Required Courses		
MIC 623	Mechanisms of Microbial Virulence	2
MIC 728	Principles of Immunology	3
MIC 775	Advanced Microbiology and Immunology	3
MIC 751	Advance Topics in Microbiology and Virology	3
MIC 755	Micro and Immunol Research: Career Skills and Proficiencies	1-6
Research Credits		24
MIC 830	Doctoral Dissertation	1-12
MIC 840	Doctoral Dissertation - Post Candidacy	1-12
MIC 850	Research in Residence	1
Total Credit Hours		60-90

Suggested Plan of Study

Course	Title	Credit Hours
First Year		
Fall		
PIB 701	Introduction to Biomedical Sciences	5
PIB 702	Scientific Reasoning	3
PIB 731	Laboratory Research	2
PIB 700	Journal Club	1
PIB 780	Research Ethics	1
PIB 782	Professional Development: Skills for Success I	1
	Credit Hours	13
Spring		
PIB 700	Journal Club	1
PIB 731	Laboratory Research	1-2
PIB 783	Professional Development: Skills for Success II	1
EPH 601	Medical Biostatistics I	4
MIC 728	Principles of Immunology	3
MIC 623	Mechanisms of Microbial Virulence	2
	Credit Hours	12-13
Summer		
PIB 830	Doctoral Dissertation	1
	Credit Hours	1
Second Year		
Fall		
MIC 775	Advanced Microbiology and Immunology	3
MIC 830	Doctoral Dissertation	3
	Students may elect to take additional basic science courses.	
	Credit Hours	6
Spring		
MIC 830	Doctoral Dissertation	3
	Teaching Assistant	
	Qualifying Examination	
	Credit Hours	3
Summer		
MIC 840	Doctoral Dissertation - Post Candidacy	1
	Credit Hours	1
Third Year		
Fall		
MIC 755	Micro and Immunol Research: Career Skills and Proficiencies	1-6
MIC 840	Doctoral Dissertation - Post Candidacy	3
	Students may elect to take additional basic science courses.	
	Credit Hours	4-9
Spring		
MIC 751	Advance Topics in Microbiology and Virology	3.00
MIC 840	Doctoral Dissertation - Post Candidacy	3
	Students may elect to take additional basic science courses.	
	Credit Hours	6
Summer		
MIC 840	Doctoral Dissertation - Post Candidacy	1
	Credit Hours	1

Fourth Year		
Fall		
MIC 840	Doctoral Dissertation - Post Candidacy	3
Students may elect to take additional basic science courses.		
	Credit Hours	3
Spring		
MIC 840	Doctoral Dissertation - Post Candidacy	3
Students may elect to take additional basic science courses.		
	Credit Hours	3
Summer		
MIC 840	Doctoral Dissertation - Post Candidacy	1
	Credit Hours	1
Fifth Year		
Fall		
MIC 840	Doctoral Dissertation - Post Candidacy	3
Students may elect to take additional basic science courses.		
	Credit Hours	3
Spring		
MIC 840	Doctoral Dissertation - Post Candidacy	3
Students may elect to take additional basic science courses.		
	Credit Hours	3
Summer		
MIC 850	Research in Residence	1
	Credit Hours	1
	Total Credit Hours	61-67

Molecular Cell and Developmental Biology

<http://biomed.med.miami.edu/graduate-programs/molecular-cell-and-developmental-biology>

Overview

The graduate program in Molecular Cell and Developmental Biology offers graduate training towards the PhD degree in the fields of molecular cell biology, cell biology, developmental biology and cancer biology. In order to provide a wide range of current research opportunities, this program is interdisciplinary, comprised primarily of faculty from the department of Cell Biology and includes additional faculty from several other Departments and Centers at the Miller School of Medicine. These include: the Departments of Microbiology & Immunology, Molecular & Cellular Pharmacology, Medicine, Ophthalmology, Urology, Surgery, Neurosurgery and Neurology, the Sylvester Comprehensive Cancer Center, and the Miami Project to Cure Paralysis.

Students have the opportunity to do research in the many areas of modern cell, molecular and developmental biology. Research topics including the cytoskeleton, cell surface molecular biology, stem cells, lens, corneal and retinal biology, protein processing and sorting, signal transduction, airway biology, regulation of gene expression in development, podocyte biology, cancer biology, neuromuscular development, malignant transformation, growth factors, epithelial cell biology, organogenesis and tissue repair, pattern formation in early development, RNA localization, mitochondrial molecular biology and cancer therapeutics.

The primary objective of this interdisciplinary graduate program is to prepare students for careers as independent, PhD level researchers and educators, in both academic institutions and in the biotechnology industry and other venues.

Contact Information

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Admission Requirements

Applicants to biomedical programs should have a bachelor degree in a biological or related discipline (e.g., psychology, chemistry, engineering, physics). Although there are no prerequisite requirements, courses in general biology, cell/molecular biology, calculus, general physics, organic chemistry, physical chemistry, and biochemistry are encouraged. Applications are generally accepted from September to December for fall entry only. Select applicants will be offered an interview.

COMPETITIVE CANDIDATES WILL HAVE THE FOLLOWING:

- Excellent academic record
- Competitive GRE exam scores
- Research experience in a laboratory setting
- Publications of abstract and / or papers
- Co-authorship in a peer-reviewed journal is recommended
- Strong letters of recommendation from research scientists who know the candidate well
- Motivation to pursue state-of-the-art biomedical research

APPLICANTS MUST SUBMIT THE FOLLOWING:

- Online Application
- Application Fee
- Official Academic Transcripts
- GRE General Test
- English Proficiency Exam (non-native speakers)
- Statement of Purpose
- Resume / CV

Full application instructions can be found here (<http://biomed.med.miami.edu/apply>).

Curriculum Requirements

Code	Title	Credit Hours
Biomedical Science Core		
PIB 700	Journal Club	2
PIB 701	Introduction to Biomedical Sciences	5
PIB 702	Scientific Reasoning	3
PIB 705	Biostatistics for the Biosciences	3
PIB 731	Laboratory Research	3-5
PIB 780	Research Ethics	1
PIB 782	Professional Development: Skills for Success I	1
PIB 783	Professional Development: Skills for Success II	1
PIB 785	PIBS Bioinformatics Workshop	1
PIB 830	Doctoral Dissertation ³	1
Molecular Cell and Developmental Biology Required Courses		
MDB 701	Seminar ¹	8-14
MDB 710	Readings in Cell Biology ¹	8-14
MDB 751	Advanced Cell Biology Approaches to Molecular Medicine	3
MDB 752	Current Topics in Mammalian Development	3
MDB 753	Histology	1
MDB 765	Tumor Biology ²	3
Research Credits		23
MDB 830	Doctoral Dissertation ³	
MDB 840	Doctoral Dissertation- Post Candidacy ³	
MDB 850	Research in Residence ³	
Total Credit Hours		70-84

- 1 Throughout the program the students are expected to attend department seminars (Tuesdays at noon), journal club (once a month, Wednesday at noon), and student presentations (once a month, Wednesday at noon).
- 2 may be replaced by any graduate level course in human disease or neuronal cell biology
- 3 The student should be working in the laboratory where he/she intends to do his/her thesis research by the summer, first year. Nearly all of the student's time is spent on original laboratory research – with a minimum total of 24 credit hours of research for graduation.

Plan of Study

The program's Graduate Studies Committee assists each entering student in tailoring a program to match his/her interests. First year students take courses in a core curriculum taught by faculty from the medical basic science departments. Courses are taught not only by formal lectures, but also as seminars and informal discussions. The curriculum is designed to provide broad knowledge in the various aspects of modern cell biology, developmental biology, molecular biology and biochemistry in addition to intensive training in certain specialized areas of research according to the student's interests. In the remaining years of student, nearly all of the student's time is spent on original laboratory research. Students are usually admitted in the Fall semester.

Minimum credit requirements for the PhD degree are set by the University at 36 course credits (including specific required courses) and 24 credit hours of research (for a total of 60 credits). The course credits must be earned in graduate level (600 and above) courses. Students may elect to take any of the graduate courses offered by the MDB program, in addition to the mandatory courses, or choose from a large variety of advanced courses offered by other basic science programs at the University of Miami Miller School of Medicine.

Mandatory courses for the program include Biostatistics (PIB 705), Advanced Cell Biology: Approaches to Molecular Medicine (MDB 751), Current Topics in Mammalian Development (MDB 752), Histology (MDB 753), and *Tumor Biology (MDB 765). The latter may be replaced by any graduate level course in human disease or neuronal cell biology. **These courses are electives for MD/PhD students.*

Throughout the program the students are expected to attend department seminars (Tuesdays at noon), journal club (once a month, Wednesday at noon), and student presentations (once a month, Wednesday at noon).

The student should be working in the laboratory where he/she intends to do his/her thesis research by the summer, first year. At the end of the Fall semester of the second year, students are required to take the Qualifying Exam (QE). The goals of the QE are (1) to assess the scientific proficiency of the student, especially his/her ability to design experiments and to write a competitive grant application; and (2) to aid the student and mentor in the process of obtaining extramural funds to support the student's stipend.

The thesis proposal is expected to be passed during the second year, Summer semester. It is important to note that in the MDB program this is not the Qualifying Exam. Rather, it is a collegial meeting with the thesis committee where the student discusses his/her preliminary data and plans for the thesis. Students normally meet with the committee for progress meetings every 6-9 months.

The thesis is defended in front of the entire program and also in a meeting with the committee. The average time-to-completion is 5.5 years.

Please note that the following is a sample curriculum plan. Current students must discuss their plan with their program coordinator to make adjustments as needed.

Course	Title	Credit Hours
Year One		
Fall		
PIB 700	Journal Club	1
PIB 701	Introduction to Biomedical Sciences	5
PIB 702	Scientific Reasoning	3
PIB 731	Laboratory Research (1 credit per lab rotation)	2
PIB 780	Research Ethics	1
PIB 782	Professional Development: Skills for Success I	1
	Credit Hours	13
Spring		
PIB 700	Journal Club	1
PIB 705	Biostatistics for the Biosciences	3
PIB 731	Laboratory Research (1 credit per lab rotation)	1
PIB 783	Professional Development: Skills for Success II	1
MDB 752	Current Topics in Mammalian Development (Spring A)	3
MDB 751	Advanced Cell Biology Approaches to Molecular Medicine (Spring B)	3
MDB 753	Histology (Spring B)	1
	Credit Hours	13

Summer		
PIB 785	PIBS Bioinformatics Workshop	1
PIB 830	Doctoral Dissertation	1
	Credit Hours	2
Year Two		
Fall		
MDB 701	Seminar	1
MDB 710	Readings in Cell Biology	1
MDB 765	Tumor Biology	3
MDB 830	Doctoral Dissertation	3
	Credit Hours	8
Spring		
MDB 701	Seminar	1
MDB 710	Readings in Cell Biology	1
MDB 830	Doctoral Dissertation	3
Students may elect to take an additional basic science graduate course.		
	Credit Hours	5
Summer		
MDB 830	Doctoral Dissertation	1
	Credit Hours	1
Year Three		
Fall		
MDB 701	Seminar	1
MDB 710	Readings in Cell Biology	1
MDB 830	Doctoral Dissertation	3
Students may elect to take an additional basic science graduate course.		
	Credit Hours	5
Spring		
MDB 701	Seminar	1
MDB 710	Readings in Cell Biology	1
MDB 840	Doctoral Dissertation- Post Candidacy	3
Students may elect to take an additional basic science graduate course.		
	Credit Hours	5
Summer		
MDB 840	Doctoral Dissertation- Post Candidacy	1
	Credit Hours	1
Year Four		
Fall		
MDB 701	Seminar	1
MDB 710	Readings in Cell Biology	1
MDB 840	Doctoral Dissertation- Post Candidacy	3
	Credit Hours	5
Spring		
MDB 701	Seminar	1
MDB 710	Readings in Cell Biology	1
MDB 840	Doctoral Dissertation- Post Candidacy	3
	Credit Hours	5
Summer		
MDB 840	Doctoral Dissertation- Post Candidacy	1
	Credit Hours	1

Year Five		
Fall		
MDB 701	Seminar	1
MDB 710	Readings in Cell Biology	1
MDB 840	Doctoral Dissertation- Post Candidacy	1
	Credit Hours	3
Spring		
MDB 701	Seminar	1
MDB 710	Readings in Cell Biology	1
MDB 850	Research in Residence	1
	Credit Hours	3
	Total Credit Hours	70

Molecular and Cellular Pharmacology

<http://biomed.med.miami.edu/graduate-programs/molecular-and-cellular-pharmacology>

Overview

Scientists in the Molecular and Cellular Pharmacology Program make use of the knowledge and techniques of biology, chemistry and physics to study the action of drugs, hormones and neurotransmitters on living systems and, more generally, the mechanisms through which signals are recognized and transduced by cells.

The goals of the research in this department are:

- to identify new targets and pathways for development of pharmaceuticals
- to use drugs as tools in the study of basic biological processes
- to develop and study agents that may be beneficial in the treatment of disease

A variety of technical approaches is used, including genetics, molecular biology, protein biochemistry and biophysics, fluorescence microscopy, immunology, computer modeling, cell culture, imaging, gene expression profiling, proteomics and whole animal studies including transgenic and genetically engineered mouse models. The faculty are a mixture of senior scientists who are recognized leaders in their respective fields and more junior faculty with recent training in state-of-the-art approaches to important biomedical problems.

Research interests of the faculty include:

Cardiovascular Pharmacology / Signaling / Muscle Contraction

Investigators in this area study transcriptional regulation of gene expression and intracellular signals associated with the growth and function of the heart. They study ion channels, membrane events, blood vessels, etc. Studies of cardiac muscle contraction and the effect of disease causing mutations in the contractile apparatus of the heart on heart performance and morphology are also being pursued.

Current research areas include structure/function relationships in the proteins of the thin (troponin complex) and thick (myosin) filaments in health and disease, the role of specific ion channels in ventricular hypertrophy and its alleviation, excitation-contraction coupling in skeletal and cardiac muscle, proto-oncogene regulation of cardiac-specific genes, signaling in cardiac myocytes including the characterization of multimolecular enzyme complexes, apoptosis during myocardial ischemia, the role of microRNAs in cholesterol biosynthesis and smooth muscle cell plasticity, and the potential of stem cell based therapy for cardiac disease. A new study has been launched to investigate the effect of bone marrow stem cells in cardiac repair.

Neuropharmacology / Neuroscience

Investigators in this area study the development, function, pharmacology, and diseases of the nervous system.

Current research interests include neuronal signaling through G-proteins, Ca²⁺, and cyclic nucleotides, growth and guidance of axons during development and regeneration after injury, molecular control of dendrite development, control of physiological functions by the nervous system; molecular mechanisms and cell biology of olfaction and phototransduction; the genetic and cellular basis of neural development and degeneration using the fruit fly *Drosophila melanogaster* as a model system.

Cell Biology / Cancer

Investigators in this area study cell cycle control and cancer, gene expression, mechanisms of hormone action, signal transduction, cytoskeleton, membrane transport, stem cells, and novel therapeutics.

Current research interests include steroid hormone regulation of gene expression and cell proliferation; cell cycle checkpoints during DNA replication; protein trafficking including endocytosis and exocytosis; control of cell polarity and morphogenesis; cilia in pulmonary function; molecular basis

of human lymphoma; endocrine-related cancers including prostate and breast; stem cell maintenance and therapy; stem cell differentiation in hematopoiesis and physiochemical and metabolic aspects of drug design.

Model Systems

Many investigators are using model organisms for their studies. These include transgenic and knock-out/knock-in mouse models *Xenopus*, *Drosophila* and yeast models. Yeast and *Drosophila* are important models because of the powerful molecular and genetic approaches and tools available. *Xenopus* provides a unique system for studying development and for protein expression and analysis. These systems are being used to study fundamental processes such as apoptosis, cell cycle, signal transduction, membrane dynamics, cytoskeleton, cell polarity, olfaction, development of the cardiovascular system, neurogenesis and neuronal degeneration. All of these processes are conserved in humans, so these systems serve as important models of human diseases. Investigators are also using these systems to screen for therapeutic agents and to identify targets of toxins and other natural, synthetic or pharmacologically relevant compounds.

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Admission Requirements

Applicants to biomedical programs should have a bachelor degree in a biological or related discipline (e.g., psychology, chemistry, engineering, physics). Although there are no prerequisite requirements, courses in general biology, cell/molecular biology, calculus, general physics, organic chemistry, physical chemistry, and biochemistry are encouraged. Applications are generally accepted from September to December for fall entry only. Select applicants will be offered an interview.

COMPETITIVE CANDIDATES WILL HAVE THE FOLLOWING:

- Excellent academic record
- Competitive GRE exam scores
- Research experience in a laboratory setting
- Publications of abstract and / or papers
- Co-authorship in a peer-reviewed journal is recommended
- Strong letters of recommendation from research scientists who know the candidate well
- Motivation to pursue state-of-the-art biomedical research

APPLICANTS MUST SUBMIT THE FOLLOWING:

- Online Application
- Application Fee
- Official Academic Transcripts
- GRE General Test
- English Proficiency Exam (non-native speakers)
- Statement of Purpose
- Resume / CV

Full application instructions can be found here (<http://biomed.med.miami.edu/apply>).

Curriculum Requirements

Code	Title	Credit Hours
Biomedical Science Core		
PIB 700	Journal Club	2
PIB 701	Introduction to Biomedical Sciences	5
PIB 702	Scientific Reasoning	3
PIB 705	Biostatistics for the Biosciences	3

PIB 731	Laboratory Research	3-5
PIB 780	Research Ethics	1
PIB 782	Professional Development: Skills for Success I	1
PIB 783	Professional Development: Skills for Success II	1
PIB 785	PIBS Bioinformatics Workshop	1
PIB 830	Doctoral Dissertation ¹	1
Molecular and Cellular Pharmacology Required Courses		
MCP 701	Seminar	8
MCP 704	Mechanisms of Drug Action	3
MCP 732	Cardiovascular Pharmacology	3
MCP 752	Systems Biology and Approaches in Pharmacology	3
MCP 753	Computational Pharmacology and Fundamentals of Drug Design	3
MCP 768	Neuropharmacology	3
Research Credits		23
MCP 830	Dissertation Research-Pre-Candidacy ¹	
MCP 840	Doctoral Dissertation- Post Candidacy ¹	
MCP 850	Research in Residence ¹	
Total Credit Hours		67-69

¹ The student should be working in the laboratory where he/she intends to do his/her thesis research by the summer, first year. Nearly all of the student's time is spent on original laboratory research – with a minimum total of 24 credit hours of research for graduation

Plan of Study

In the first year, students receive a solid foundation in biomedical science. The core coursework ranges from molecules to cells to systems of human physiology. Lectures are balanced by breakout sessions, in which faculty members discuss the primary literature with students in small groups. The core curriculum also offers critical learning opportunities in biostatistics and in using genomic and other databases, as well as education in ethics. Students also meet several times in small groups with experienced faculty mentors to discuss important issues of student development. In subsequent semesters, students take core courses encompassing Mechanisms of Drug Action MCP 704, Neuropharmacology MCP 768, Cardiovascular Pharmacology MCP 732, Systems Biology and Approaches in Pharmacology MCP 752, and Computational Pharmacology and Fundamentals of Drug Design MCP 753. A variety of elective courses are offered by this program and other basic science programs at the Miller School of Medicine.

Minimum credit requirements for the PhD degree are set by the University at 36 course credits (including specific required courses) and 24 credit hours of research (for a total of 60 credits). The course credits must be earned in graduate level (600 and above) courses. Students may elect to take any of the graduate courses offered by the MCP program, in addition to the mandatory courses, or choose from a large variety of advanced courses offered by other basic science programs at the University of Miami Miller School of Medicine.

The student should be working in the laboratory where he/she intends to do his/her thesis research by the summer, first year. At the end of the Fall semester of the second year, students are required to take the Qualifying Exam (QE). The goals of the QE are (1) to assess the scientific proficiency of the student, especially his/her ability to design experiments and to write a competitive grant application; and (2) to aid the student and mentor in the process of obtaining extramural funds to support the student's stipend.

The thesis proposal is expected to be passed during the third year, Fall semester. It is important to note that in the MCP program this is not the Qualifying Exam. Rather, it is a collegial meeting with the thesis committee where the student discusses his/her preliminary data and plans for the thesis. Students normally meet with the committee for progress meetings every 9 months.

The thesis is defended in front of the entire program and also in a meeting with the committee. The average time-to-completion is 5.5 years.

Please note that the following is a sample curriculum plan. Current students must discuss their plan with their program coordinator to make adjustments as needed.

Course	Title	Credit Hours
Year One		
Fall		
PIB 700	Journal Club	1
PIB 701	Introduction to Biomedical Sciences	5
PIB 702	Scientific Reasoning	3
PIB 731	Laboratory Research (1 credit per lab rotation)	2

PIB 780	Research Ethics	1
PIB 782	Professional Development: Skills for Success I	1
	Credit Hours	13
Spring		
PIB 700	Journal Club	1
PIB 705	Biostatistics for the Biosciences	3
PIB 731	Laboratory Research (1 credit per rotation)	1
PIB 783	Professional Development: Skills for Success II	1
MCP 752	Systems Biology and Approaches in Pharmacology (Spring A)	3
MCP 704	Mechanisms of Drug Action (Spring B)	3
MCP 753	Computational Pharmacology and Fundamentals of Drug Design (Spring B)	3
	Credit Hours	15
Summer		
PIB 830	Doctoral Dissertation	1
PIB 785	PIBS Bioinformatics Workshop	1
	Credit Hours	2
Year Two		
Fall		
MCP 701	Seminar	2
MCP 732 or 768	Cardiovascular Pharmacology or Neuropharmacology	3
MCP 830	Dissertation Research-Pre-Candidacy	3
	Credit Hours	8
Spring		
MCP 701	Seminar	2
MCP 830	Dissertation Research-Pre-Candidacy	3
Students may elect to take additional basic science courses.		
	Credit Hours	5
Summer		
MCP 830	Dissertation Research-Pre-Candidacy	1
	Credit Hours	1
Year Three		
Fall		
MCP 701	Seminar	2
MCP 732 or 768	Cardiovascular Pharmacology or Neuropharmacology	3
MCP 830	Dissertation Research-Pre-Candidacy	3
	Credit Hours	8
Spring		
MCP 701	Seminar	2
MCP 840	Doctoral Dissertation- Post Candidacy	3
Students may elect to take additional basic science courses.		
	Credit Hours	5
Summer		
MCP 840	Doctoral Dissertation- Post Candidacy	1
	Credit Hours	1
Year Four		
Fall		
MCP 840	Doctoral Dissertation- Post Candidacy	3
	Credit Hours	3

Spring		
MCP 840	Doctoral Dissertation- Post Candidacy	3
	Credit Hours	3
Summer		
MCP 840	Doctoral Dissertation- Post Candidacy	1
	Credit Hours	1
Year Five		
Fall		
MCP 840	Doctoral Dissertation- Post Candidacy	1
	Credit Hours	1
Spring		
MCP 850	Research in Residence	1
	Credit Hours	1
	Total Credit Hours	67

Neuroscience

<http://biomed.med.miami.edu/graduate-programs/neuroscience>

Overview

The Neuroscience Graduate Program, established in 1992, is an interdisciplinary / interdepartmental PhD program designed to guide trainees through the process of acquiring the research skills and the intellectual rigor needed to become independent professional neuroscientists. The program achieves these goals through coursework, journal clubs, dissertation research committee guidance, and outstanding faculty mentorship. The program also provides multiple annual forums for students to showcase their own research and learn from international research leaders.

More than 80 participating faculty are located in several departments and schools on three UM campuses including Biochemistry, Cell Biology and Anatomy, Molecular and Cellular Pharmacology, Physiology and Biophysics, and Genetics on the Medical campus. From the Coral Gables campus, we have faculty from Biology, Biomedical Engineering and Psychology, as well as several clinical departments such as Medicine, Neurological Surgery, Neurology, Ophthalmology, Otolaryngology, Pathology, Physical Therapy, and Psychiatry. In addition, we have faculty from the Rosenstiel School of Marine and Atmospheric Sciences.

Neuroscience faculty pursue a wide variety of research interests, including cellular and molecular mechanisms involved in signal transduction, gene expression in electrically excitable cells, synapse formation, neuronal growth and survival, integrative neuroscience, neuroimmunology, stroke, neuronal regeneration, autonomic control, brain metabolism and cerebral blood flow, spinal cord and brain injuries, degenerative changes within specific neural pathways in Parkinson's and Alzheimer's diseases, ALS, and genetic analysis of neurological disorders.

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Admission Requirements

Admission to the Neuroscience Program is through the common umbrella of Programs in the Biomedical Sciences (PIBS), for all biomedical PhD programs.

For more information, please visit this website (<http://biomed.med.miami.edu/graduate-programs/programs-in-biomedical-sciences-pibs>).

Curriculum Requirements

Graduate training is the major goal of the program, with emphasis on cellular, molecular, and genetic approaches to Neuroscience. A single core curriculum provides the didactic scaffold of the program. This curriculum consists of courses in Developmental Neuroscience, Membrane Biophysics, Introductory Neuroscience, Neural Systems, and Neuroanatomy. The core courses are supplemented with a variety of Special Topics Short Courses.

Students also attend research seminars and a scientific journal club. The Neuroscience Steering Committee guides the students, overseeing their coursework, until they have passed their qualifying exams. From then on, their progress is supervised by individually tailored dissertation committees.

Code	Title	Credit Hours
Biomedical Science Core		
PIB 700	Journal Club	2
PIB 701	Introduction to Biomedical Sciences	5
PIB 702	Scientific Reasoning	3
PIB 705	Biostatistics for the Biosciences	3
PIB 731	Laboratory Research	1-6
PIB 780	Research Ethics	1
PIB 782	Professional Development: Skills for Success I	1
PIB 783	Professional Development: Skills for Success II	1
PIB 785	PIBS Bioinformatics Workshop	1
PIB 830	Doctoral Dissertation	1
Neuroscience Required Courses		
NEU 700	Seminars in Neuroscience ¹	8-14
NEU 721	Principles of Membrane Physiology and Biophysics I	2
NEU 722	Principles of Membrane Physiology and Biophysics II	2
NEU 731	Advanced Topics in Neuroscience	1
NEU 761	NEU I - Molecular and Cellular Neuroscience	2
NEU 762	NEU II - Systems Neuroscience	4
NEU 763	Developmental Neuroscience	2
NEU 797	Neuroanatomy	3
Research Credits		24
NEU 830	Doctoral Dissertation	
NEU 840	Doctoral Dissertation- Post Candidacy	
NEU 850	Research in Residence	
Total Credit Hours		67-78

¹ Neuroscience students must take 1 seminar credit each fall and spring semester.

Sample Plan of Study

Please note that the following is only a sample curriculum plan. Current students must discuss their plan with their program director to make adjustments as needed. It is the student's responsibility to contact the program to verify the information.

Course	Title	Credit Hours
Year One		
Fall		
PIB 700	Journal Club	1
PIB 701	Introduction to Biomedical Sciences	5
PIB 702	Scientific Reasoning	3
PIB 731	Laboratory Research	1
PIB 780	Research Ethics	1
PIB 782	Professional Development: Skills for Success I	1
Credit Hours		12
Spring		
PIB 700	Journal Club	1
PIB 705	Biostatistics for the Biosciences	3
PIB 731	Laboratory Research	1
PIB 783	Professional Development: Skills for Success II	1
NEU 721	Principles of Membrane Physiology and Biophysics I	2
NEU 722	Principles of Membrane Physiology and Biophysics II	2
NEU 761	NEU I - Molecular and Cellular Neuroscience	2

NEU 763	Developmental Neuroscience	2
	Credit Hours	14
Summer		
PIB 830	Doctoral Dissertation	1
	Credit Hours	1
Year Two		
Fall		
NEU 700	Seminars in Neuroscience	1
NEU 762	NEU II - Systems Neuroscience	4
NEU 797	Neuroanatomy	3
NEU 830	Doctoral Dissertation	3
	Credit Hours	11
Spring		
NEU 700	Seminars in Neuroscience	1
NEU 830	Doctoral Dissertation	3
	Credit Hours	4
Summer		
NEU 830	Doctoral Dissertation	1
	Credit Hours	1
Year Three		
Fall		
NEU 700	Seminars in Neuroscience	1
NEU 731	Advanced Topics in Neuroscience	1
NEU 840	Doctoral Dissertation- Post Candidacy	3
	Credit Hours	5
Spring		
NEU 700	Seminars in Neuroscience	1
NEU 840	Doctoral Dissertation- Post Candidacy	3
	Credit Hours	4
Summer		
NEU 840	Doctoral Dissertation- Post Candidacy	1
	Credit Hours	1
Year Four		
Fall		
NEU 700	Seminars in Neuroscience	1
NEU 840	Doctoral Dissertation- Post Candidacy	2
	Credit Hours	3
Spring		
NEU 700	Seminars in Neuroscience	1
NEU 840	Doctoral Dissertation- Post Candidacy	2
	Credit Hours	3
Summer		
NEU 840	Doctoral Dissertation- Post Candidacy	1
	Credit Hours	1
Year Five		
Fall		
NEU 700	Seminars in Neuroscience	1
NEU 840	Doctoral Dissertation- Post Candidacy	2
	Credit Hours	3
Spring		
NEU 700	Seminars in Neuroscience	1

NEU 840	Doctoral Dissertation- Post Candidacy	2
	Credit Hours	3
Summer		
NEU 850	Research in Residence	1
	Credit Hours	1
	Total Credit Hours	67

Ophthalmology

<http://biomed.miami.edu/graduate-programs/ms-in-vision-science-and-investigative-ophthalmology>

Overview

Bascom Palmer Eye Institute is pleased to offer a unique graduate degree, the **Master of Science in Vision Science and Investigative Ophthalmology (MVSIO)**. This innovative program, the first of its kind in the world, offers comprehensive training in ophthalmic translational research, problem-based learning, management and a skill set available only at Bascom Palmer Eye Institute.

The MVSIO program focuses on science and laboratory research, including the disciplines of electrophysiology, biochemistry and molecular biology, as well as exposure to ocular clinical details and ocular pathology. It will prepare students for a planned Ph.D. graduate program in vision science and investigative ophthalmology as well as for industry jobs and future residency training.

In addition, the multidisciplinary program builds management, administrative, and entrepreneurial skills for professionals desiring a vision science-oriented career in startup companies, management of non-profit organizations, academic practices, government regulatory agencies, and medical device and pharmaceutical companies.

Led by Bascom Palmer Eye Institute's world-class faculty and supported by leading-edge technology, the MVSIO program opens the door to new career opportunities for medical school graduates, clinicians and other professionals.

Contact Information

Sanjoy K. Bhattacharya, MTech, PhD, Program Director
 Eva Norton, Program Manager
 MS Vision Science and Investigative Ophthalmology
 305 482 4919

M.S. in Vision Science and Investigative Ophthalmology (p. 1257)

M.S. in Vision Science and Investigative Ophthalmology

Curriculum Requirements

Code	Title	Credit Hours
Core Courses		
OPH 610	Anatomy and Physiology of the Eye	1
OPH 615	Pathology of Eye Diseases	1
OPH 620	Ocular Pharmacology, Epidemiology, and Biostatistics	1
OPH 625	Microbiology and Immunology of the Eye	1
OPH 630	Ophthalmic Genetics	1
OPH 635	Electrophysiology of the eye	1
OPH 640	Vision and Optics	2
OPH 645	Biochemistry, Cellular and Molecular Ophthalmology	2
Laboratory Courses		
OPH 661	LAB: Basic Biochemistry, Microbiology, and Pathology	3
OPH 662	Lab: Basic and Applied Optics and Statistics	1
OPH 663	Lab: Electrophysiology, Clinical Testing and Applications	1
Problem-Based Learning		
OPH 771	PBL: Advanced and High Throughput Approaches in Science	2
OPH 772	PBL: Management skills and Tools for Academia and Enterprises	2
OPH 773	PBL: Animal Models, Regulatory issues, and Research Methods	2
Electives		

OPH 691	Clinical Ophthalmology Update	2
Thesis		
OPH 810	Ophthalmology Research Thesis	7
Total Credit Hours		30

Suggested Plan of Study

Course	Title	Credit Hours
Year One		
Fall		
OPH 610	Anatomy and Physiology of the Eye	1
OPH 615	Pathology of Eye Diseases	1
OPH 620	Ocular Pharmacology, Epidemiology, and Biostatistics	1
OPH 625	Microbiology and Immunology of the Eye	1
OPH 630	Ophthalmic Genetics	1
OPH 645	Biochemistry, Cellular and Molecular Ophthalmology	2
OPH 661	LAB: Basic Biochemistry, Microbiology, and Pathology	3
OPH 771	PBL: Advanced and High Throughput Approaches in Science	2
Credit Hours		12
Spring		
OPH 635	Electrophysiology of the eye	1
OPH 640	Vision and Optics	2
OPH 662	Lab: Basic and Applied Optics and Statistics	1
OPH 663	Lab: Electrophysiology, Clinical Testing and Applications	1
OPH 772	PBL: Management skills and Tools for Academia and Enterprises	2
OPH 773	PBL: Animal Models, Regulatory issues, and Research Methods	2
Credit Hours		9
Year Two		
Fall		
OPH 691	Clinical Ophthalmology Update	2
OPH 810	Ophthalmology Research Thesis	4
Credit Hours		6
Spring		
OPH 810	Ophthalmology Research Thesis	3
Credit Hours		3
Total Credit Hours		30

OPH 610. Anatomy and Physiology of the Eye. 1 Credit Hour.

This course introduces the major anatomical and physiological regions of the eye, including cornea, lens, retina, optic nerve, cranial nerves and extraocular tissues. Emphasis is placed on the relationship between the eye and others systems. Demonstrations include eye dissection, visual testing and visual perception experimentation.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

OPH 615. Pathology of Eye Diseases. 1 Credit Hour.

This course covers in detail the major pathologies of the eye, including congenital diseases and syndromes, infectious diseases, tumors and adult-onset degenerations. Emphasis is placed on pathophysiological mechanisms contributing to pathology, and also covers examination of the eye, diagnostic features, and management of major eye diseases. Demonstrations include histological sections, OCT, visual field and angiogram, and associated diagnostic criteria.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

OPH 620. Ocular Pharmacology, Epidemiology, and Biostatistics. 1 Credit Hour.

Course will teach local anesthetics, anti-infectious, anti-allergic agents, control of ocular pain, adverse ocular and systemic reactions caused by therapeutic agents will be part of the course. Ocular therapeutic principles (pharmacokinetics and pharmacodynamics, toxicity), sources of drug information, new drug development, drug regulations as applicable to different areas of operation including prescription writing will be discussed. An introductory course in epidemiologic and biostatistics methodology covering study design for investigation of both infectious and chronic diseases of the eye; screening programs and health services research will also be discussed. Outbreak investigation, natural history of infectious diseases, validity of clinical tests, survival analysis, and clinical trial and etiologic studies will be discussed. Methods of biostatistician evaluation of experiment design and analyses of data to decipher significant from non-significant results and general tools for statistical analyses will be reviewed.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

OPH 625. Microbiology and Immunology of the Eye. 1 Credit Hour.

Students will learn concepts and terminologies of immunology, bacteriology, virology, parasitology and mycology with an emphasis on mechanisms of microbial disease transmission and host defense mechanisms. Students become familiar with the types of organisms responsible for human disease, the mechanisms by which they produce disease, and the application of this knowledge to the treatment of patients. This course integrates the biomedical disciplines of immunology and medical microbiology. Infectious and immunological diseases with relevance to the clinical setting and pharmacological approaches will be presented. A basic understanding of the classification and characteristics of infectious microorganisms, the mechanisms by which infectious agents cause disease, and methods of both prevention and treatment are highlighted. Causes and treatment of immune diseases will also be presented. Concepts of inflammation, sepsis, cell injury, tissue repair, hemodynamic disorders, genetic disorders, environmental and nutritional pathology, immunodeficiency diseases, autoimmune and metabolic diseases will be presented. Throughout the course, small group tutorials and interactive clinical correlations based on clinical cases linking basic science concepts to clinical medicine will be presented. Tutorials, clinic-pathological correlations and laboratories emphasize problem-solving skills, integration of knowledge and independent learning.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

OPH 630. Ophthalmic Genetics. 1 Credit Hour.

This course provides an overview of the influence of genetics in ophthalmology with respect to understanding pathogenic mechanisms of eye diseases, and the development of novel therapeutic strategies. The course will provide an introduction to complex and Mendelian genetics, and research strategies involved in identifying disease-associated genetic changes. Specific topics include hereditary retinal diseases, genetic associations in age related macular degeneration and glaucoma, genetics of myopia and optic nerve diseases, and mitochondrial disorders affecting the eye. Additional discussions include current gene therapy clinical trials.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

OPH 635. Electrophysiology of the eye. 1 Credit Hour.

This course will introduce the basic principles of electrophysiology of the eye, identify neural signals, neurotransmitters, molecular signaling within neurons. Additionally, the sensation and sensory systems. Emphasis is placed on the relationship between the eye and other signals and senses.

Corequisite: OPH 663.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

OPH 640. Vision and Optics. 2 Credit Hours.

This course will provide an introduction to the principles of geometrical optics and its application to the study and assessment of the visual system. Topic covered will include fundamental of geometrical optics, principles of optical system components (lenses, mirrors, prisms, light sources), optics of the eye and vision correction, basic principles of visual optical instruments (loupe, microscopes, telescopes), and principles and applications of ophthalmic diagnostic and imaging systems, including ophthalmoscopes, retinoscopes, slit-lamp, keratometers, corneal topography systems, aberrometers and optical coherence tomography.

Corequisite: OPH 662.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

OPH 645. Biochemistry, Cellular and Molecular Ophthalmology. 2 Credit Hours.

An introduction to biochemistry with emphasis on ocular clinical applications. Topics will include nutrition, cellular biology, biochemistry of tears, conjunctiva, and cornea. The structure and functions of proteins and enzymes as well as metabolism of carbohydrates and lipids will be discussed. Case studies and journal articles will be used to demonstrate the useful applications of these principles to ocular health-related issues.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

OPH 661. LAB: Basic Biochemistry, Microbiology, and Pathology. 3 Credit Hours.

Experiments related to molecular biology (includes PCR, DNA cloning, hybridization analysis, restriction mapping, and DNA sequence analysis), protein purification and analysis (salt fractionation, ion exchange chromatography, affinity chromatography, SDS-PAGE, and immuno-blotting), and determination of enzyme kinetic parameters.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

OPH 662. Lab: Basic and Applied Optics and Statistics. 1 Credit Hour.

This laboratory course serves as a companion to the Vision and Optics course. It will include practical hands-on examples of the application of geometrical optical theory to the design and calculation of optical systems, provide an initial hands-on experience with basic optical system setup on an optical bench, and provide basic hand-on training or demonstration of ophthalmic diagnostic techniques and instruments, including refraction, ophthalmoscopy, retinoscopy, slit-lamp examination, aberrometry, corneal topography and optical coherence tomography.

Corequisite: OPH 640.

Components: LAB.

Grading: GRD.

Typically Offered: Spring.

OPH 663. Lab: Electrophysiology, Clinical Testing and Applications. 1 Credit Hour.

This laboratory work will introduce the students to novel clinical recording techniques, electrophysiologic tests, and clinical applications of ERG, EOG, and VEP. Emphasis is placed on novel and specialized clinical applications and recordings. The course will be divided in two sections. Section one ends with focus on the effects of maturation, aging, and testing in infants. Section two will conclude with electrophysiologic findings of many clinical conditions and clinical applications of ERG, EOG, and VEP of various eye disorders/diseases.

Corequisite: OPH 635.

Components: LAB.

Grading: GRD.

Typically Offered: Spring.

OPH 691. Clinical Ophthalmology Update. 2 Credit Hours.

Society, Science and Medicine. History and evolution of medicine, Seminars on different aspects of medicine including a broad spectrum view of career options. The emphasis will be how medicine has been developed historically, its efficacy, and the future outlook. For example, antibiotic resistant bacteria was discovered in 12,000 year old underground caves that makes us realize that antibiotic resistance is an old problem and we need to have an outlook bearing that in mind. .

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

OPH 771. PBL: Advanced and High Throughput Approaches in Science. 2 Credit Hours.

The Problem-Based Learning Method (PBL) was designed to teach students in small groups to identify specific techniques that will yield the answers to the problems. Content will include the underlying norms and principles that shaped these concepts. The courses also include plenary session presentations by experts on relevant topics and their use in preparing manuscripts and grant applications and policies regarding conduct of experiments using these techniques.

Components: ENS.

Grading: GRD.

Typically Offered: Fall.

OPH 772. PBL: Management skills and Tools for Academia and Enterprises. 2 Credit Hours.

This Problem-Based learning course will introduce grant writing, pre-award preparation, post-award management and will be taught using problem-based modules. Federal and non-federal extramural grants will be used as modules specific aspects of different segmental grants will be presented. Major research grant, training and fellowships, grants-in-aid will be taught. In addition, small business innovation research (SBIR) or STTR will be covered. Students will learn techniques to analyze markets, identify optimal opportunities, develop plans to sell their vision in order to attract talent and stakeholders. A series of problem-based lectures integrates modern business concepts from an entrepreneurial approach.

Components: ENS.

Grading: GRD.

Typically Offered: Spring.

OPH 773. PBL: Animal Models, Regulatory issues, and Research Methods. 2 Credit Hours.

Part I: The aim of this Problem-Based learning course is to provide students the basic understanding and expertise pertaining to generation and implementation of preclinical research IACUC protocol. This course consists of a problem based learning module with a focus on developing students' understanding of various animal models in preclinical research and how to refine animal research models that meet the requirement of IACUC regulation. Part II: The purpose of this course is to provide clinical research regulatory expertise with an aim to create future leaders in the drug development industry. This regulatory science course uses a multidisciplinary approach and encompasses course work in regulatory writing techniques, quality systems, and medical device and pharmaceutical regulation. The concentration is designed to develop the student's understanding of how to meet regulatory oversight requirements as they relate to the conduct of clinical studies. This course will prepare students to play critical roles throughout the lifecycle of pharmaceuticals, medical devices, and biologics. They provide strategic, tactical and operational direction, and support for working within regulations to expedite the development and delivery of safe and effective healthcare products to individuals around the world. The regulatory professional's services can be utilized in research and development, clinical trials, extension of premarket approvals, manufacturing, labeling and advertising, and post-market surveillance. Knowledge of clinical research conduct and management which involves the design, execution and management of clinical trials as well as quality assurance and compliance principles are important to regulatory professionals. Course also provides highlight on how to effectively partner with experts such as writers drafting pre- and post- approval regulatory FDA submission documentation (INDs, NDAs, PMAs etc.) for product clearance or licensure, IRB reviewers and investigational Pharmacists to enhance the development of healthcare products.

Components: ENS.

Grading: GRD.

Typically Offered: Spring.

OPH 810. Ophthalmology Research Thesis. 1-7 Credit Hours.

The course allows the student to work full-time on a research project of interest under the supervision of research/clinical faculty or a team of faculty members.

Components: THE.

Grading: SUS.

Typically Offered: Fall.

PhD/MBA Program

The growing potential to make life-saving discoveries in an ever-changing global economy make this an exciting time to enhance your biomedical science PhD with an MBA! Many ambitious students are now looking to an MBA as a useful enhancement to their biomedical research experience and expand their career options.

An MBA is an investment in the future careers of biomedical graduate students. We know our alums will be future college presidents, department chairs, entrepreneurs, government officials, patent holders and CEOs of biomedical companies. This program will ensure they leave us not only as cutting-edge scientists, but also prepared for the leadership challenges they will face regardless of what lies ahead.

Regardless of career trajectory, PhDs can benefit from pursuing a business education. From a practical standpoint, the managerial skills, business acumen and financial literacy one develops from an MBA program are useful for managing labs, staff, grants or even starting a business. The biomedical industry and higher education are increasingly influenced by legal issues and shifting healthcare policy, both of which are covered by the MBA curriculum. Students will expand their networks by taking classes alongside CEO's and business leaders enrolled in the Executive MBA program.

The immediate financial advantages of a PhD / MBA option at UM are substantial. Not only will accepted students receive 100% tuition waivers for the doctoral portion of their studies, they will receive shared credit savings and a 50% scholarship from the School of Business Administration for their MBA. In the long-term, students with MBA's can expect to have greater earnings over the lifetime of their careers.

Contact Information

Office of Graduate and Postdoctoral Studies
 Rosenstiel Medical Sciences Building, Suite 1128
 1600 NW 10th Avenue, M857
 Miami, FL 33136
 305 243 1094
 ogps@miami.edu

Curriculum Requirements

PhD students in the Biomedical Sciences at the Miller School of Medicine may choose to pursue a Master of Business Administration degree immediately following their doctoral studies. The MBA portion of the sequential degree may be completed in one year and consists of 44 MBA credits. The degrees must be obtained sequentially.

Code	Title	Credit Hours
ACC 670	Financial Reporting and Analysis	2
ACC 671	Accounting for Decision Making	2
BSL 685	Legal Aspects of Health Administration	3

BTE 610	Foundations of Management Information Systems	2
BUS 603	Critical Thinking and Effective Speaking	1
BUS 604	Career Development and Enrichment	1
ECO 685	Managerial Decisions in a Global Economy	2
FIN 641	Valuation and Financial Decision Making	2
HSM 601	Essentials of Health Care Administration	2
HSM 655	Public Policy and Health	2
HSM 687	Health Care Organization, Economics, and Ethics	2
MAS 632	Management Science Models for Decision Making	2
MGT 620	Managing Through People	2
MGT 643	Principles of Operations Management	2
MGT 658	Strategic Management	3
MGT 675	Business Policy and Strategy	2
MKT 640	Foundations of Marketing Management	2
Electives		10
Total Credit Hours		44

Plan of Study

Course	Title	Credit Hours
Year One		
Fall I		
ACC 670	Financial Reporting and Analysis	2
BUS 604	Career Development and Enrichment	1
ECO 685	Managerial Decisions in a Global Economy	2
MGT 675	Business Policy and Strategy	2
Electives		4
	Credit Hours	11
Fall II		
ACC 671	Accounting for Decision Making	2
BSL 685	Legal Aspects of Health Administration	3
BUS 603	Critical Thinking and Effective Speaking	1
MGT 620	Managing Through People	2
Elective		2
MGT 658	Strategic Management	3
	Credit Hours	13
	Total Credit Hours	24

Course	Title	Credit Hours
Year One		
Spring I		
BUS 604	Career Development and Enrichment	1.00
FIN 641	Valuation and Financial Decision Making	2
HSM 601	Essentials of Health Care Administration	1
HSM 687	Health Care Organization, Economics, and Ethics	3
MAS 632	Management Science Models for Decision Making	2
MKT 640	Foundations of Marketing Management	2
	Credit Hours	11
Spring II		
BTE 610	Foundations of Management Information Systems	2
HSM 655	Public Policy and Health	1
MGT 643	Principles of Operations Management	2

Electives		4
	Credit Hours	9
	Total Credit Hours	20

Total Credit Hours for Plan of Study 44

Physical Therapy

<http://www.pt.med.miami.edu>

Dept. Code: PTS

The Department of Physical Therapy is committed to providing quality educational experiences that enable its graduates to effectively carry out the expanding responsibilities of physical therapists as autonomous health care providers practicing in preventive, evaluative, maintenance, acute care, rehabilitation, outpatient settings, and in educational and research environments.

The individual and collective efforts of the members of the Physical Therapy faculty are directed toward attaining specific goals and objectives as expressed in the philosophic statement of the American Physical Therapy Association.

The *Mission of the Department of Physical Therapy* (revised in December, 2000; re-affirmed in 2012) in accordance with the Mission of the Miller School of Medicine is to provide excellence in physical therapist education, to expand evidence-based practice of physical therapy through research, to provide high quality care to all who need it, and to be a community partner.

Admission Requirements

Doctor of Physical Therapy (entry level DPT)

Applicants should have a baccalaureate degree in a related field and 3.0, or "B" average or better in the following courses:

Code	Title	Credit Hours
English Composition/ Writing intensive course	(5 quarter hours)	3
Introduction to Statistics	(5 quarter hours)	3
Psychology	(5 quarter hours)	3
General Biology	(5 quarter hours)	3
General Chemistry I and II each with Lab	(12 quarter hours)	8
General Physics I and II each with Lab	(12 quarter hours)	8
Human Anatomy	(5 quarter hours)	3
Human Physiology	(5 quarter hours)	3
OR		
Combined Anatomy and Physiology I & II	(10 quarter hours)	

Application Procedure

We are accepting applications through Physical Therapist Centralized Application Service (PTCAS). Click here (<http://www.ptcas.org>) to apply.

The next application cycle will open on July 1. The application deadline is October 15; we encourage you to apply early. Classes begin in May of each year. Application requirements consist of the following:

1. Submission of all application materials to PTCAS. Completion of prerequisites or plan to complete by time of matriculation, with a minimum GPA of 3.0 on a 4.0 scale.
2. Demonstration of knowledge concerning the physical therapy profession by submitting:
 - A minimum of 100 hours of first-hand observation and/or work experience related to the practice of physical therapy.
 - This experience must be substantiated in writing by a registered/licensed physical therapist. The name and email of the physical therapist(s) is required for verification.
3. Submission of three to four (3-4) letters of recommendation from people who can address both the applicant's moral character and potential as a physical therapist.
 - At least one letter must be written by a registered/licensed physical therapist, and one or more from faculty.
4. An on-site interview is required and will be offered to those applicants who have met the admission criteria.
5. Graduate Record Exam (GRE). Applicants who took the GRE before July 31, 2011 must score a minimum of 1000 on the verbal and quantitative sections combined. As of August 2011 the GRE exam and its scoring scale have changed significantly. Please visit the ETS website (http://www.ets.org/s/gre/pdf/concordance_information.pdf) for the official ETS Concordance Table. Applicants must score a minimum of 147 on the quantitative section and 149 on the verbal section. A minimum score of 3.0 on the analytical section is also required.

6. International students are to complete the PTCAS application and submit official transcripts to the DPT program instead of PTCAS. Transcripts that are not in English must include an official translation. International applicants must have all transcripts evaluated by the University of Miami's Office of International Admissions before they can be considered for graduate study. Any transcript not in English must be submitted with an official translation. International applicants must meet ALL the necessary requirements to qualify for a student visa.

For more information contact:

Admissions Office
Department of Physical Therapy
5915 Ponce de Leon Blvd., 5th Floor
Coral Gables, FL 33146
Phone 305-284-4535
Email: physicaltherapy@miami.edu
Website: www.pt.med.miami.edu (<http://www.pt.med.miami.edu>)

Doctor of Philosophy in Physical Therapy (PhD)

Application Requirements

Applicants to the Physical Therapy PhD Studies Program must have a clinical degree in physical therapy from an accredited physical therapy program and be eligible for licensure to practice physical therapy in the United States. Students enrolled in the PhD in Physical Therapy program at the University of Miami work closely with a faculty mentor from their first days in the program. As a first step in the application process, the applicant must identify an area of interest and contact a faculty mentor involved in that area. Students are admitted to the program upon endorsement of a faculty mentor and completion of all admission requirements, with final selection made by the PhD Studies Committee. Stipend and tuition support is potentially available for qualified applicants.

The applicant must meet all the general admissions requirements of the University of Miami Graduate School. Additionally, stipulations include:

- Direct entry into the PhD program is dependent upon having any of the degrees below:
 - An entry-level Master's Degree in Physical Therapy
 - An advanced Master's Degree with a Bachelor's Degree in Physical Therapy
 - A Bachelor's Degree in Physical Therapy.
- An applicant with a Bachelor's Degree in Physical Therapy, though able to commence course work in the PhD Program, will be required to complete additional credit hours before final admission to the PhD Program.
- Official Transcripts of all college work.
- Three completed recommendation forms with at least one form completed by a physical therapist.
- A letter indicating career goals and objectives.
- Licensure or eligibility for licensure, as a physical therapist in the State of Florida (must be licensed within 1 year of admission).
- GRE scores current within the past 5 years (see minimum requirements below)

Applicants who took the GRE before July 31, 2011 must score a minimum of 1000 on the verbal and quantitative sections combined. As of August 2011 the GRE exam and its scoring scale have changed significantly. Please visit the ETS website (http://www.ets.org/s/gre/pdf/concordance_information.pdf) for the official ETS Concordance Table. Graduate Admissions will be using this concordance table when reviewing exam scores. Applicants must score a minimum of 147 on the quantitative section and 149 on the verbal section. A minimum score of 4.0 on the analytical section is also required. International applicants must submit a complete application and have all transcripts evaluated by the University of Miami's Office of International Admissions before they can be considered for graduate study. Any transcript not in English must be submitted with an official translation.

The research areas of the faculty are diverse, reflecting the clinical and scientific emphasizes areas of the faculty. Please refer to the Faculty Section for specifics.

For more information on the PhD degree contact:

Kathryn E. Roach, PhD, PT, Graduate Program Director
Department of Physical Therapy
5915 Ponce de Leon Blvd., 5th Floor
Coral Gables, FL 33146
phone: 305-284-4535
email: keroach@miami.edu

Degree Programs

Doctor of Physical Therapy (entry level DPT)

The Department offers the clinical Doctor of Physical Therapy (DPT). The DPT program recognizes the importance of in-depth basic and applied science knowledge and the humanities. As such, the curriculum is carefully sequenced to allow students to develop skills in both classroom and clinical settings.

Faculty also understand the importance of presenting problem-solving skills in conjunction with fundamental physical therapy concepts so that students will develop the professional attitudes and insights required for sustained and continued growth throughout their careers.

The entry-level doctoral program (DPT) is offered under the auspices of the Department of Physical Therapy, University of Miami Miller School of Medicine.

Doctor of Philosophy in Physical Therapy (PhD)

The University of Miami Doctor of Philosophy in Physical Therapy program develops physical therapist students for leadership positions in academic and research settings. Along with guiding students in the development of requisite knowledge and skills, the program promotes professional socialization into the role of academic faculty. We believe preparation to teach and undertake research in a physical therapy curriculum at the university level requires excellence in three dimensions:

1. Expertise in a specified content area;
2. Advanced knowledge and skill in research methods, design, and implementation of analysis and communication of results; and
3. Proficiency in instructional design, teaching methods, and evaluation.

The successful integration of these three dimensions, each complex in its own right, provides the means for the student to develop expertise in testing, analyzing, researching, and teaching about disorders that interfere with function. Unifying these three core areas is the process of socialization to the role of a faculty member, including an awareness of academic responsibilities and sensitivity to the needs of the adult learner.

In keeping with this philosophy, students develop breadth of knowledge through completion of coursework from three basic core areas:

- Concentration Core
- Research Core
- Education Core

They develop depth by completing elective courses with the intent to build expertise in their respective areas of concentration. The successful graduate of this program will have the requisite knowledge and skills to integrate research findings and scientific theory with clinical observations. On this basis, the graduate will be prepared to perform original research aimed at developing new knowledge to enhance the scientific basis of clinical practice and theoretical principles that will advance the profession of physical therapy. The program offers opportunities for the student to gain skill in communicating theories, concepts and research findings and to experience the roles and responsibilities of an academic faculty member. Students complete a dissertation project in which they develop and conduct a unique and significant research investigation with the guidance of a Physical Therapy faculty member as research advisor.

For more information contact:

Admissions Office
Department of Physical Therapy
5915 Ponce de Leon Blvd., 5th Floor
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Phone 305-284-4535
Email: physicaltherapy@miami.edu
Website: www.pt.med.miami.edu (<http://www.pt.med.miami.edu>)

Doctoral Programs in Physical Therapy

- D.P.T. Doctor of Physical Therapy (Entry Level) (p. 1265)
- Ph.D. in Physical Therapy (p. 1268)

D.P.T. Doctor of Physical Therapy (Entry Level)

To receive the Doctor of Physical Therapy degree, the candidate must:

1. Complete all coursework (103 credit hours) as required with an overall GPA of 3.0 or better.
2. Complete at least 3 credit hours of Elective coursework, in addition to the 103 credit hours.

3. Successfully complete the clinical internships (I-IV) required.

Curriculum Requirements

Code	Title	Credit Hours
PTS 616	Clinical Research I	3
PTS 670	Clinical Skills in Physical Therapy	3
PTS 672	Clinical Kinesiology and Biomechanics	3
PTS 674	Clinical Examination	3
PTS 676	Medical Screening in Physical Therapy	1
PTS 708	Human Gait and Locomotion	1
PTS 640	Neuroscience I	3
PTS 642	Electrotherapy	3
PTS 644	Medical Pathology Seminar II	1
PTS 726	Therapeutic Exercise	3
PTS 728	Musculoskeletal Examination and Manual Treatment I	3
PTS 630	Foundations of Physical Therapy	3
PTS 631	Gross Anatomy for Physical Therapy I	3
PTS 632	Gross Anatomy for Physical Therapy II	3
PTS 643	Medical Pathology Seminar I	1
PTS 710	Clinical Internship I	2
PTS 646	Medical Pathology Seminar IV	1
PTS 650	Pharmacology	2
PTS 671	Therapeutic Physiology	2
PTS 706	Neurological Evaluation	2
PTS 745	Integumentary Disorders and Treatment	2
PTS 714	Neurorehabilitation	3
PTS 724	Cardio-Respiratory Physical Therapy	3
PTS 727	Prosthetics and Orthotics	3
PTS 731	Geriatric Physical Therapy	2
PTS 730	Pediatric Physical Therapy	2
PTS 770	Education Principles in Physical Therapy	1
PTS 629	Evaluation and Treatment of Spinal Dysfunctions I	3
PTS 633	Communication in Physical Therapy Practice	2
PTS 641	Neuroscience II	3
PTS 645	Medical Pathology Seminar III	1
PTS 675	Clinical Decision Making I	2
PTS 717	Clinical Research II	3
PTS 748	Musculoskeletal Examination and Treatment II	3
PTS 771	Complementary Therapies in Rehabilitation	2
PTS 775	Clinical Decision Making II	3
PTS 785	Medical Diagnostic Tests	2
PTS 711	Clinical Internship II	2
PTS 803	Clinical Internship III	2
PTS 804	Clinical Internship IV	2
PTS 715	Rehabilitation of the Complex Patient	3
PTS 718	Physical Therapy Administration	3
PTS 729	Evaluation and Treatment of Spinal Dysfunctions II	3
PTS 765	Health Promotion and Disease Prevention	2
Total Credit Hours		103

Students are required to complete a minimum of 3 elective credits in addition to the required courses. For a list of elective courses, please visit <http://pt.med.miami.edu/Documents/ELECTIVES.pdf>.

Suggested Plan of Study

Course	Title	Credit Hours
Year One		
Fall		
PTS 616	Clinical Research I	3
PTS 670	Clinical Skills in Physical Therapy	3
PTS 672	Clinical Kinesiology and Biomechanics	3
PTS 674	Clinical Examination	3
PTS 676	Medical Screening in Physical Therapy	1
PTS 708	Human Gait and Locomotion	1
	Credit Hours	14
Spring		
PTS 640	Neuroscience I	3
PTS 642	Electrotherapy	3
PTS 644	Medical Pathology Seminar II	1
PTS 726	Therapeutic Exercise	3
PTS 728	Musculoskeletal Examination and Manual Treatment I	3
	Credit Hours	13
Summer		
PTS 630	Foundations of Physical Therapy	3
PTS 631	Gross Anatomy for Physical Therapy I	3
PTS 632	Gross Anatomy for Physical Therapy II	3
PTS 643	Medical Pathology Seminar I	1
	Credit Hours	10
Year Two		
Fall		
PTS 710	Clinical Internship I	2
PTS 646	Medical Pathology Seminar IV	1
PTS 650	Pharmacology	2
PTS 671	Therapeutic Physiology	2
PTS 706	Neurological Evaluation	2
PTS 745	Integumentary Disorders and Treatment	2
	Credit Hours	11
Spring		
PTS 714	Neurorehabilitation	3
PTS 724	Cardio-Respiratory Physical Therapy	3
PTS 727	Prosthetics and Orthotics	3
PTS 731	Geriatric Physical Therapy	2
PTS 730	Pediatric Physical Therapy	2
PTS 770	Education Principles in Physical Therapy	1
	Credit Hours	14
Summer		
PTS 629	Evaluation and Treatment of Spinal Dysfunctions I	3
PTS 633	Communication in Physical Therapy Practice	2
PTS 641	Neuroscience II	3
PTS 645	Medical Pathology Seminar III	1
PTS 675	Clinical Decision Making I	2
	Credit Hours	11
Year Three		
Fall		
PTS 717	Clinical Research II	3

PTS 748	Musculoskeletal Examination and Treatment II	3
PTS 771	Complementary Therapies in Rehabilitation	2
PTS 775	Clinical Decision Making II	3
PTS 785	Medical Diagnostic Tests	2
PTS 711	Clinical Internship II	2
	Credit Hours	15
Spring		
PTS 803	Clinical Internship III	2
PTS 804	Clinical Internship IV	2
	Credit Hours	4
Summer		
PTS 715	Rehabilitation of the Complex Patient	3
PTS 718	Physical Therapy Administration	3
PTS 729	Evaluation and Treatment of Spinal Dysfunctions II	3
PTS 765	Health Promotion and Disease Prevention	2
	Credit Hours	11
	Total Credit Hours	103

¹ Students are required to complete a minimum of 3 elective credits in addition to the required courses. For a list of elective courses, please visit <http://pt.med.miami.edu/Documents/ELECTIVES.pdf>.

² The University of Miami, Department of Physical Therapy has affiliations with 350 clinical sites locally and throughout the country. Distant internships may incur additional expenses for the student.

Ph.D. in Physical Therapy

The Doctor of Philosophy in Physical Therapy prepares physical therapists for leadership positions in academic and research settings. To accomplish this, students are required to complete coursework and structured experiences in "Teaching and Faculty Leadership" and "Research." Students develop expertise in a specific area of concentration under the guidance of their faculty mentor by developing an individual plan of study that may include both coursework and independent study and by completing their dissertation research.

Prior to admission to the PhD in Physical Therapy program, prospective students are required to identify a faculty member with research interests compatible with those of the applicant. This faculty member must agree to mentor the potential student before the PhD Committee will make a decision to admit the applicant. For applicants accepted to the program, the faculty member who agreed to mentor the student will serve as the Chair of the student's Supervisory Committee. The Supervisory Committee Chair and the student are responsible for creating an individualized plan of study for each student. The plan of study includes mandatory coursework in:

Preparation for Teaching and Faculty Leadership

- PTS774 Role of Academic Faculty in PT (3 credits)
- PTS777 Instructional Methods in Physical Therapy Education (3 credits)
- PTS778 Teaching Practicum (3 credits)
- PTS790 Theoretical Models in Physical Therapy (3 credits)

Preparation for Research

- PTS795 Clinical Research Methods I (3 credits)
- PTS796 Applied Statistics in Physical Therapy (3 credits)
- PTS798 Research Practicum (3 credits)
- PTS843 Measuring Health Outcomes (3 credits)
- Two graduate level courses in statistics (6 credits)

Preparation in Individual Area of Concentration:

- Students typically take 18 credits of coursework in this area. This may include coursework offered by the Department of Physical Therapy, coursework offered outside the Department, and Independent Study.

Qualifying Examination

Every PhD student must take a written qualifying examination at the time that the student and the Chair of the student's Supervisory Committee deem appropriate. Students can sit for the qualifying examination when they have completed their research practicum and all courses with the exception of an elective. The student must have a 3.0 GPA for all courses taken in the PhD program. The qualifying examination includes questions in four content areas: 1) Area of Concentration, 2) Teaching and Leadership, 3) Research, 4) Dissertation Specific Content.

Dissertation

After passing the qualifying examination, students form a dissertation committee and enter candidacy. The program requires PhD students to submit a written dissertation proposal and orally defend the proposal within 4 months of admission to candidacy. Students are required to take a minimum of 15 Dissertation credits. The program requires students to submit at least one article from their dissertation research for publication in a peer reviewed journal prior to the final public oral defense of the dissertation. Immediately following the public defense of the dissertation, the members of the dissertation committee excuse all non-committee members and further interrogate the candidate. The committee then deliberates in private to determine whether the candidate has successfully defended the dissertation. The typical time to complete a PhD in Physical Therapy is 5 years.

Code	Title	Credit Hours
PhD in Physical Therapy Curriculum		
Preparation for Teaching and Faculty Leadership		
PTS 777	Instructional Methods in Physical Therapy Education	3
PTS 778	Teaching Practicum	1-3
PTS 790	Models of Physical Therapy Practice	3
PTS 774	Role of Academic Faculty in Physical Therapy	3
Preparation for Research		
PTS 795	Clinical Research Methods I	3
PTS 843	Measuring Health Outcomes	3
PTS 796	Applied Statistics in Physical Therapy	3
PTS 798	Research Practicum	3
EPH 601	Medical Biostatistics I	4
EPH 602	Biostatistics II	3
EPS 703	Applied Multivariate Statistics	3
Physical Therapy Courses Available for Individual Area of Concentration		
PTS 720	Biomechanical Basis of Human Movement	3
PTS 721	Measurement of Impairment and Function in Human Movement	3
PTS 722	Pathobiology of Human Function I	3
PTS 760	Theories of Movement Science	3
PTS 761	Motor Learning	3
PTS 766	Rehabilitation of the Amputee	3
PTS 767	Prosthetic Technology and Amputee Rehabilitation	3
PTS 769	Seminars in Orthotics and Prosthetic Rehabilitation	3
PTS 799	Independent Study in Physical Therapy	1-3
PTS 764	Seminars in Neuroscience	3
Outside Courses Available for Individual Area of Concentration		
EPH 621	Fundamentals of Epidemiology	3
EPH 650	Health Economics for Evaluation and Policy	3
EPH 620	Health Education and Behavior	3
EPH 652	Health Policy	3
EPS 714	Qualitative Methods I	3
KIN 621	Advanced Systemic Exercise Physiology	3
Dissertation		
PTS 830	Pre-candidacy Dissertation.	1-6
PTS 840	Post-candidacy Dissertation.	1-12
Summary		
Total Credits from Required Courses		30
Total Credits from Dissertation		15
Total Credits from Individual Plan of Study		15

Cellular Physiology and Molecular Biophysics

biomed.med.miami.edu

Overview

Cellular Physiology and Molecular Biophysics is focused on how human organism function by applying principles of physics to the underlying molecules and cells. The training and research emphasis in the Graduate Program in Cellular Physiology and Molecular Biophysics at the University of Miami School of Medicine is directed at determining the molecular mechanisms underlying physiological functions, such as how does the heartbeat, how does the brain work, and how do we see, smell, and taste, using biophysical techniques and analyses. More specifically, research facilities and guidance for graduate work are available in developmental neurobiology, sensory receptor mechanisms, axonal electrophysiology, ionic mechanism of the nerve impulse, electrophysiological and molecular aspects of synaptic and neuromuscular transmission, mechanisms of ion channel gating, selectivity and conductance, metabolic aspects of nervous function, molecular neuroscience, neuroimmunology, protein structure-function studies, molecular recognition, ligand-receptor interactions, axonal growth, neurotrophic factors, cytokines, gene targeting, neuronal apoptosis, nerve regeneration, molecular adhesion, and regulation of muscle contraction.

The Graduate Program in Cellular Physiology and Molecular Biophysics trains its students to use and develop state-of-the-art biophysical techniques that address fundamental questions related to molecular and cellular physiology and biophysics and developmental and molecular neuroscience. In addition, the students receive training in related biological disciplines and also in systemic physiology in order to obtain a broad viewpoint. This training prepares the students for future careers in research and teaching in academic institutions and also for careers in industry.

Contact Information

H. Peter Larsson, PhD, (plarsson@med.miami.edu) Graduate Program Director
William Orta (wxo35@med.miami.edu), (ddames@med.miami.edu) Senior Program Coordinator

Office of Graduate and Postdoctoral Studies
Rosenstiel Medical Sciences Building, Suite 1128-A
1600 NW 10th Avenue, M857
Miami, FL 33136

305 243 6821
physiology@miami.edu

Admission Requirements

Applicants to biomedical programs should have a bachelor degree in a biological or related discipline (e.g., psychology, chemistry, engineering, physics). Although there are no prerequisite requirements, courses in general biology, cell/molecular biology, calculus, general physics, organic chemistry, physical chemistry, and biochemistry are encouraged. Applications are generally accepted from September to December for fall entry only. Select applicants will be offered an interview.

COMPETITIVE CANDIDATES WILL HAVE THE FOLLOWING:

- Excellent academic record
- Competitive GRE exam scores
- Research experience in a laboratory setting
- Publications of abstract and / or papers
- Co-authorship in a peer-reviewed journal is recommended
- Strong letters of recommendation from research scientists who know the candidate well
- Motivation to pursue state-of-the-art biomedical research

APPLICANTS MUST SUBMIT THE FOLLOWING:

- Online Application
- Application Fee
- Official Academic Transcripts
- GRE General Test
- English Proficiency Exam (non-native speakers)
- Statement of Purpose
- Resume / CV

Full application instructions can be found here (<http://biomed.med.miami.edu/apply>).

Doctoral Programs

Ph.D. in Cellular Physiology and Molecular Biophysics (p. 1271)

Ph.D. in Cellular Physiology and Molecular Biophysics

During their first two years, the students take advanced courses in membrane physiology and biophysics, cellular physiology, neurophysiology and systemic physiology, as well as a core course in cell molecular biology and interdisciplinary biomedical sciences.

During the first year, the students choose several laboratories in which to do brief, introductory research projects (rotations). After the student's selection of a faculty mentor the main emphasis of training shifts to the design and proposal of a dissertation research project, and, with its approval, laboratory research. Students report periodically on their research in discussions with other students and the faculty.

Since the Department aims to prepare its graduates for careers in research and teaching, all students in the Department are expected to participate in teaching; these teaching activities typically require no more than 1-2 weeks per year.

Curriculum Requirements

Code	Title	Credit Hours
Biomedical Science Core		
PIB 700	Journal Club	2
PIB 701	Introduction to Biomedical Sciences	5
PIB 702	Scientific Reasoning	3
PIB 705	Biostatistics for the Biosciences	3
PIB 731	Laboratory Research	2
PIB 780	Research Ethics	1
PIB 782	Professional Development: Skills for Success I	1
PIB 783	Professional Development: Skills for Success II	1
PIB 785	PIBS Bioinformatics Workshop	1
PIB 830	Doctoral Dissertation	1
Physiology Required Courses		
PHS 610	Cell Physiology Biophysics	2
PHS 611	Neurophysiology	2
PHS 612	Systemic Physiology	4
PHS 700	Research Seminar in Membrane Biophysics and Neurobiology	4
PHS 741	Principles of Membrane Physiology and Biophysics I	2
PHS 742	Principles of Membrane Physiology and Biophysics II	2
Research Credits		26
PHS 830	Doctoral Dissertation	-
PHS 840	Doctoral Dissertation- Post Candidacy	-
Total Credit Hours		62

Program Plan

The Department of Cellular Physiology and Molecular Biophysics' PhD program trains highly qualified students for successful careers in research, teaching and industry. A high faculty to student ratio assures that each student receives individualized help from the faculty together with access to the latest scientific instrumentation.

Student training is enhanced by research seminars and student-oriented discussions presented by world-renowned visiting scientists, as well as by participation in research seminars and research discussion groups. We seek to provide a congenial and supportive environment in which each student develops to the fullest their abilities to reason critically, design and conduct incisive experiments, and communicate research results effectively in both written and oral formats. Our faculty's wide collective experience as successful researchers, teachers, journal editors, and peer reviewers is available to help graduates prepare for and attain research and teaching positions in academia and industry.

Please note that the following is only a sample curriculum plan. Current students must discuss their plan with their program director to make adjustments as needed. It is the student's responsibility to contact the program to verify the information.

Course	Title	Credit Hours
Year One		
Fall		
PIB 701	Introduction to Biomedical Sciences	5
PIB 702	Scientific Reasoning	3
PIB 731	Laboratory Research	1-2
PIB 700	Journal Club	1
PIB 780	Research Ethics	1
PIB 782	Professional Development: Skills for Success I	1
	Credit Hours	12-13
Spring		
PIB 700	Journal Club	1
PIB 731	Laboratory Research	1-2
PIB 783	Professional Development: Skills for Success II	1
PHS 610	Cell Physiology Biophysics	2
PHS 611	Neurophysiology	2
PHS 612	Systemic Physiology	4
PHS 741	Principles of Membrane Physiology and Biophysics I	2
PHS 742	Principles of Membrane Physiology and Biophysics II	2
PIB 705	Biostatistics for the Biosciences	3
	Credit Hours	18-19
Summer		
PIB 830	Doctoral Dissertation	1-12
	Credit Hours	1-12
Year Two		
Fall		
PHS 700	Research Seminar in Membrane Biophysics and Neurobiology	1
PHS 830	Doctoral Dissertation	3
	Credit Hours	4
Spring		
PHS 700	Research Seminar in Membrane Biophysics and Neurobiology	1
PHS 830	Doctoral Dissertation	3
	Credit Hours	4
Summer		
PIB 830	Doctoral Dissertation	1
	Credit Hours	1
Year Three		
Fall		
PHS 700	Research Seminar in Membrane Biophysics and Neurobiology	1
PHS 840	Doctoral Dissertation- Post Candidacy	3
	Credit Hours	4
Spring		
PHS 700	Research Seminar in Membrane Biophysics and Neurobiology	1
PHS 840	Doctoral Dissertation- Post Candidacy	3
	Credit Hours	4
Summer		
PHS 840	Doctoral Dissertation- Post Candidacy	1
	Credit Hours	1
Year Four		
Fall		
PHS 840	Doctoral Dissertation- Post Candidacy	3
	Credit Hours	3

Spring		
PHS 840	Doctoral Dissertation- Post Candidacy	3
	Credit Hours	3
Summer		
PHS 840	Doctoral Dissertation- Post Candidacy	1
	Credit Hours	1
Year Five		
Fall		
PHS 840	Doctoral Dissertation- Post Candidacy	3
	Credit Hours	3
Spring		
PHS 840	Doctoral Dissertation- Post Candidacy	3
	Credit Hours	3
Summer		
PHS 840	Doctoral Dissertation- Post Candidacy	1
	Credit Hours	1
	Total Credit Hours	63-76

Public Health

<http://publichealth.med.miami.edu/>

Dept. Code: EPH

Degree Programs

- Accelerated MPH
- Certificate in Public Health
- Master of Public Health (MPH)
- Master of Science in Public Health (MSPH)
- Doctor of Philosophy in Epidemiology (PhD)
- Doctor of Philosophy in Prevention Science and Community Health (PhD)

The Graduate Programs in the Department of Public Health Sciences at the University of Miami Miller School of Medicine are at the forefront of public health science with emphasis on research, education, and evidence based public health service. The Graduate Programs promote an environment of learning and inquiry, stressing the scientific method as a way of generating knowledge about common pathways in health and illness. The mission of the Graduate Programs in Public Health Sciences is to develop leaders who can expand and translate knowledge into policy and practice to promote health and prevent disease in human populations.

Joint Degree Programs

Joint degree programs (<http://publichealth.med.miami.edu/graduate/academic-programs>) are also offered in conjunction with the School of Medicine (MD/MPH, MD/PhD), School of Law (JD/MPH), College of Arts and Sciences (MPA/MPH), (MAIA/MPH), (MALAS/MPH), and School of Nursing and Health Studies (4+1 BSPH/MPH).

- Bachelor of Science in Public Health/Master of Public Health (4+1 BSPH/MPH)
- Juris Doctorate/Master of Public Health (JD/MPH)
- Master of Arts in International Administration/Master of Public Health (MAIA/MPH)
- Master of Latin American Studies/Master of Public Health (MALAS/MPH)
- Master of Public Administration/Master of Public Health (MPA/MPH)
- Medical Doctorate/Master of Public Health (MD/MPH)
- Medical Doctorate/Doctorate of Philosophy (MD/PhD)

Admission Requirements

- **Application** - Applicants must submit their application online through SOPHAS (<https://sophas.org>), the centralized application service of the Association of Schools and Programs of Public Health (ASPPH) (<https://www.aspph.org>). All application materials, including transcripts, test scores, statement of purpose, resume, and letters of reference, must be submitted directly through SOPHAS.

- **Transcripts** – Applicants must submit official transcripts from all previously attended colleges and universities. All foreign transcripts must be official and submitted in the original language. If the original language is not English, an official translation must be submitted along with the transcript. We do not accept evaluations from foreign credentialing service organizations. All non-U.S. transcripts must be evaluated by the World Education Service (<https://www.wes.org>) (WES) using ICAP Course-by-course evaluation service.
- **Official GRE Test Scores** - Applicants are required to submit GRE general exam scores (http://www.ets.org/gre/revised_general/about) taken within the last five years. Alternatively, MCAT, LSAT, GMAT, and DAT scores are accepted for the MPH/MSPH degree programs only. Applicants to the MPH and MSPH program who hold advanced degrees (MD, PhD, and JD) are encouraged, but not required to submit test scores.
- **English Proficiency Exam** - International students whose native language is not English and/or did not graduate from an English-teaching institution are required to submit TOEFL (<https://www.ets.org/toefl>) or IELTS (<https://www.ielts.org/en-us>) scores.
- **Resume/Curriculum Vitae** – Applicants must include a detailed resume including employment, public health experiences, community service, research, and academic or professional honors.
- **Statement of Purpose** – Applicants are required to submit a statement of purpose that details their academic interest in the program. The statement should discuss any experience in public health including field experience, training, education or other related qualifications. Applicants should discuss how earning the degree will contribute to their future professional and career goals, as well as to the future of public health. Applicants should also address any academic deficiencies, if applicable.
- **Letters of Reference** – Applicants must provide three letters of recommendation from individuals who are best able to assess their ability to be successful in a public health degree program. Ideally, recommenders are recent professors, researchers or employers in a related field. Applicants will be asked to include the contact information of their recommenders on the SOPHAS application and recommenders will be sent an online form to complete via email.

To obtain detailed curricula on all our program offerings, please visit our website (<http://publichealth.med.miami.edu>).

For further information, please contact:

Andria L. Williams, MBA
 Director of Admissions
 Department of Public Health Sciences
 University of Miami Miller School of Medicine
 1120 N.W. 14 Street, Room 905 (R-669)
 Miami, Florida 33136
 Tel: 305-243-0291
 Email: publichealthadmissions@miami.edu

Masters Programs in Public Health

- M.P.H. Master of Public Health (p. 1275)
- M.S.P.H. Master of Science in Public Health (p. 1279)

Doctoral Programs in Public Health

- Ph.D. in Epidemiology (p. 1279)
- Ph.D. in Prevention Science and Community Health (p. 1280)

Joint Degrees

- M.P.H./M.P.A. in Public Health and Public Administration (p. 1278)
- M.P.H./M.A. Master of Arts in International Administration Joint Degree (p. 1276)
- M.P.H./MALAS Master of Arts in Latin American Studies (p. 1277)
- M.D./M.P.H. Master of Public Health Joint Degree (p. 1238)

Certificate in Public Health

<http://publichealth.med.miami.edu/graduate/academic-programs/public-health-graduate-certificate>

The Public Health Certificate Program is offered through the Graduate Programs in Epidemiology and Public Health. The Public Health Certificate Program covers the core content of the Master of Public Health degree program in the areas of epidemiology, biostatistics, environmental health, administration and health education and behavior. The Public Health certificate program provides a foundation in public health training for interested students in other disciplines, and earned certificate credit may be used towards completion of the MPH or MSPH degree programs at the University of Miami.

The curriculum includes 5 courses (16 credits)

Curriculum Requirements

Code	Title	Credit Hours
EPH 601	Medical Biostatistics I	4
EPH 617 or EPH 620	Disease Prevention and Health Promotion Health Education and Behavior	3
EPH 621	Fundamentals of Epidemiology	3
EPH 631 or EPH 632	Public Health Administration U.S. Health Systems	3
EPH 641	Aspects of Environmental Health	3
Total Credit Hours		16

M.P.H. Master of Public Health

The MPH degree is a professional degree for students who require a broad general academic experience in public health. Students will acquire competency in the fundamental public health disciplines. This includes research design and conduct, data analysis and policy analysis, communications, program planning and administration, public health systems and the organization of health services in the United States and Latin America, recognition and analysis of ethical issues in public health and professional practice, the needs of special populations, and the integration of these core disciplines in public health decision making. The MPH degree is a 45 credit hour program that is accredited by the Council on Education for Public Health.

Full-time students can expect to complete the MPH degree requirements within 2 years. An elective credit waiver may be available for students who enter the MPH degree program with an earned advanced degree (e.g., MD, DDS, DVM, JD).

Curriculum Requirements

Code	Title	Credit Hours
Core Courses		
EPH 600	Introduction to Public Health	3
EPH 601	Medical Biostatistics I	4
EPH 617 or EPH 620	Disease Prevention and Health Promotion Health Education and Behavior	3
EPH 621	Fundamentals of Epidemiology	3
EPH 631 or EPH 632	Public Health Administration U.S. Health Systems	3
EPH 641	Aspects of Environmental Health	3
Capstone ¹		
EPH 680	Practical Field Experience	3
EPH 681	Capstone Experience Project	3
Electives Courses		
Choose 20 credits of coursework in one or more of the following areas:		20
Biostatistics		
Environmental and Public Health (not already listed)		
Epidemiology and Population Health Sciences		
Health Services Policy and Research		
Prevention Science and Community Health		
Total Credit Hours		45

¹ The Capstone Field Experience and the Capstone Project are both vital components of the MPH program, and together form the Capstone Program. The Capstone Field Experience is designed to provide students with real world work experience in the field of public health. This experience places students in health-related settings (local, national, and international) to work on projects of mutual interest to both the field organization and the student. The Capstone Project is intended to build upon this fieldwork and is geared toward providing the student with an opportunity to apply public health academic theory and acquired skills to community health problems. Students are encouraged to build their Capstone Program in such a way that supports their academic and professional interests as they advance in their careers as public health professionals.

M.P.H. /J.D. Master of Public Health / Juris Doctorate Dual Degree

The University of Miami School of Law and the Miller School of Medicine's Department of Public Health Sciences offer a joint degree program in law and public health. Upon completion of the programs, a student earns the Juris Doctor degree from the School of Law and a Master of Public Health degree from the School of Medicine. The average length of this joint program is 3.5 years (seven semesters plus 2 summer sessions). Law students begin MPH classes after completing the first year of law school.

Students who apply for the joint JD/MPH program must apply both to the School of Law and to the Graduate Programs in Public Health Sciences.

JD/MPH Dual Degree Curriculum

Code	Title	Credit Hours
PUBLIC HEALTH CURRICULUM (33 credits)		
EPH 600	Introduction to Public Health	3
EPH 601	Medical Biostatistics I	4
EPH 617 or EPH 620	Disease Prevention and Health Promotion Health Education and Behavior	3
EPH 621	Fundamentals of Epidemiology	3
EPH 631 or EPH 632	Public Health Administration U.S. Health Systems	3
EPH 641	Aspects of Environmental Health	3
EPH 680	Practical Field Experience	3
EPH 681	Capstone Experience Project	3
Elective EPH Coursework (not already listed)		8
CORE LAW CURRICULUM (82 credits)		
General Law Courses		61
Health Law Courses ¹		9
Law Subject Area Courses ²		12
Total Credit Hours		115

¹ Students must complete three specific health law courses (9 credits)

² Students must complete four law courses (12 credits) from a specified set of offerings in the School of Law

M.P.H./M.A. Master of Arts in International Administration Joint Degree

The Master of Arts in International Administration/Master of Public Health (MAIA/MPH) degree is offered jointly by the University of Miami College of Arts and Sciences and the Miller School of Medicine's Department of Public Health Sciences. The MPH degree with a second master's degree in international administration is designed for students who seek an in-depth knowledge of public health with a broader emphasis in globalization and health, international health, international health policy and international development.

Curriculum Requirements - Public Health

Code	Title	Credit Hours
Core Courses		
EPH 600	Introduction to Public Health	3
EPH 601	Medical Biostatistics I	4
EPH 617 or EPH 620	Disease Prevention and Health Promotion Health Education and Behavior	3
EPH 621	Fundamentals of Epidemiology	3
EPH 631 or EPH 632	Public Health Administration U.S. Health Systems	3
EPH 641	Aspects of Environmental Health	3
EPH 680	Practical Field Experience	3
Required Electives		
EPH 612	Global Health	3
EPH 650	Health Economics for Evaluation and Policy	3
Approved Elective Courses		
		2

EPH-600, 700 level courses not already listed	
BST-600, 700 level courses	
MAIA Requirements	30
Total Credit Hours	60

Curriculum Requirements - International Administration

Code	Title	Credit Hours
IGS 611	International Organizations	3
IGS 612	International Administration	3
IGS 615	International Economics for MAIA	3
IGS 613	Global Cultures: Religion, Communication, and Security	3
IGS 614	World Affairs	3
IGS 616	Administration of Organizations	3
IGS 617	Practicum in International Administration	3
Elective Courses		9
MPH Requirements		30
Total Credit Hours		60

M.P.H/MALAS Master of Arts in Latin American Studies

Miami is the gateway to Latin America. As such we recognize an urgent need for public health professionals with the training and expertise needed to meet the growing public health challenges both in Latin America and the Caribbean. This dual degree program is offered jointly by the University of Miami College of Arts and Sciences and the Miller School of Medicine's Department of Public Health Sciences. It is designed to train students for a career in public health with a focus on social policy, health management and health care in Latin America and the Caribbean as well as expatriate communities in the United States.

Curriculum Requirements - Public Health

Code	Title	Credit Hours
Core Courses		
EPH 600	Introduction to Public Health	3
EPH 601	Medical Biostatistics I	4
EPH 617 or EPH 620	Disease Prevention and Health Promotion Health Education and Behavior	3
EPH 621	Fundamentals of Epidemiology	3
EPH 631 or EPH 632	Public Health Administration U.S. Health Systems	3
EPH 641	Aspects of Environmental Health	3
Required Public Health Electives		11
EPH-600, 700 level courses not already listed		
BST-600, 700 level courses		
Culminating Public Health Experience		
EPH 680	Practical Field Experience	3
Total Credit Hours		33

Curriculum Requirements - Latin America Studies

Code	Title	Credit Hours
Core LAS courses		
LAS 601	Interdisciplinary in Latin American and Caribbean	3
LAS 602	Research Design in Latin American Studies	3
Select 2 other LAS courses in consultation with the Academic Director		6
Required LAS Electives		6

Language Requirements		6
Culminating LAS Experience		
LAS 697 or LAS 810	Readings for the Comprehensive Exam Pre-candidacy thesis credits	3
Total Credit Hours		27

M.P.H./M.P.A. Master of Public Administration Joint Degree

The Master of Public Administration/Master of Public Health (<http://publichealth.med.miami.edu/graduate/academic-programs/dual-degree-programs/mpa-mpm>)MPA/MPH) joint degree program is designed for students who seek an in-depth knowledge of public health with training in management and public policy administration. Students may complete the requirements for the MPH and MPA degrees simultaneously or in succession. It is possible for full-time students to complete both degree requirements within two and one-half academic years. Joint MPA/MPH students complete a total of 66 credits to earn both degrees.

Curriculum Requirements - MPH

Code	Title	Credit Hours
EPH 600	Introduction to Public Health	3
EPH 601	Medical Biostatistics I	4
EPH 617 or EPH 620	Disease Prevention and Health Promotion Health Education and Behavior	3
EPH 621	Fundamentals of Epidemiology	3
EPH 631 or EPH 632	Public Health Administration U.S. Health Systems	3
EPH 641	Aspects of Environmental Health	3
EPH 644	Fundamentals of Program Evaluation	3
EPH 650	Health Economics for Evaluation and Policy	3
EPH 652	Health Policy	3
EPH 681	Capstone Experience Project	3
Approved Elective Courses		5
EPH-600, 700 level courses not already listed		
BST-600, 700 level courses		
Required MPA Courses		30
Total Credit Hours		66

Curriculum Requirements - MPA

Code	Title	Credit Hours
Required MPA Courses (30 Credits)		
POL 601	Budget and Financial Management and Administration	3
POL 606	Organizational Dynamics and Management	3
POL 610	Statistics for Politics and Public Administration	3
POL 622	Introduction to Graduate Public Administration	3
POL 646	Public Policy Process and Implementation	3
POL 647	Human Resource Management in Public Service	3
POL 651	Productivity in the Public and Non-Profit Sectors	3
POL 671	Government and Business	3
Choose 6 Credits from the Following:		6
POL 656	Public Service Internship	
Approved MPA Elective		
Required MPH Courses		36
Total Credit Hours		66

M.S.P.H. Master of Science in Public Health

The MSPH is an academic research degree designed for students who wish to prepare for further study at the doctoral level, or to prepare for research or technical positions in government, industry, academia, or private institutions. Studies will include many of the core disciplines included in the MPH degree with an additional emphasis on advanced research methods and quantitative analysis skills. The MSPH program is a 45 credit hour program that is accredited by the Council on Education for Public Health.

Full-time students can expect to complete the MSPH degree requirements within 2 years. An elective credit waiver may be available for students who enter the MSPH degree program with an earned advanced degree (e.g., MD, DDS, DVM, JD).

Curriculum Requirements

Code	Title	Credit Hours
Core Courses		
EPH 600	Introduction to Public Health	3
EPH 601	Medical Biostatistics I	4
EPH 602	Biostatistics II	3
EPH 617 or EPH 620	Disease Prevention and Health Promotion Health Education and Behavior	3
EPH 621	Fundamentals of Epidemiology	3
EPH 631 or EPH 632	Public Health Administration U.S. Health Systems	3
EPH 641	Aspects of Environmental Health	3
Methods Courses		
Choose two courses from the following:		6
EPH 604	Clinical Trials	
EPH 644	Fundamentals of Program Evaluation	
EPH 647	Community Based Participatory Research	
EPH 651	Research Methods	
EPH 656	Qualitative Research Methods	
BST 625	Survey of Statistical Computing	
Research Thesis Project		
EPH 698	MSPH Thesis Proposal	3
EPH 699	MSPH Thesis ²	3
Elective Courses ¹		11
EPH-600, 700 level courses not already listed		
BST-600, 700 level courses not already listed		
Total Credit Hours		45

¹ After completion of the core courses, the student may select courses to fit his/her own area of interest. This allows for personal tailoring of the academic program to fit the student's individual needs and career goals.

² The MSPH Thesis project requires an individual investigation of a current public health problem and allows the student to demonstrate competency in the development and implementation of a research question. Students will work closely with a faculty advisor and thesis project committee during their investigation.

Ph.D. in Epidemiology

The Doctor of Philosophy (PhD) in Epidemiology is an intensive research training program for students with prior training in Epidemiology or related disciplines. It provides advanced education and training for students seeking a professional career in medical and health-related research, as well as for physicians and other persons who have attained professional degrees and are seeking to integrate epidemiological research and methods into their ongoing careers.

As a research-focused degree, students are given the skills necessary to approach health problems to generate consequential research questions and use the most appropriate epidemiological methods to address them. The methodologically rigorous training comprises both formal classroom education and guided research with faculty mentors. Key research areas include: chronic disease epidemiology, including cancer, diabetes, and obesity; behavioral epidemiology relating to substance abuse and HIV/AIDS, occupational disease epidemiology; and health disparities.

Pre-requisites: The program is primarily designed for persons who have completed an MPH degree, as well as for physicians and others who have a master or doctoral degree in a related discipline. At a minimum, students should have successfully completed a graduate-level, foundation of epidemiology course as well as two biostatistical courses.

All PhD in Epidemiology students are required to complete 64 credit hours. These include:

- core courses in epidemiology and biostatistics
- elective coursework
- the dissertation

Please visit our website (<http://publichealth.med.miami.edu/graduate/academic-programs/phd-in-epidemiology>) for additional information.

Curriculum Requirements

Code	Title	Credit Hours
BST 625	Survey of Statistical Computing	3
BST 630	Longitudinal and Multilevel Data	3
EPH 604	Clinical Trials	3
EPH 625	Ethical Issues in Epidemiology	3
EPH 651 or EPH 752	Research Methods Advanced Research Methods	3
EPH 703	Advanced Statistical Methods I	4
EPH 705	Advanced Statistical Methods II	3
EPH 740	Basic Pathology and Patho-physiology	3
EPH 751	Survival Analysis in Clinical Trials	3
EPH 774	Epidemiologic Methods and Reasonings	3
EPH 776	Methods in Epidemiology	3
Professional Development Seminars ¹		3
EPH 700	Professional Development Seminar (Course should be taken 3 times for 1 credit each)	
Dissertation		12
EPH 830	Doctoral Dissertation	
EPH 840	Doctoral Dissertation- Post Candidacy	
Electives		15
EPH-600, 700, 800 level courses not already listed		
BST-600, 700, 800 level courses not already listed		
Total Credit Hours		64

¹ Students complete the Professional Development/Research Seminar multiple semesters (each Spring semester), minimum of three times; some students will complete it more than 3 times.

Ph.D. in Prevention Science and Community Health

The PhD in Prevention Science and Community Health will prepare students with the necessary expertise and interdisciplinary background to contribute to 21st century prevention and community health research. Students will be trained in both traditional and innovative areas of prevention science. These include etiology, intervention design and evaluation, innovative data collection and analyses, and implementation science.

The Prevention Science program offers students the unique opportunity to interact with faculty who specialize in all stages of the intervention development and evaluation process, as well as in various methodologies such as community-based participatory research and mixed-methods research. Program faculty are experts in cultural diversity and health disparities. They are focused on acculturation; cultural predictors of health disparities; and efficacious methods, strategies, and programs for reducing health disparities locally, nationally, and internationally. Key research areas include: substance use, HIV, cancer, diabetes, obesity, delinquency and depression.

All PhD in Prevention Science students are required to complete 75 credit hours. These include:

- course courses in intervention design, implementation science and statistics
- elective coursework
- the dissertation

Please visit our website (<http://publichealth.med.miami.edu/graduate/academic-programs/phd-in-prevention-science>) for additional information.

Curriculum Requirements

Code	Title	Credit Hours
PRE-REQUISITE: Students entering the PhD program without an earned MPH, MSPH, or equivalent public health degree are required to take these EPH 600 & EPH 621 courses:		
EPH 600	Introduction to Public Health (3 cr)	
EPH 621	Fundamentals of Epidemiology (3 cr)	
CURRICULUM		
EPH 604	Clinical Trials	3
EPH 617	Disease Prevention and Health Promotion	3
EPS 622	Community Well-being and Change: Theory and Practice	3
EPH 623	Determinants of Health and Health Disparities Across the Life Course	3
EPH 626		3
EPH 647	Community Based Participatory Research	3
EPH 703	Advanced Statistical Methods I	4
EPH 705	Advanced Statistical Methods II	3
EPH 717	Integrating Behavior Health Theories and Models	3
EPH 731	Developing, Adapting and Evaluating Interventions	3
EPH 732	Introduction to Dissemination and Implementation Science	3
EPH 752	Advanced Research Methods	3
NUR 670	Qualitative Methods in Research	3
PSY 633	Structural Equation Modeling	3
PSY 634	Hierarchical Linear Modeling	3
Professional Development Seminars ¹		4
EPH 700	Professional Development Seminar (Course must be taken 4 times at 1 credit each semester)	
EPH 701	Innovations in Prevention Science Methodology	
Innovations Seminars ²		4
Dissertation		12
EPH 830	Doctoral Dissertation	
EPH 840	Doctoral Dissertation- Post Candidacy	
Electives		9
EPH-600, 700, 800 level courses not already listed		
BST-600, 700, 800 level courses not already listed		
Total Credit Hours		75

¹ Students complete the Professional Development Seminar in Years 1 and 2.

² Students complete the Innovation Seminar in Years 3 and 4.

Music

http://www.miami.edu/frost/index.php/graduate_studies/

Frost School of Music, Graduate Studies Office

Maurice Gusman Concert Hall, Suite 110

Phone: 305.284.2241

Frost School of Music Website (<http://www.miami.edu/frost/index.php/frost>)

Frost School of Music Graduate Studies Website (<https://admissions.frost.miami.edu/graduate/current-students>).

Departments

- DEPARTMENT OF INSTRUMENTAL PERFORMANCE - Dept. Code: MIP
- DEPARTMENT OF KEYBOARD PERFORMANCE - Dept. Code: MKP
- DEPARTMENT OF MUSIC EDUCATION AND MUSIC THERAPY - Dept. Code: MED
- DEPARTMENT OF MUSIC MEDIA AND INDUSTRY - Dept. Code: MMI
- DEPARTMENT OF MUSIC THEORY-COMPOSITION - Dept. Code: MTC
- DEPARTMENT OF MUSICOLOGY - Dept. Code: MCY
- DEPARTMENT OF STUDIO MUSIC AND JAZZ - Dept. Code: MSJ
- DEPARTMENT OF VOCAL PERFORMANCE - Dept. Code: MVP

Admission Requirements

Please consult the general section of the Graduate Bulletin for the Graduate School admission requirements.

For additional information on the Frost School of Music Graduate Admission Requirements, please visit our Graduate Admissions website (<https://admissions.frost.miami.edu/graduate>).

Degree Programs

1. Doctor of Philosophy – Deg. Code: PhD
 - a. Music Education – Conc. Code: MEDU
2. Doctor of Musical Arts – Deg. Code: DMA
 - a. Choral Conducting – Conc. Code: MCDC
 - b. Composition – Conc. Code: MTCP
 - c. Instrumental Conducting – Conc. Code: MCDI
 - d. Instrumental Performance – Conc. Code: MIPF
 - e. Jazz Composition – Conc. Code: MSJC
 - f. Jazz Performance (Instrumental – Conc. Code: MSJI or Vocal – Conc. Code: MSJV)
 - g. Keyboard Performance and Pedagogy – Conc. Code: KPED
 - h. Multiple Woodwinds – Conc. Code: MIPW
 - i. Keyboard Performance – Conc. Code: MKPF
 - j. Vocal Pedagogy and Performance – Conc. Code: VPED
 - k. Vocal Performance – Conc. Code: MVPF
3. Master of Arts – Deg. Code: MA
 - a. Arts Presenting & Live Entertainment Management – Conc. Code: MPRS
 - b. Arts Presenting & Live Entertainment Management Online
 - c. Juris Doctorate & Master of Arts in Arts Presenting & Live Entertainment Management- Conc. Code: JDMA
4. Master of Music – Deg. Code: MM
 - a. Choral Conducting – Conc. Code: MCDC
 - b. Composition – Conc. Code: MTCP
 - c. Instrumental Conducting – Conc. Code: MCDI
 - d. Instrumental Performance – Conc. Code: MIPF
 - e. Jazz Pedagogy – Conc. Code: JPED
 - f. Jazz Performance (Instrumental – Conc. Code: MSJI or Vocal – Conc. Code: MSJV)

- g. Keyboard Performance and Pedagogy – Conc. Code: KPED
- h. Media Writing and Production – Conc. Code: MWPD
- i. Multiple Woodwinds – Conc. Code: MIPW
- j. Music Business and Entertainment Industries – Conc. Code: MBEI
- k. Music Business and Entertainment Industries Online Degree
- l. Juris Doctorate & Master of Music in Music Business and Entertainment Industries - Conc. Code: JDMM
- m. Music Education – Conc. Code: MEDU
 - i. Music Education with Certification – Conc. Code: MEDC
- n. Music Therapy – Conc. Code: MTYP
 - i. Music Therapy with Undergraduate Equivalency – Conc. Code: MTYE
- o. Musicology – Conc. Code: MUSY
- p. Keyboard Performance – Conc. Code: MKPF
- q. Studio Jazz Writing – Conc. Code: MSJW
- r. Vocal Performance – Conc. Code: MVPF
- 5. Master of Science – Deg. Code: MSMET
 - a. Music Engineering – Conc. Code: MUEE
- 6. Artist Diploma in Performance – Deg. Code: AD
 - a. Instrumental Conducting – Conc. Code: MCDI
 - b. Instrumental Performance – Conc. Code: MIPF
 - c. Keyboard Performance – Conc. Code: MKPF
 - d. Vocal Performance – Conc. Code: MVPF

Entrance Exams

The Frost School of Music requires certain incoming graduate students to take an entrance exam in Music Theory. Graduate students are expected to be well-prepared for this exam. Masters students who do not pass this exam must fulfill a remediation requirement prior to completion of the final project as required for the degree. Doctoral students who do not pass the entrance exam must fulfill a remediation requirement prior to applying for Doctoral Committee Approval. Please access [this link](#) for more information.

Degree Requirements: Doctoral Degrees

Doctor of Musical Arts (DMA)

The purpose of the Doctor of Musical Arts is to train the most promising musicians at the highest musical and intellectual level for prominent careers in their field. The degree stresses excellence in performance, composition, scholarship, and teaching. By its nature, the Doctor of Musical Arts provides opportunities for students with proven accomplishment to prepare themselves for the professorship.

For the Doctor of Musical Arts in Performance, Keyboard Performance and Pedagogy, Composition, Jazz Composition, Jazz Performance, Vocal Pedagogy and Performance, and Conducting, the candidate must meet all the general requirements for the PhD degree with respect to residence, total minimum credit hours, and qualifying examinations. The main distinction between the two degrees pertains to the required creative activity. The DMA emphasizes performance ability, as well as performance-related research. These creative efforts replace the dissertation requirements traditionally found in the PhD. In addition to specific courses and credit hours listed in the following pages, students pursuing the DMA must meet the requirements listed below.

Doctoral Committee for the DMA

This committee can be the same or different from the student's recital committee. The committee should consist of four members, including three members from the student's major area (one of whom is the committee chair), and one member from another department of the Frost School. The committee chair will be Regular Faculty and/or hold a doctoral degree (i.e., DMA or PhD) as well as graduate faculty status. Two other committee members will be Regular Faculty or members of the Graduate Faculty. At least one member of the committee must hold a doctoral degree (i.e., DMA or PhD). Committees are first approved by the committee chair and then the Associate Dean of Graduate Studies in the Frost School before students apply for candidacy. Requests for exceptions to these committee requirements can be submitted in writing for consideration by the Associate Dean of Graduate Studies in the Frost School.

Responsibilities of the committee shall include the following:

- Overseeing the doctoral essay or lecture recital, including approval of the topic and proposal, supervision of the writing of the essay or lecture recital, assessment of the quality of the final essay or lecture recital, and the quality of the final defense. In cases where special faculty expertise is needed for a particular essay topic, changes in membership of the doctoral committee may be made. Membership of the doctoral committee is approved first by the Associate Dean of Graduate Studies in the Frost School and subsequently by the Dean of the Graduate School.

Doctoral Cognates

Within the 60 credit hours required for the degree, DMA students may select a formal area of study known as the cognate. A total of 12 credit hours are devoted to the cognate. If a cognate is not selected, the student should work with the advisor to select a meaningful collection of elective music courses that complement the student's discipline.

The cognate allows the student to obtain specialized knowledge and skill in an additional area of music. For example, a student pursuing the DMA in instrumental performance may wish to obtain a cognate in musicology or music business. Completion of a cognate should give the student a heightened level of understanding in this topic area, and could give the student a competitive advantage when pursuing post-graduation opportunities. When completed, cognates are listed on the student's official transcript.

Cognates are offered in a number of Departments within the Frost School. Students must apply to the cognate Department for acceptance. This process may include an audition, interview, portfolio, or testing as determined by the cognate Department. Students must complete all requirements specified for a cognate to be recognized as having completed the cognate. Otherwise, the credits will be considered electives and the cognate will not be granted. In order to ensure completion of the cognate in a timely manner, students should decide on a cognate no later than the end of their second semester of full-time study.

No credits that are otherwise required in the DMA program can apply to the cognate. Any overlap will require approved course substitutions within either the DMA program or the cognate as determined to be most appropriate by the Faculty In-Charge of the selected cognate, as well as the Associate Dean of Graduate Studies. One course substitution is allowed per cognate.

Procedures for Completing a Doctoral Cognate

See Procedures for Completing a Cognate on this website (<https://admissions.frost.miami.edu/graduate/current-students/doctoral-cognates>):

1. Contact the Office of Graduate Studies to obtain a complete listing of required courses in a selected cognate.
2. Contact the faculty in-charge for the desired cognate.
3. Complete the application process for that cognate.
4. The designated faculty member must then complete and sign a Doctoral Cognate Acceptance Form and submit it to the Frost School Office of Graduate Studies.
5. Complete all required courses in the cognate with a grade of C- or higher. The cognate can then be listed on the student's official transcript at time of degree conferral.

List of Cognates, Respective Departments, and Faculty in Charge:

Arts Presenting and Live Entertainment Management, Department of Music Media and Industry, Gary Wood

Collaborative Piano, Department of Keyboard Performance, Santiago Rodriguez

Conducting: Choral, Department of Vocal Performance, Corin Overland

Conducting: Instrumental, Department of Instrumental Performance, Robert Carnochan

Instrumental Performance, Department of Instrumental Performance, Margaret Donaghue, Ross Harbaugh, Richard Todd, Svet Stoyanov

Jazz Performance, Department of Studio Music and Jazz, John Daversa

Keyboard Pedagogy, Department of Keyboard Performance, Naoko Takao

Music Business, Department of Music Media and Industry, Serona Elton

Music Education, Department of Music Education and Music Therapy, Stephen Zdzinski

Music Technology, Department of Music Theory and Composition, Will Pirkle

Music Theory, Department of Music Theory and Composition, Charles Mason

Musicology, Department of Musicology, David Ake

Vocal Accompanying, Department of Vocal Performance, Alan Johnson

DMA Qualifying Examinations

Qualifying examinations represent a significant milestone in the doctoral degree. All students pursuing the Doctor of Musical Arts degree must pass Doctoral Qualifying Examinations prior to proposing the DMA Essay, and prior to applying for candidacy. These exams represent a comprehensive and in-depth assessment of graduate student knowledge and skill level in the major discipline as acquired over a lifetime of academic and practical experience. Depending on the degree program, qualifying examinations may consist of timed written exams, take-home projects, performance-based examinations of musical skill, and oral exams.

Students who fail a qualifying exam (or a portion of the exam) can re-take the exam one time with Departmental approval. A student who fails a qualifying examination (or portion of the exam) for a second time will be dismissed from his/her respective degree program.

Discipline-specific qualifying exam procedures for each DMA degree can be found on our Graduate Studies website (<https://admissions.frost.miami.edu/graduate/current-students>). All DMA students are strongly encouraged to contact their advisors and Department Chairs to obtain more information on exam scheduling, expectations, and preparation.

Admission to Candidacy

Doctoral students may apply for candidacy after successfully defending the Doctoral Essay or Lecture Recital proposal. No student may receive the degree in the same semester or summer session in which he or she is admitted to candidacy.

Performance and Creative Requirements

DMA students in performance, jazz performance, or keyboard performance and pedagogy may present one recital before the qualifying examination (provided they have passed their qualifying recital). Before the second or third recital, depending upon program, students must have passed the Qualifying Examinations. All recitals are to be presented during either Fall or Spring semesters when classes are in session.

Performance Majors

Students accepted into the program must present three full-length (60 minute) doctoral recitals, and may choose from these options as decided in consultation with their studio teacher:

1. Three solo recitals
2. Two solo recitals and one chamber recital
3. Solo recitals may also include some chamber music which features the student's instrument or voice
4. One doctoral recital may consist of an Orchestral Mock Audition

Vocalists are expected to execute one or more substantial roles in a large scale work, e.g., opera or oratorio in addition to the solo recitals. Students majoring in accompanying and chamber music will present one solo recital, one chamber music recital, and three accompanying recitals. For Keyboard Performance and Pedagogy, an approved combination of recitals and pedagogy presentations is required.

Jazz Performance Majors

Students must present three full-length recitals.

Conducting Majors: Choral

No less than two approved full recitals shall be presented by each candidate.

Conducting Majors: Instrumental

Three approved public recitals (or the equivalent) with suitable performing groups must be given during the period of residency and prior to the oral examination.

Composition Majors

1. The candidate will be required to compose a piece of substantial proportions.
2. The candidate will be required to write a doctoral essay. The text will either detail the doctoral composition or discuss another topic as approved by the doctoral committee chair.
3. A public presentation of the candidate's compositions will be required. A series of smaller performances presented each semester on- or off-campus, a larger festival performance(s), or a cumulative solo recital at the terminal stages of the degree exemplify how this requirement can be fulfilled. Other options are possible with faculty approval.

DMA Final Project

By means of a written Doctoral Essay or Lecture Recital, all DMA candidates are expected to demonstrate their ability to conduct an original scholarly investigation and present its results in an articulate manner. All DMA students must pass a public oral defense of the Doctoral Essay or Lecture Recital. Detailed information on these projects and defense procedures is provided in the Frost School of Music Graduate Student Handbook (<https://admissions.frost.miami.edu/graduate/current-students>).

Doctor of Philosophy (PhD)

The Doctor of Philosophy degree is offered in Music Education, and Music Education with Music Therapy Emphasis. This rigorous curriculum prepares students to become innovative researchers, scholars, and outstanding leaders in these disciplines. Graduates are uniquely-prepared for careers in higher education, research, and administration. Candidates must meet all general requirements for the PhD degree as defined by the Graduate School of the University of Miami with respect to residence, total minimum credit hours, and qualifying examinations. In addition to specific courses and credit hours listed in the following pages, students pursuing the PhD must meet the requirements listed below.

PhD Qualifying Examination

All PhD students must complete a qualifying examination that includes two components. The first component consists of writing three scholarly papers that are independent of or significant extensions of documents written as part of other coursework. The second component consists of a one-hour, oral examination focusing on the written papers. After successfully completing this exam, students can apply for Doctoral Committee Approval, defend the dissertation proposal, and apply for Doctoral Candidacy. Students who fail a qualifying exam (or a portion of the exam) can re-take the exam, with committee approval. A student who fails a qualifying examination (or portion of the exam) twice will be dismissed from the degree program.

Qualifying exam procedures for the PhD degree can be found on our Graduate Studies website (<https://admissions.frost.miami.edu/graduate/current-students>). PhD students are strongly encouraged to contact their advisors and Department Chairs to obtain more information on exam scheduling, expectations, and preparation.

Doctoral Committee for the PhD

All students pursuing the Doctor of Philosophy degree must establish a Doctoral Committee to oversee the dissertation. The committee should consist of five members, including three members from the student's major area (one of whom is the committee chair), and one other member from another department within the Frost School, and one faculty member from outside the Frost School. The committee chair and two other members must be members of the Graduate Faculty. Requests for exceptions to these committee requirements can be submitted in writing for consideration by the Associate Dean of Graduate Studies in the Frost School.

Admission to Candidacy

Doctoral students may apply for candidacy after successful completion of all qualifying examinations as well as a successful defense of the dissertation proposal. No student may receive the degree in the same semester or summer session in which he or she is admitted to candidacy.

PhD Final Project: the Dissertation

The culminating project for the PhD is the Doctoral Dissertation. A PhD is traditionally considered a research-oriented academic degree, thus the dissertation should consist of independent, original research that demonstrates the candidate's mastery of both subject matter and scholarly method. All PhD students must pass a public oral defense of the Dissertation. Detailed information, including defense procedures, is provided in the Frost School of Music Graduate Student Handbook (<https://admissions.frost.miami.edu/graduate/current-students>).

Degree Requirements: Masters Degrees

Credit Hours and Grades

All masters degrees require a minimum of 30 credit hours. However, many masters degrees in the Frost School require more than 30 credit hours. Students are therefore advised to carefully read the respective bulletin pages for their chosen degree program. To graduate, students must have a cumulative GPA of 3.0 (B average). Grades below C- are not considered passing.

Master of Music Degree (MM) in:

- **Conducting, Choral or Instrumental**
- **Instrumental Performance**
- **Keyboard Performance**
- **Jazz Performance**
- **Vocal Performance**

In addition to specific courses and credit hours listed in the following pages, students pursuing these Master of Music degrees must meet all requirements listed below.

Ensemble Requirements

The curricula for Master of Music degrees in performance and conducting include participation in one ensemble during each semester that a student is registered for 7 credit hours or more. Certain performance degrees have additional ensemble requirements as found on the respective bulletin pages.

Conducting Recital Guidelines

Master's Recital

A compilation on DVD of conducting single or multiple works of live performances of major ensembles spread across the Masters' experience. These performances are arranged in consultation with the major professor who assists in the preparation of the performances.

Master's Advanced Recital

A full-length conducting recital is prepared and presented. The ensemble(s) and repertoire will be selected in close consultation with the major professor who will assist in the preparation process. All aspects of performance preparation including scheduling, venue arrangements, program notes, and the like will be carried out by the student under the guidance of the major professor.

Performance Recital Guidelines

Master's Recital

A full-length recital performed publicly by the student that may include chamber music in which the student's instrument plays a prominent role. Selection of repertoire is determined in consultation with the major professor who assists in the preparation of the performances.

Master's Second Recital

With advisor approval, masters students in performance may give a second recital. In the Department of Instrumental Performance, this second recital may take the form of an Orchestral Mock Audition.

Final Projects

All masters degrees in performance and conducting require the successful completion of a final, culminating project. For example, in some performance degrees, students must perform and defend an extended comprehensive jury. In other performance degrees, students must complete a scholarly document in the form of either a Recital Paper or Extended Program Notes which must be defended before the masters recital committee.

Detailed information on these documents and defense procedures are provided in the Frost School of Music Graduate Student Handbook (<https://admissions.frost.miami.edu/graduate/current-students>).

Students are advised to carefully read the respective bulletin pages and consult with their assigned advisor to obtain more information on the required final project for their degree program.

Master of Music Degree (MM) in:

- **Composition**
- **Jazz Pedagogy**
- **Keyboard Performance and Pedagogy**
- **Media Writing and Production**
- **Musicology**
- **Music Education**
- **Music Therapy**
- **Studio Jazz Writing**

In addition to specific courses and credit hours listed in the following pages, students pursuing these Master of Music degrees must meet all requirements listed below.

Masters Thesis or Masters Project

Students in these Master of Music degree programs must complete either a thesis or masters project and must pass a public, oral defense of their work. Detailed information on these documents and defense procedures are provided in the Frost School of Music Graduate Student Handbook (<https://admissions.frost.miami.edu/graduate/current-students>).

Comprehensive Examinations

Certain masters degree programs also require students to take written Comprehensive Examinations. Students should contact their advisors to obtain specific details regarding comprehensive examination requirements. The exam is typically written and evaluated by a committee of faculty members in the student's department who are familiar with the student's discipline.

Per Graduate School policy, students who fail the comprehensive exam may be given one opportunity to retake the exam, with the committee's approval. The re-take of the comprehensive exam may not be taken during the same semester as the original exam, or during a summer session. Additionally, the re-take must be completed within one calendar year of the original exam.

Master of Music Degree (MM) in:

- **Music Business and Entertainment Industries**

In addition to specific courses and credit hours listed in the following pages, students pursuing these Master of Music degrees must meet all requirements listed below.

Cumulative Exit Exam

Students must pass a cumulative exit exam as part of the Master of Music degree in Music Business and Entertainment Industries or Jazz Pedagogy.

Master of Arts Degree (MA) in:

- **Arts Presenting and Live Entertainment Management**

In addition to specific courses and credit hours listed in the following pages, students pursuing this Master of Arts degree must meet all requirements listed below.

Cumulative Exit Exam

Students must pass a cumulative exit exam as part of the Master of Arts degree in Arts Presenting and Live Entertainment Management.

Master of Science Degree (MS) in:

- **Music Engineering Technology**

In addition to specific courses and credit hours listed in the following pages, students pursuing this Master of Science degree must meet all requirements listed below.

Masters Research Project

Students pursuing the Master of Science degree in Music Engineering Technology must complete a substantial final project in the form of independent research that is defended before a faculty committee. Detailed information on this project and defense procedures are provided in the Frost School of Music Graduate Student Handbook (<https://admissions.frost.miami.edu/graduate/current-students>).

Degree Requirements: Artist Diploma

Artist Diploma (AD) in:

- **Instrumental Conducting**
- **Instrumental Performance**
- **Keyboard Performance**
- **Vocal Performance**

The Artist Diploma is an intensive, one-year immersion in performance or conducting study for candidates with highly-developed skills. In addition to specific courses and credit hours listed in the following pages, students pursuing the AD program must also complete two, full-length (60 minute) recitals. In the Department of Instrumental Performance, one of the Artist Diploma recitals may take the form of an Orchestral Mock Audition.

Instrumental Performance

http://www.miami.edu/frost/index.php/instrumental_performance/

The Frost School of Music's Department of Instrumental Performance has programs tailored to meet the needs and interests of students – like you – who aspire to performance careers. Graduates of these programs often pursue careers as symphony musicians, university professors, concert soloists, or band or orchestra conductors. Many graduates pursue advanced study and graduate degrees for further career preparation.

As an instrumental performance major, you will focus on developing and honing your performance skills on a selected brass, percussion, string, or woodwind instrument with assistance from faculty who have distinguished themselves as outstanding teachers and performing musicians. While the curriculum emphasizes development of tone and musicianship, as well as technical mastery of the instrument, it also includes music theory, music history and literature, orchestral literature and teaching methods. In addition, you will develop expertise in contemporary literature and chamber music performance. For more information, please visit the website for the department of Instrumental Performance (http://www.miami.edu/frost/index.php/instrumental_performance).

Doctoral Programs in Instrumental Performance

- D.M.A. in Instrumental Conducting (p. 1289)
- D.M.A. in Instrumental Performance (p. 1290)
- D.M.A. in Multiple Woodwinds (p. 1290)

Masters Programs in Instrumental Performance

- M.M. in Instrumental Conducting (p. 1291)
- M.M. in Instrumental Performance (p. 1291)
- M.M. in Multiple Woodwinds (p. 1292)

Artist Diploma in Instrumental Performance

- A.D. in Instrumental performance (p. 1288)

A.D. in Instrumental Conducting or Performance

Mission Statement

The mission of the **Artist Diploma in Instrumental Performance** is to:

- To stimulate the student's awareness and artistic creativity in the field of instrumental performance
- To provide students public performance opportunities in a supportive and encouraging environment
- To provide students with the performance skills necessary to allow them to pursue professional orchestra auditions, chamber music careers, national/international competitions, continued graduate study, and any other performance objectives necessary for a career as a classical instrumentalist.

The mission of the **Artist Diploma in Instrumental Conducting** program is:

- To provide students with the highest quality training possible to bridge academic training with technical preparation (score reading, rehearsal technique, and physical technique) that is necessary for an entry-level career as a professional artist;
- To provide students with performance opportunities that develop and demonstrate their ability to integrate musicianship and performance practice with limited academic requirements;
- To assist students with identifying opportunities and preparation for competitions, internships, apprenticeships, and other professional venues for the classical artist including contact strategies and specific competition preparation strategies.

Admission

Entrance to the program is limited to those individuals who have demonstrated exceptional skills in performance or conducting by audition. A fully enrolled student can complete the 18 credit hour program in one year.

Curriculum Requirements

Code	Title	Credit Hours
Requirements		
Applied Lessons (MIP XX5)		8
Performance Ensembles		2
Two Recitals (MIP 814)		2
Approved Studies in Music		6
Total Credit Hours		18

D.M.A. in Instrumental Conducting

Mission Statement

The mission of the Doctor of Musical Arts Degree in Instrumental Conducting is:

- To provide students with the highest quality training possible to bridge academic training into entry-level careers as professional artists;
- To provide students with performance opportunities that develop and demonstrate the integration of musicianship and performance practice;
- To assist students with identifying opportunities and preparation for competitions, internships, apprenticeships and other professional venues for the classical artist;
- To ensure that students have acquired the type of writing and research abilities required of a terminal degree from a leading research university, enabling them to pursue successful careers as teachers, performers, and researchers at the university level.

Curriculum Requirements

Code	Title	Credit Hours
Performance Courses		
Applied Conducting Lessons		12
Ensembles (6 large ensemble)		6
Conducting		
Choose from one of the two options		3
MCY 620	History and Literature of the Wind Band (Required for Wind Conductors)	
Approved Elective		
Creative Activities		
MED 702	DMA Essay Proposal	1
MIP 831	Doctoral Essay	5
MIP 832	Doctoral Recital	6
Allied Music Courses		

Musicology Elective		3
MTC 717	Analytical Techniques (or Other MTC Course)	3
Performance Seminars		3
Approved Electives		5
MED 790	Teaching Music in College	1
Cognate/Electives		
Select 12 credit hours of Cognate/Electives		12
Total Credit Hours		60

D.M.A. in Instrumental Performance

Mission Statement

The mission of the Doctor of Musical Arts Degree in Instrumental Performance is to:

- Provide students the highest quality of education available in the areas of instrumental performance and musicianship that will provide them the ability to pursue successful professional performance careers as classical instrumentalists.
- To stimulate the student's awareness and artistic creativity in the field of instrumental performance
- To provide students public performance opportunities in a supportive and encouraging environment
- To ensure that students have acquired the type of writing and research abilities required of a terminal degree from a leading research university, enabling them to pursue successful careers as teachers, performers, and researchers at the university level.

Curriculum Requirements

Code	Title	Credit Hours
Performance Courses		
Applied Lessons		12
Ensembles (6 large ensemble, 6 small ensemble)		12
Creative Activities		
MED 702	DMA Essay Proposal	1
MIP 831	Doctoral Essay	5
MIP 832	Doctoral Recital	6
Allied Music Courses		
Musicology Elective		3
Performance Seminars		3
MTC 717	Analytical Techniques (or other MTC course)	3
MED 790	Teaching Music in College	1
Electives		2
Cognate/Electives		
Select 12 credit hours of Cognate/Electives		12
Total Credit Hours		60

D.M.A. in Multiple Woodwinds

Curriculum Requirements

Code	Title	Credit Hours
Performance Courses		
Applied Lessons in Flute, Oboe, Clarinet, Bassoon, and Saxophone		12
Ensembles (6 large ensemble, 6 small ensemble)		12
Creative Activities		
MED 702	DMA Essay Proposal	1
MIP 831	Doctoral Essay	5
MIP 832	Doctoral Recital	6
Allied Music Courses		
Musicology Elective		3

MTC 717	Analytical Techniques (or other MTC course)	3
Performance Seminars		3
MED 790	Teaching Music in College	1
Electives		2
Cognate/Electives		
Select 12 credit hours of Cognate/Electives		12
Total Credit Hours		60

M.M. in Instrumental Conducting

Mission Statement

The mission of the Master of Music Degree in Instrumental Conducting is to prepare musicians to enter the music conducting profession and/or pursue doctoral studies. The Master of Music degree program in Instrumental Conducting provides students with opportunities for advanced instrumental study, analysis of style, development of technique and musicianship demonstrated through the ability to conduct ensembles. Our principal focus is on the development of high-level performance skills that will enable a student to pursue a career as a professional conductor/musician.

The program objectives are:

- To provide students with the highest quality training possible to bridge academic training into entry-level careers as professional artists;
- To provide students with performance opportunities that develop and demonstrate the integration of musicianship and performance practice;
- To assist students with identifying opportunities and preparation for competitions, internships, apprenticeships and other professional venues for the classical artist.

Candidates must possess and demonstrate an unquestioned gift of musical leadership based upon broad experience with instrumental ensembles.

Advanced orchestration must be included in the program. Admission requirements include a baccalaureate degree in conducting or performance, accumulated practical experience with instrumental ensembles, and experience equivalent to an undergraduate requirement in orchestration.

Enrollment in this major is only by special permission.

Curriculum Requirements

Code	Title	Credit Hours
Major Area		
Applied Conducting Lessons		8
Instrumental Ensembles		4
MIP 812	Master's Recital	1
Select one of the following to match the culminating project:		1
MIP 701	MM Recital Program Notes Preparation	
MED 701	Recital Paper Preparation	
Select one of the following as a culminating project:		2
MIP 811	Master's Recital Paper	
MIP 815	Masters Advanced Recital	
Other Studies in Music		
MCY 728	Music Bibliography	3
MTC 717	Analytical Techniques	3
Electives		
Musicology or Approved Elective		3
Music Education /Pedagogy or Approved Elective		3
Approved Electives		3
Total Credit Hours		31

M.M. in Instrumental Performance

Mission Statement

The mission of the Master of Music Degree in Instrumental Performance is to:

- Provide students the highest quality of education available in the areas of instrumental performance and musicianship that will provide them the skills required to lead a professional performance career as a classical instrumentalist.
- To stimulate the student's awareness and artistic creativity in the field of instrumental performance
- To provide students public performance opportunities in a supportive and encouraging environment
- To provide students the writing and research skills needed in order to adequately prepare them for study at the doctoral level.
- To provide students with essential knowledge of repertoire, in all its facets, in order that they be conversant and readily able to apply it in their performance field.

Curriculum Requirements

Code	Title	Credit Hours
Major Area		
Applied Lessons		8
Instrumental Ensembles		7
MCY Elective		3
MTC Elective		3
MIP 812	Master's Recital	1
Artist Development		3
Choose one course from the following:		
MMI 632 Arts Leadership		
MMI 735 World of the Working Musician		
MUS 735 Media Creation		
MUS 745 Peak Performance		
MED 755 The Teaching Artist		
MUS 755 Communication, Marketing, and Publicity for the Performing Artist		
Electives, chosen in consultation with advisor		11
Comprehensive Masters Jury		
Total Credit Hours		36

* Ensemble Policy: Students must be enrolled in at least one advisor-approved ensemble for each semester in residence.

** Recital Policy: Students must give one, full-length recital (MIP 812 Masters Recital). Students who wish to give a second, optional recital may enroll in MIP 813 Masters Second Recital, with advisor approval, under "Electives"

M.M. in Multiple Woodwinds

Curriculum Requirements

Code	Title	Credit Hours
Major Area		
Applied Lessons in Flute, Oboe, Clarinet, Bassoon, and Saxophone		8
Instrumental Ensembles		7
MIP 812	Master's Recital	1
Select one of the following to match the culminating project:		
MIP 701	MM Recital Program Notes Preparation	1
MED 701	Recital Paper Preparation	
Select one of the following as a culminating project:		2
MIP 811	Master's Recital Paper	
MIP 815	Masters Advanced Recital	
Other Studies in Music		
MCY 728	Music Bibliography	3
MTC 717	Analytical Techniques	3
Electives		
Musicology or Approved Elective		3

Music Education /Pedagogy or Approved Elective	3
Total Credit Hours	31

Keyboard Performance

http://www.miami.edu/frost/index.php/keyboard_performance/

The Department of Keyboard Performance at the Frost School of Music is a dynamic center for music scholarship. Regardless if a student is more versed in classical or contemporary repertoire, the performance and academic opportunities are exceptional and for all areas of keyboard study. A degree from the Frost School will ensure broad comprehensive training for a student in a performance-intensive environment. Degree programs incorporate performance, music research, pedagogy, and professional skills to cultivate students for a professional life in music. Graduates may seek careers as concert performers, collaborative pianists/accompanists, and/or as artist teachers. For more information, please visit the website for the department of Keyboard Performance (http://www.miami.edu/frost/index.php/keyboard_performance/).

Doctoral Programs in Keyboard Performance

- D.M.A. in Keyboard Performance and Pedagogy (p. 1293)
- D.M.A. in Keyboard Performance (p. 1294)

Masters Programs in Keyboard Performance

- M.M. in Keyboard Performance and Pedagogy (p. 1295)
- M.M. in Keyboard Performance (p. 1296)

Artist Diploma in Keyboard Performance

- A.D. in Keyboard performance (p. 1293)

A.D. in Keyboard Performance

Mission Statement

The mission of the **Artist Diploma** (a one-year program) in Keyboard Performance is to:

- Provide students the highest quality of education available in the areas of piano performance and musicianship that will provide the foundation for continued academic work, and which could also lead toward a professional performance career as a classical pianist.
- To stimulate the student's awareness and artistic creativity in the field of piano performance
- To provide students public performance performance opportunities in a supportive and encouraging environment
- To provide students performance skills necessary for graduate degree auditions and national/international piano competitions.

Admission

Entrance to the program is limited to those individuals who have demonstrated exceptional performance skills by audition. A fully enrolled student can complete the 18 credit hour program in one year.

Curriculum Requirements

Code	Title	Credit Hours
Requirements		
Applied Lessons In Keyboard (MKP PI5)		8
Performance Ensembles		2
Two Recitals (MKP 814)		2
Approved Studies in Music		6
Total Credit Hours		18

D.M.A. in Keyboard Performance and Pedagogy

Mission Statement

The mission of the Doctor of Musical Arts degree in Keyboard Performance and Pedagogy is to educate students in:

- Teaching strategies for all levels of piano students

- Knowledge of methods, materials, and standard teaching repertoire for all levels of piano students
- Career preparations for college-level teaching as a pianist including professional development and use of technology
- The performance of piano, building musicianship and technical ability to an advanced level
- Research skills on original topics in the field of keyboard pedagogy

Graduates of the program are prepared for careers as college or university faculty, performers, and teachers/proprietors of private and group teaching studios.

Curriculum Requirements

Code	Title	Credit Hours
Keyboard Pedagogy and Performance		
Select 24 credit hours of Keyboard Pedagogy and Performance courses ¹		24
Creative Activities, chosen in consultation with advisor		12
MED 702 DMA Essay Proposal		
MKP 832 Doctoral Recital		
MKP 831 Doctoral Essay		
Other Studies in Music		
Select four of the following:		12
MCY 627	Keyboard Literature II	
MCY 728	Music Bibliography	
MED 662	Psychology of Music I	
MED 762	Music Learning and Curriculum	
MED 763	Music Research Methods	
MED 764	Music Assessment	
MTC 717	Analytical Techniques	
Cognate/Electives		
Select 12 credit hours of Cognate/Electives		12
Total Credit Hours		60

¹ Graduate Keyboard Performance and Pedagogy courses chosen in consultation with the Doctoral Advisor and approval of the student's committee during the first semester of course work.

D.M.A. in Keyboard Performance

Mission Statement

The mission of the Doctor of Musical Arts degree in Keyboard Performance is to:

- Provide students the highest quality of education available in the areas of piano performance and musicianship that will provide the foundation for a successful teaching career at an institution or private studio, and which could also lead toward a professional performance career as a classical pianist
- To stimulate the student's awareness and artistic creativity in the field of piano performance
- To provide students public performance performance opportunities in a supportive and encouraging environment
- To provide students performance skills necessary for careers in teaching, success at national/international piano competitions, and to further their skills in performance.

Curriculum Requirements

Code	Title	Credit Hours
Performance Courses		
Applied Lessons		12
MKP 710	Seminar in Baroque Performance	1
MKP 711	Seminar in Classical Performance	1
MKP 712	Seminar in Romantic Performance	1
MKP 713	Seminar in Contemporary Music	1
Accompanying		3

Creative Activities		
MED 702	DMA Essay Proposal	1
MKP 832	Doctoral Recital	6
MKP 831	Doctoral Essay	5
Allied Music Courses		
Music Theory Electives		6
MCY 626	Keyboard Literature I	3
MCY 627	Keyboard Literature II	3
MIP 745	String-Keyboard Chamber Music	1
MCY 728	Music Bibliography ((or other MCY elective))	3
MED 790	Teaching Music in College	1
Cognate		12
Select 12 credit hours of Cognate/Electives		
Total Credit Hours		60

M.M. in Keyboard Performance and Pedagogy

Mission Statement

The mission of Master of Music degree in Keyboard Performance and Pedagogy is to educate students in:

- Teaching strategies for private and group piano lessons
- Knowledge of methods, materials, and standard teaching repertoire for beginning and intermediate students
- The use of music technology available for use in teaching
- The performance of piano, building musicianship, technical ability, and the ability to assimilate a large cross-section of recital repertoire
- Research skills on original topics in the field of keyboard pedagogy.

The Master of Music degree will prepare students for careers as performers, private music teachers, entry-level positions in community colleges and some four-year institutions, and to pursue advanced degrees in music-related fields.

Curriculum Requirements*

Code	Title	Credit Hours
Major Area		
Applied Lessons		8
MKP 647	Keyboard Pedagogy	3
MKP 750	Keyboard Pedagogy Research Seminar	1
MKP 780	Keyboard Pedagogy Internship	1
MKP Elective, Select one of the following with advisor approval:		1
MKP 710	Seminar in Baroque Performance	
MKP 711	Seminar in Classical Performance	
MKP 712	Seminar in Romantic Performance	
MKP 713	Seminar in Contemporary Music	
MKP 750	Keyboard Pedagogy Research Seminar	
MKP 780	Keyboard Pedagogy Internship	
MKP 791	Accompanying, Level III	
Select one of the following:		3
MKP 648	Intermediate to Advanced Repertoire	
MKP 649	Keyboard Pedagogy II: Keyboard Pedagogy Diagnostics	
MKP 650	Keyboard Pedagogy III: Practice Strategies	
MKP 747	Seminar in Keyboard Pedagogy	
Final Project		
MKP 812	Master's Recital **	1
MKP 813	Master's Pedagogy Project ((1 cr/sem X2))	2
Other Studies in Music		

MCY 728	Music Bibliography (or other MCY course)	3
MTC 717	Analytical Techniques (or other MTC course)	3
Approved Music Electives		4
Total Credit Hours		30

* Pending Board of Trustees Approval

**May be a performance or a lecture recital

M.M. in Keyboard Performance

Mission Statement

The mission of the Master of Music degree in Keyboard Performance is to:

- Provide students the highest quality of education available in the areas of piano performance and musicianship that will provide the foundation for continued academic work, and which could also lead toward a professional performance career as a classical pianist.
- To stimulate the student's awareness and artistic creativity in the field of piano performance
- To provide students public performance performance opportunities in a supportive and encouraging environment
- To provide students performance skills necessary for graduate degree auditions and national/international piano competitions.

Curriculum Requirements

Code	Title	Credit Hours
Major Area		
Applied Lessons		8
Accompanying		3
MKP 812	Master's Recital	1
Supportive Studies ¹		15
MTC Elective(s)		
MCY 626-7 Keyboard Literature I-II/MCY Elective(s)		
MKP Keyboard Pedagogy Elective(s)		
MKP 647	Keyboard Pedagogy	
MKP 648	Intermediate to Advanced Repertoire	
MKP 649	Keyboard Pedagogy II: Keyboard Pedagogy Diagnostics	
MKP 650	Keyboard Pedagogy III: Practice Strategies	
Artist Development course(s)		
MED 755	The Teaching Artist	
MMI 632	Arts Leadership	
MMI 735	World of the Working Musician	
MUS 735	Media Creation	
MUS 745	Peak Performance Strategies for Musicians	
MUS 755	Communication, Marketing, and Publicity for the Musical Artist	
Approved Music Electives (Suggested courses include)		3
MKP 710	Seminar in Baroque Performance	
MKP 711	Seminar in Classical Performance	
MKP 712	Seminar in Romantic Performance	
MKP 713	Seminar in Contemporary Music	
MKP 791	Accompanying, Level III	
MIP 745	String-Keyboard Chamber Music	
MKP 750	Keyboard Pedagogy Research Seminar	
MKP 780	Keyboard Pedagogy Internship	
MKP 815	Masters Second Recital	
Oral Comprehensive Exam		0
Total Credit Hours		30

¹ Students are strongly encouraged to choose at least one course from each of the four categories below this section. Exceptions may be made only with Advisor approval.

Music Education and Music Therapy

The Department of Music Education and Music Therapy boasts two of the most innovative programs in the country and is committed to the preparation of outstanding music educators, therapists and scholars at all degree levels. The department faculty members are cutting edge scholars and researchers, holding leadership positions in internationally prominent organizations. Their contributions to research, scholarship, and pedagogy consistently inspire their students while informing the profession at large.

The music education program seeks to transcend all areas of music teaching and learning, from birth to older adulthood, and from public schools to community programs, allowing the principles of pedagogy to be applied broadly in a wide variety of contexts.

Music Education

A basic premise of the Music Education program is that music teachers must be both musicians and teachers; thus, competency as a musician is equally as important as having a strong theoretical and practical foundation in music education. Carefully coordinated courses emphasize sequencing of instruction in terms of student's musical development and incorporate ideas drawn from theory, research, and the practical experiences of the faculty and other successful practitioners. For more information, please visit the website (http://www.miami.edu/frost/index.php/department_of_music_education) for the department of Music Education.

Music Therapy

Music therapy involves using music as a tool to help people regain or develop important life skills, such as communication, physical movement, attention and memory, emotional growth or social skills. Therapeutic techniques are based on scientific knowledge regarding how the human brain and body respond to and utilize musical stimuli.

Music therapists work with individuals of all ages who require treatment due to deficits in physical, cognitive or social/emotional functioning.

Potential employment sites include medical or psychiatric hospitals, clinics, nursing homes, rehabilitation centers, special education or early intervention school settings, hospices, or correctional settings. Music therapy can be a rewarding career for the individual who has a strong musical background and who is interested in a health care profession. For more information, please visit the website (http://www.miami.edu/frost/index.php/music_therapy) for the department of Music Therapy.

Doctoral Program in Music Education and Music Therapy

- Ph.D. in Music Education (p. 1301)

Masters Programs in Music Education and Music Therapy

- M.M. in Music Education (p. 1297)
- M.M. in Music Education with Teaching Certification (p. 1298)
- M.M. in Music Therapy (p. 1299)
- M.M. in Music Therapy with Undergraduate Equivalency (p. 1299)

M.M. in Music Education

Mission Statement

The Department of Music Education and Music Therapy offers graduate degrees in Music Education and in Music Therapy that prepare students for professional careers as teachers and therapists. The mission of the Master of Music degree program in music education at the Frost School of Music is to:

- Provide the highest quality of music education expertise
- Foster advanced professional development in music teaching practice as well as music education research
- Serve the music education profession as a resource for music teachers, the education community, and the university community, locally, regionally, nationally, and internationally.

Curriculum Requirements

Code	Title	Credit Hours
Major Area		
MED 760	Philosophy of Music Education	3
MED 762	Music Learning and Curriculum	3
MED 763	Music Research Methods	3

MED 764	Music Assessment	3
MED 810 or MED 805	Master's Thesis Master's Project	3
MED 715	Graduate Forum	0
Other Studies in Music		9
Select 9 credit hours from MCY, MIP, MKP, MMI, MSJ, MTC, MUS, MVP courses		
Electives		12
Select 12 credit hours of Approved Electives		
Total Credit Hours		36

M.M. in Music Education with Teaching Certification

Mission Statement

The Department of Music Education and Music Therapy offers graduate degrees in Music Education and in Music Therapy that prepare students for professional careers as teachers and therapists. The mission of the Master of Music degree program in music education with teaching certification at the Frost School of Music is to:

- Provide the highest quality of music education expertise
- Foster advanced professional development in music teaching practice as well as music education research
- Serve the music education profession as a resource for music teachers, the education community, and the university community, locally, regionally, nationally, and internationally.

Curriculum Requirements

Code	Title	Credit Hours
Major Area		
MED 615	Music Education Certification Forum	0
MED 762	Music Learning and Curriculum	3
MED 764	Music Assessment	3
TAL 606	Issues and Strategies for ESOL	3
TAL 610	Literacy and Learning Strategies in the Content Area	3
TAL 612	Building Positive Relationships with Diverse Learners	3
Final Project		
MED 775	Practicum in Music Education	7
MED 733	Seminar for Teaching Associates	1
TAL 623	Seminar on Teaching	1
Other Studies in Music		
Non-MED Music Electives (MCY, MIP, MKP, MMI, MSJ, MTC, MUS, MVP)		9
Music Education Electives		
Select from the following Techniques Courses		3
MED 740	Woodwind Techniques	
MED 741	Brass Techniques	
MED 742	Percussion Techniques	
MED 743	String Techniques	
MED 744	Vocal Techniques	
MED 745	Folk and Modern Instrument Techniques	
Elementary Methods Courses*		3
MED 642	Teaching General Music	
MED 643	Teaching Instrumental Music	
Secondary Methods Courses (select 2)*		6
MED 643	Teaching Instrumental Music	
MED 644	Teaching Modern Music	
MED 648	Music for Special Learners**	
MED 649	Teaching Vocal Music	

Comprehensive Review#	
Total Credit Hours	45

- * One Elementary and one Secondary Methods course required for certification
- ** May substitute for Secondary Methods course
- *** A student holding a B.M. degree in music may work toward certification in Music Education concurrently with the M.M. degree in Music Education. The B.M. degree must have included at least 14 credit hours of music performance, 12 credit hours of music theory, 3 credit hours of conducting, 6 credit hours of music history, and credit hours in performance ensembles. The culminating project for this degree takes place within MED 775. This program is approved by the Florida Department of Education and leads to initial certification as a music teacher for grades K-12.
- # For the Comprehensive Review, students will (1) design a curriculum unit for a K-12 classroom during their student teaching semester, (2) implement this unit during their student teaching semester, and (3) measure the impact of instruction on their students' learning. Students will write a full report and give an oral presentation to an MED committee.

M.M. in Music Therapy

Mission Statement

The mission of the Master of Music degree program in Music Therapy at the Frost School of Music is to prepare students to develop:

- advanced and comprehensive musicianship
- independent research skill
- advanced level clinical knowledge and skill for the music therapy profession.

The preparation of students' academic, professional, and interpersonal therapeutic abilities will satisfy the required standards of practice of an advanced level practitioner as approved by the American Music Therapy Association. The Frost program seeks to recruit and retain highly qualified students to study and gain advanced level clinical skill for music therapy practice and employment, and to prepare them for further graduate study.

Curriculum Requirements

Code	Title	Credit Hours
Major Area		
MED 729	Advanced Music Therapy Practice I	3
MED 730	Advanced Music Therapy Practice II	3
MED 759	Music Therapy Graduate Practicum 3	2
MED 710	Graduate Forum in Music Therapy	0
Comprehensive Exam		
Final Project (Thesis or Clinical Track)		
MED 810 or MED 805	Master's Thesis Master's Project	3
Other Studies in Music		
Approved Graduate Level Courses in Music		10
Supportive Studies		
MED 651	Music Therapy Research Methods	3
Approved Neuroscience Elective		3
Select one of the following:		3
Approved Research Elective (if on Thesis Track)		
Approved Clinical Elective (if on Clinical Track)		
Total Credit Hours		30

M.M. in Music Therapy with Undergraduate Equivalency

Mission Statement

The mission of the Master of Music degree program in Music Therapy at the Frost School of Music is to prepare students to develop:

- advanced and comprehensive musicianship
- independent research skill

- advanced level clinical knowledge and skill for the music therapy profession.

The preparation of students' academic, professional, and interpersonal therapeutic abilities will satisfy the required standards of practice of an advanced level practitioner as approved by the American Music Therapy Association. The Frost program seeks to recruit and retain highly qualified students to study and gain advanced level clinical skill for music therapy practice and employment, and to prepare them for further graduate study.

Curriculum Requirements

Code	Title	Credit Hours
Major Area		
MED 729	Advanced Music Therapy Practice I	3
MED 730	Advanced Music Therapy Practice II	3
MED 757	Music Therapy Graduate Practicum 1	2
MED 758	Music Therapy Graduate Practicum 2	2
MED 759	Music Therapy Graduate Practicum 3	2
MED 710	Graduate Forum in Music Therapy	0
MED 802	Internship in Music Therapy *	3
Final Project (Thesis or Clinical Track)		3
MED 810	Master's Thesis	
or MED 805	Master's Project	
Other Studies in Music		
Approved Graduate Level Courses in Music		10
Supportive Studies		
MED 651	Music Therapy Research Methods	3
Approved Neuroscience Elective		3
Select one of the following:		3
Approved Research Elective (if on Thesis Track)		
Approved Clinical Elective (if on Clinical Track)		
Undergraduate Equivalency Courses		44
MED 10	Mus Therapy Forum	
MED 149	Functional Techniques in Music Therapy I	
MED 159	Introduction to Music Therapy	
MED 242	Percussion Techniques	
MED 244	Vocal Techniques	
MED 249	Functional Techniques in Music Therapy II	
MED 259	Music Therapy Pre-Practicum	
MED 359	Music Therapy Practicum 1A	
MED 545	Music in Rehabilitation	
MED 546	Music in Psychotherapy	
MED 562	Psychology of Music I	
MED 576	Music and Development	
PSY 110	Introduction to Psychology	
PSY 220	Psychobiology	
PSY 292	Introduction to Biobehavioral Statistics for Non-Majors	
PSY 230	Child and Adolescent Development	
or EPS 270	Lifespan Human Development	
PSY 240	Abnormal Psychology	
PSY 345	Abnormal Child Psychology	
BIL 109	Human Biology	
Exams		
Comprehensive Exam		
Total Credit Hours		81

* All internship applications must include a written letter of recommendation from a music therapy faculty member.

Ph.D. in Music Education

The Doctor of Philosophy program is offered in Music Education, as well as in Music Education with Music Therapy Emphasis. The mission of the Ph.D. program of the Frost School of Music is to:

- Provide the highest quality of music education and music therapy expertise
- Foster advancements in music teaching and music therapy practice, music education and music therapy research
- Serve the music education and music therapy professions as a resource for music teachers and music therapists, the music education/music therapy research community, the education community, and the university community, locally, regionally, nationally, and internationally.

Curriculum Requirements

Code	Title	Credit Hours
Major Field Core Courses		
MED 763	Music Research Methods	3
MED 780	Doctoral Seminar	2
MED 781 or MED 782	Seminar in Qualitative Research in Music Seminar in Quantitative Research in Music	2
MED 795	Doctoral Research Project	1
Music Education/Music Therapy Emphasis		
Select one of the following Emphases:		7
Music Education Emphasis:		
MED 760	Philosophy of Music Education	
MED Course(s) by advisement (see electives)		
MED 790	Teaching Music in College	
Music Therapy Emphasis:		
MED 729	Advanced Music Therapy Practice I	
MED 730	Advanced Music Therapy Practice II	
MED 784	Music Therapy Seminar	
Dissertation		
MED 830	Doctoral Dissertation	12
Other Studies in Music		
Select 9 credit hours from MTC, MCY, MMI, MSJ, MIP, MVP, MKP courses		9
Ph.D. Research Tools/Cognate		
Select 12 credit hours by advisement		12
Advisor Approved Electives		
Select 12 credit hours of the following:		12
MED 662	Psychology of Music I	
MED 720	International Music Education	
MED 725	Cultural Diversity in Music Education	
MED 732	Vocal Methods and Materials in Music Education	
MED 735	Social Issues Music Learn	
MED 747	Seminar in Instrumental Music Education	
MED 750	Community Music Programs	
MED 762	Music Learning and Curriculum	
MED 764	Music Assessment	
MED 765	Seminar in Music Education	
MED 773	Seminar on Music in Childhood	
MED 781	Seminar in Qualitative Research in Music	
MED 782	Seminar in Quantitative Research in Music	
MED 796	Doctoral Research Project	
Total Credit Hours		60

Music Media and Industry

Music Business and Entertainment Industries

In today's fast changing, multi-billion dollar international music and entertainment industries, there are more record labels, publishers, media companies, distributors, retailers, and product manufacturers actively promoting the sale and use of music than ever before. As the market for music shifts away from physical products and traditional methods to digital online and mobile, a greater number of competent, highly-skilled executives and entrepreneurs will be needed to meet the specialized demands of the new music industry. Since 1964, the Music Business and Entertainment Industries program has been at the forefront of music business education. The MBEI program has been carefully designed to prepare qualified music business students for these emerging opportunities.

Our graduate program, where students earn a Master of Music, focuses primarily on music business courses, with the opportunity to pursue additional coursework in both the School of Business and School of Communications. We also offer the only joint degree Juris Doctor (J.D.) and Master of Music in Music Business and Entertainment Industries (M.M.). For more information, please visit the website for the department of Music Business (http://www.miami.edu/frost/index.php/music_business).

Music Engineering Technology

Since 1975, the Music Engineering Technology program at the University of Miami Frost School of Music has pioneered education in music and technology, setting the standard by which the National Association of Schools of Music (NASM) accredits other such programs around the United States. Alumni of the program have contributed significantly to the music and audio industries and upon graduation pursue careers ranging from recording engineer to software designer.

The Music Engineering Technology program offers a two-year Master of Science graduate degree for students who have completed an undergraduate degree in electrical engineering or computer science. These students study the software and hardware design of audio systems and perform independent research that culminates in a thesis project. Upon graduation, these students are widely placed in top corporations that span the audio industry. For more information, please visit the website for the department of Music Engineering (http://www.miami.edu/frost/index.php/music_engineering).

Arts Presenting and Live Entertainment Management

Arts Presenting (AP Live) is a Live Entertainment Management Program with an emphasis on the performing arts and commercial music industries. AP Live offers a curriculum that's distinctly tailored to provide a thorough understanding of marketing, promotion, management, legal aspects, risks and finance of a diversity of live entertainment endeavors. AP Live students gain hands on experience producing events, marketing and promoting concerts and working with venues on all aspects of a live entertainment performance. For more information, please visit the website for the Arts Presenting Program (http://www.miami.edu/frost/index.php/arts_presenting).

Masters Programs in Music Media and Industry

- M.A. in Arts Presenting (p. 1303)
- M.M. in Music Business and Entertainment Industries (p. 1304)
- M.M. in Media Writing and Production (p. 1307)
- M.S. in Music Engineering Technology (p. 1306)

J.D./M.M. in Music Business and Entertainment Industries

The University of Miami School of Law and the Frost School of Music offer the first ever joint degree program in law and music business. Upon completion of this program, a student earns the Juris Doctor degree from the School of Law and a Master of Music in Music Business and Entertainment Industries degree from the School of Music.

In this specialization, students not only learn the essentials of law, but also the common practices of the music business – essential skills for becoming a successful attorney in the music industry. Through this joint program, students can complete both degrees in less time (3 to 4 years) while studying at a top law school and one of the best music schools in the country. And, as one of the four major music cities in the U.S. and as the music center for the Latin American Divisions of all major music companies, Miami offers exceptional internship and work opportunities. For more information, please visit our website (<http://www.law.miami.edu/academics/jd-music.php?op=0>).

J.D./M.A. – Master in Arts Presenting & Live Entertainment Management

The University of Miami School of Law in partnership with the University of Miami's esteemed Frost School of Music, Department of Music Business and Entertainment Industries, now offers a joint J.D./M.A. in Law and Arts Presenting & Live Entertainment Management.

This combination of degrees is ideal for Law School students looking to:

- Prepare for a career in entertainment law
- Develop a focus on the presentation of concerts, exhibitions, performances, and events

- Apply legal knowledge in the areas of contracts, risk management, marketing, and finance to the live entertainment/performance fields.

This program is similar to the J.D./M.M. program in Music Business and Entertainment Industries, but has a focus on the concert/performance arena.

Certificate Programs

- Certificate in Arts Leadership (p. 1304)
- Certificate in Arts Management (p. 1304)
- Certificate in Arts Presenting Fundamentals (p. 1305)
- Certificates in Legal Aspects of Music Business (p. 1305)
- Certificate in Music Business Fundamentals (p. 1305)
- Certificate in Music Entrepreneurship (p. 1305)
- Certificate in Music Rights Administration and Licensing (p. 1305)
- Certificate in Tour and Live Entertainment Administration (p. 1306)

M.A. in Arts Presenting and Live Entertainment Management

Mission Statement

The Arts Presenting and Live Entertainment Management (AP LIVE) masters degree program makes possible specialized, comprehensive and experiential learning in the multifaceted field of live arts presentations. Keen attention to leadership, project management, operations, personnel, finances and for-profit and non-profit arts business models serves as the foundation of the curricular learning, research and activity. With greater-Miami and arts connection to professional across the U.S. and beyond, students graduating from the University Miami and the Frost School of Music are fully prepared to enter the workforce as dynamic professionals poised to step in successfully to wide-varieties of arts settings around the world.

The program has three primary objectives:

- Each student is fully engaged in the entirety of Arts Presenting and Live Entertainment Management subject matter, with exposure to all of the professional-level issues of the field. To that end, courses are designed with syllabi that ensures a sequence of learning filled with each of the best-practice topics and tactics necessary for gaining professional level skills and wherewithal.
- Each student is engaged in research designed to capture far-reaching information formed from intense study and field experiences. Such research will result in (at least) two formal papers and presentations that exemplify exceptional effort and provide lasting value for the learner. Such research includes, but is not limited to creating and managing projects of various sizes, business models and implementation strategies, industry-related statistical analysis such as environmental scans, demographics and so forth, as well as the exploration of arts-based subjects that go to the heart of the arts presenting reason d'être.
- Each student is introduced to professionals in the field—across the U.S. and beyond—such that they have developed a meaningful and useful network of mentors and contacts offering insights into arts presenting management issues, best practices and opportunities for further learning. The network of contacts is compelled into existence by way of course-work throughout the degree program that relies upon expert input as part of the assignments objectives, as well as professionals introduced by faculty.

Curriculum Requirements

Code	Title	Credit Hours
Major Area		
MMI 641	Tour Management and Production	3
MMI 643	Marketing in the Arts and Entertainment	3
MMI 726	Performing Arts Center and Facility Management	3
MMI 736	Sponsorship, Development, and Financial Management in the Live Entertainment Industry	3
MMI 738	Legal Aspects of the Live Entertainment Industry	3
MMI 740	Arts Presenting Project	3
MMI 774	Music Copyright Law	3
Electives		
Select 6 credit hours of approved Graduate Course Electives		6
Final Project		
Choose from:		3
MMI 804	Internship in Arts Presenting	
MMI Elective		

Exit Exam	
Total Credit Hours	30

M.M. in Music Business and Entertainment Industries

Mission Statement

The mission of the Music Business and Entertainment Industries Program is to prepare students for careers in the music business profession, specifically in the areas involving music publishing, the record business, music distribution, music copyright and music licensing. This is accomplished through courses focused on these topics.

Curriculum Requirements

Code	Title	Credit Hours
Major Area		
MMI 673	Music Publishing	3
MMI 750 or MMI 738	Music Business Agreements Legal Aspects of the Live Entertainment Industry	3
MMI 752	Music Licensing	3
MMI 774	Music Copyright Law	3
Electives		
Select 9 credit hours of approved Graduate Course Electives		9
Approved MMI Electives		6
Final Project		
Choose from:		3
MMI 802	Music Business Internship	
MMI Elective		
Cumulative Exit Exam		
Total Credit Hours		30

Certificate in Arts Leadership

<https://frostonline.miami.edu/programs/artpresentlivecert.aspx>

Curriculum Requirements

Code	Title	Credit Hours
MMI 726	Performing Arts Center and Facility Management	3
MMI 738	Legal Aspects of the Live Entertainment Industry	3
MMI 632	Arts Leadership	3
Total Credit Hours		9

Certificate in Arts Management

<https://frostonline.miami.edu/programs/artpresentlivecert.aspx>

Curriculum Requirements

Code	Title	Credit Hours
MMI 726	Performing Arts Center and Facility Management	3
MMI 736	Sponsorship, Development, and Financial Management in the Live Entertainment Industry	3
MMI 738	Legal Aspects of the Live Entertainment Industry	3
Total Credit Hours		9

Certificate in Arts Presenting Fundamentals

<https://frostonline.miami.edu/programs/artpresentlivecert.aspx>

Curriculum Requirements

Code	Title	Credit Hours
MMI 641	Tour Management and Production	3
MMI 726	Performing Arts Center and Facility Management	3
MMI 736	Sponsorship, Development, and Financial Management in the Live Entertainment Industry	3
Total Credit Hours		9

Certificate in Legal Aspects of Music Business

<https://frostonline.miami.edu/programs/musicbusentcert.aspx>

Curriculum Requirements

Code	Title	Credit Hours
MMI 774	Music Copyright Law	3
MMI 750	Music Business Agreements	3
MMI 738	Legal Aspects of the Live Entertainment Industry	3
Total Credit Hours		9

Certificate in Music Business Fundamentals

<https://frostonline.miami.edu/programs/musicbusentcert.aspx>

Curriculum Requirements

Code	Title	Credit Hours
MMI 637	Recorded Music Operations	3
MMI 673	Music Publishing	3
MMI 774	Music Copyright Law	3
Total Credit Hours		9

Certificate in Music Entrepreneurship

<https://frostonline.miami.edu/programs/musicbusentcert.aspx>

Curriculum Requirements

Code	Title	Credit Hours
MMI 630	Entrepreneurship for Musicians	3
MMI 643	Marketing in the Arts and Entertainment	3
MMI 774	Music Copyright Law	3
Total Credit Hours		9

Certificate in Music Rights Administration and Licensing

<https://frostonline.miami.edu/programs/musicbusentcert.aspx>

Curriculum Requirements

Code	Title	Credit Hours
MMI 673	Music Publishing	3
MMI 752	Music Licensing	3

MMI 774	Music Copyright Law	3
Total Credit Hours		9

Certificate in Tour and Live Entertainment Administration

<https://frostonline.miami.edu/programs/artpresentlivecert.aspx>

Curriculum Requirements

Code	Title	Credit Hours
MMI 641	Tour Management and Production	3
MMI 736	Sponsorship, Development, and Financial Management in the Live Entertainment Industry	3
MMI 738	Legal Aspects of the Live Entertainment Industry	3
Total Credit Hours		9

M.S. in Music Engineering Technology

Mission Statement

The mission of the Music Engineering Technology program is to:

- Provide the highest quality education in the field of music engineering technology
- Promote advancements in the fidelity and creativity of music recording, production, and reproduction
- Promote advancements in the invention, design, and implementation of audio hardware and software.

Curriculum Requirements

Code	Title	Credit Hours
Major Area		
MMI 705	Current Trends in Music Engineering I	3
MMI 603	Audio Signal Processing II	3
MMI 610	Computational Psychoacoustics	3
MED 662	Psychology of Music I	3
Graduate Level Electives in Music		3
MMI 13	Music Engineering Forum	0
Electives		
Select 12 credit hours of graduate level courses in electrical/computer engineering and/or computer science		12
Final Project		
MMI 813	Master's Research Project	3
Total Credit Hours		30

Music Theory - Composition

<https://composition.frost.miami.edu/index.html>

Degree Programs

Known for its aesthetic diversity and openness to the ever-changing and progressive world of composition, the Frost School of Music's Department of Music Theory and Composition has a long tradition of distinguished faculty and students. When today's post-baccalaureate composers decide to pursue a Master's Degree in Composition, they look to Frost faculty composers for inspiration and mentoring. At Frost, graduate students are well coached to take the next steps toward their professional maturation. They work one-on-one with our dedicated faculty to expand their music portfolios, enter competitions, apply for commissions and network in the music profession. Candidates for the Doctor of Musical Arts in Composition (D.M.A.) develop advanced research and teaching skills that are applicable to careers in higher education.

Doctoral Program in Music Theory - Composition

- D.M.A. in Composition (p. 1307)

Masters Programs in Music Theory - Composition

- M.M. in Music Composition (p. 1308)

D.M.A. in Composition

Mission Statement

The mission of the Doctor of Musical Arts program in Composition is to provide students with advanced preparation in the field of composition. The goals of the program are:

- To enable students to develop advanced compositional skills beyond the level of the Master of Music degree in Composition;
- To help students consider or choose their compositional directions or options in the 21st century;
- To help students get their music performed or realized;
- To help students develop a strong profile or identity as a composer.

Curriculum Requirements

Code	Title	Credit Hours
Composition Courses		
MTC 715	Composition Seminar I	8
or MTC 716	Composition Seminar II	
MTC 782	Composition Workshop	4
Creative Activities		
MTC 831	Doctoral Essay	12
Theory/Composition Courses		
MTC 711	Theory Pedagogy	3
Music Theory courses		12
Musicology Courses		
Musicology courses		9
Cognate/Electives		
Select 12 credit hours of Cognate/Electives		12
Total Credit Hours		60

M.M. in Media Writing and Production

Mission Statement

The mission of the Media Writing and Production Masters of Music degree program is to provide the student with the skills necessary to pursue a career as a creator and producer of commercial music. The purpose of the Media Writing and Production program is to provide advanced competency as a composer, arranger and producer of commercial music. In contrast with other departments, the Media Writing and Production department culminates with the writing and defense of a thesis conforming to graduate school guidelines. The program emphasizes the following objectives:

- Students will graduate in a timely manner from the program
- Students will be highly satisfied with their understanding of craft of creating music for media.
- Students will be prepared to find success in the media industry.

Curriculum Requirements

Code	Title	Credit Hours
Major Area		
MMI 620	Audio Technology for Musicians	3
MTC 611	Film Scoring I	3
MTC 612	Film Scoring II	3
MTC 763	Virtual Orchestration	3
MTC 746	Studio Production	6
MTC 796	Studio Production Ensemble	3
MTC 813	Master's Media Writing Project	3
Other Studies in Music		

MMI 630	Entrepreneurship for Musicians	3
MSJ 714	Advanced Orchestration	3
Electives		
Electives		2-3
Total Credit Hours		32-33

M.M. in Music Composition

Mission Statement

The mission of the Master of Music in Composition is:

- To provide the highest quality and most educational and creative environment for work relating to the creation and understanding of music;
- To foster advancement in composition;
- To provide students with advanced work in the field of composition and thus enabling a career in professional or scholarly pursuit of music;
- To substantially contribute to the Frost School of Music's role as a regional, national, and international nexus for the creation and understanding of music.

The objectives of the program are:

- To provide training for students to develop advanced compositional skills;
- To prepare students to meet the needs and challenges of the musician in the 21st century;
- To provide students with the skills, knowledge, and experience to complete independent and original work in the field;
- To give students an advanced knowledge of music as performers, composers, or listeners, enlarging and enhancing their musical interests and abilities.

Curriculum Requirements

Code	Title	Credit Hours
Major Area		
MTC 715	Composition Seminar I	2
MTC 716	Composition Seminar II	2
MTC 810	Master's Thesis	6
Select two of the following:		6
MTC 711	Theory Pedagogy	
MTC 713	Twentieth Century Idioms	
MTC 717	Analytical Techniques	
Other Studies in Music		
MCY 624	Contemporary Music	3
MCY Electives		3
Applied Lessons		2
Approved Ensembles		2
Electives		
Approved MTC Electives		3
Graduate Electives at the 700 Level		3
Total Credit Hours		32

Musicology

Degree Programs

Graduate students seeking the M.M. in Musicology at the Frost School of Music enjoy a balanced curriculum of study in music literature, analysis, performance, and research methods.

Our stellar faculty and extensive library resources help students fulfill their musical and academic goals while preparing for advanced study. Musicology majors interact and collaborate with others in a variety of musical disciplines, gaining insight into the role their own specialization plays in a thriving musical environment.

Masters Program in Musicology

- M.M. in Musicology (p. 1309)

M.M. in Musicology

Mission Statement

Faculty and students of the Department of Musicology (MCY) in the Frost School of Music at the University of Miami advance the interdisciplinary study of music by examining how, when, where, and why people create, experience, and understand music. Coursework in the program is designed to enable students to acquire in-depth knowledge of musicology and to develop students' abilities to write and talk effectively about relevant issues within musicology and related disciplines.

Curriculum Requirements

Code	Title	Credit Hours
Major Area		
MCY 728	Music Bibliography	3
MCY XXX	Musicology Courses	12
MCY 810	Master's Thesis	6
Other Studies in Music (Complete both options below)		6
Non-MCY Music Elective		
MTC Elective		
Electives		3
Non-MCY Elective, In or Beyond Music		
Language Proficiency ¹		
Total Credit Hours		30

¹ Musicology students are expected to demonstrate proficiency in a language other than English, normally German, French, or Spanish. Proficiency examinations will be administered by the Department of Modern Languages and will consist of 1-2 passages from representative scholarly readings. Alternatively, enrolling in ITA 625, FRE 625, or an equivalent course at the graduate level may fulfill the requirement. This requirement should be completed by the beginning of the second year to facilitate research on the master's thesis.

Studio Music and Jazz

http://www.miami.edu/frost/index.php/studio_music_and_jazz/

Degree Programs

The mission of the Studio Music and Jazz Instrumental Degree Programs is to: (1) prepare jazz instrumentalists to enter the music profession or further jazz studies; (2) identify, recruit, and retain high quality students who seek to pursue studio/jazz performance as a career; (3) foster faculty creativity and performance which serves as a role model for students; (4) develop, and revise courses in jazz improvisation, jazz arranging/ composition and provide on and off campus performance opportunities; (5) produce in our on campus facility, recordings for the Down Beat Student Music Awards, compact discs, radio and Internet broadcast; and (6) provide a platform of learning that includes performance, composition/arranging, technology, conducting, scholarship and production.

Doctoral Programs in Studio Music and Jazz

- D.M.A. in Jazz Composition (p. 1310)
- D.M.A. in Jazz Performance (p. 1310)

Masters Programs in Studio Music and Jazz

- M.M. in Jazz Performance, Instrumental (p. 1312)
- M.M. in Jazz Performance, Vocal (p. 1313)
- M.M. in Jazz Pedagogy (p. 1311)
- M.M. in Studio Jazz Writing (p. 1314)

D.M.A. in Jazz Composition

Mission Statement

The mission of the Doctor of Musical Arts program in Jazz Composition is to facilitate advanced composers/arrangers in developing their unique voice in jazz composition and to guide them in their continuing music career. With an emphasis on compositional originality, the Jazz Composition Program intends to provide students with opportunities for advanced study in jazz composition and orchestration to develop the jazz composition skills beyond that developed in their undergraduate and master's programs.

The program objectives are to:

- Identify, recruit, and retain high quality students who are seeking to develop their jazz and studio writing skills beyond that developed in their undergraduate and master's programs;
- Evaluate, revise, and develop curricular offerings to continue to meet the challenges facing professional musicians today;
- Maintain, present, and develop performance and outreach programs that will enable the jazz department to serve as a cultural resource in South Florida;
- Provide a creative, challenging, and nurturing educational experience that respects jazz tradition, reflects current professional trends, fosters innovation, and stimulates growth among students and faculty alike.

Curriculum Requirements

Code	Title	Credit Hours
Performance Courses		
Applied Jazz Composition and Jazz Arranging Lessons		14
Creative Activities		
MED 702	DMA Essay Proposal	1
MSJ 831	Doctoral Essay	11
Jazz Courses		
MSJ 644	Jazz Pedagogy and Administration	3
MSJ 720	Analysis of Jazz Styles	3
MED 790	Teaching Music in College	1
Jazz Elective		3
Allied Music Courses		
MCY 728	Music Bibliography	3
MTC 717	Analytical Techniques (or other MTC course)	3
MED 662	Psychology of Music I	3
Musicology/Music Theory Elective		3
Cognate/Electives		
Select 12 credit hours of Cognate/Electives		12
Total Credit Hours		60

D.M.A. in Jazz Performance Instrumental/Vocal

Mission Statement

The mission of the Doctor of Musical Arts Degree in Jazz Performance is to:

- Provide the terminal degree through advanced, in-depth study in the areas of musicianship and performance practice that will support a professional performance career as a jazz artist;
- Provide performance opportunities that integrate the skills learned in both performance and academic classes, foster creativity and research, demonstrate advanced musical techniques and a thorough understanding of historical style and performance practice;
- Continue to develop the skills for analyzing and articulating thoughts about music in a scholarly written format;
- Provide requisite skills to manage the non-performance aspects of a career.

Curriculum Requirements

Code	Title	Credit Hours
Performance Courses		

Applied Lessons		6
Ensembles		3
Performance Electives (improvisation, ensembles, applied lessons) ¹		3
Creative Activities		
MED 702	DMA Essay Proposal	1
MSJ 832	Doctoral Recital	3
MSJ 831	Doctoral Essay	8
Jazz Courses		
MSJ 644	Jazz Pedagogy and Administration	3
MSJ 720	Analysis of Jazz Styles	3
MED 790	Teaching Music in College	1
Jazz Performance Ensembles		3
Jazz Electives		2
Allied Music Courses		
MCY 728	Music Bibliography	3
MTC 717	Analytical Techniques (or other MTC course)	3
MED 662	Psychology of Music I	3
Musicology/Music Theory Elective		3
Cognate/Electives		
Select 12 credit hours of Cognate/Electives		12
Total Credit Hours		60

¹ Jazz performance electives may be substituted for applied lesson credit hour with the permission of advisor.

M.M. in Jazz Pedagogy

Mission Statement

The mission of the Master of Music degree in Jazz Pedagogy is to prepare students for careers in advanced level performance, private music teaching, or entry-level jazz teaching positions in community colleges and four-year institutions of higher learning. It will also provide a foundation for further advanced graduate work at the doctoral level. The underlying philosophy is that the best teachers are also skilled performers.

Curriculum Requirements

Code	Title	Credit Hours
Major Area		
Applied Lessons		6
Jazz Ensembles		4
MCY 720	Jazz Cultures: History and Historiography (Jazz Cultures)	3
MSJ 644	Jazz Pedagogy and Administration	3
MSJ 720	Analysis of Jazz Styles	3
MSJ 724	Seminar in Jazz Pedagogy (Jazz Pedagogy Seminar)	1
MSJ 780	Advanced Jazz Improvisation Theory	3
MSJ 805	Master's Jazz Pedagogy Project (Masters Jazz Pedagogy Project)	1
Other Studies in Music		
MSJ 715	Jazz Composition Seminar I	3
MSJ 620 or MSJ 619	Advanced Modern Arranging II Advanced Modern Arranging I	3
Electives		
Non-MSJ, Advisor Approved Electives		6
Total Credit Hours		36

M.M. in Jazz Performance, Instrumental

Mission Statement

The mission of the Master of Music Degree program in Studio Music and Jazz Performance is to prepare jazz musicians to enter the music profession and/or pursue doctoral studies. The Master of Music Program in Jazz Performance provides students with opportunities for advanced instrumental or vocal study, jazz improvisation and interaction development, and both small and large group ensemble experience. Our principle focus is on the development of high-level performance skills that will enable a student to pursue a career as a professional studio/jazz musician.

The specific objectives are:

- Provide students with advanced jazz performance expertise beyond that developed in the bachelor's degree;
- To prepare students to meet the challenges facing professional musicians today;
- Provide students with an understanding of jazz tradition, current professional trends and an ability to innovate.

This program strives to identify, recruit, and retain high quality students who are seeking to develop jazz performance expertise beyond that developed in the bachelor's degree. We maintain, present, and develop performance and outreach programs that enable the jazz department to serve as a cultural resource in South Florida. We strive to provide a creative, challenging, and nurturing environment that respects tradition, reflects current professional trends, fosters innovation, and stimulates growth among students and faculty alike.

Curriculum Requirements

Code	Title	Credit Hours
Major Area		
Applied Lessons		8
Jazz Ensembles ¹		4
Jazz Improvisation (Choose from)		6
MSJ 665	Advanced Improvisation I	
MSJ 666	Advanced Improvisation II	
MSJ 780	Advanced Jazz Improvisation Theory	
MSJ 812	Master's Recital	1
Jazz Composition/Arranging (Choose from)		3
MSJ 715	Jazz Composition Seminar I	
MSJ 716	Jazz Composition Seminar II	
MSJ 619	Advanced Modern Arranging I	
MSJ 620	Advanced Modern Arranging II	
Other Studies in Music (Choose from)		3
MSJ 644	Jazz Pedagogy and Administration	
MSJ 720	Analysis of Jazz Styles	
Artist Development		
Choose one of the following:		3
MED 755	The Teaching Artist	
MMI 632	Arts Leadership	
MMI 735	World of the Working Musician	
MUS 735	Media Creation	
MUS 745	Peak Performance Strategies for Musicians	
MUS 755	Communication, Marketing, and Publicity for the Musical Artist	
Electives		
Approved Electives (Choose from)		8
MSJ 719	Large Jazz Ensemble Conducting and Repertoire	
MSJ 712	Preliminary Masters Recital	
MSJ 703	Jazz Piano Class I	
MSJ 704	Jazz Piano Class II	
MSJ 742	Jazz Percussion Techniques	
Jazz Ensemble		
MSJ 730	Applied Jazz Instruction Jazz I	

MSJ 731	Applied Jazz Instruction II
Additional course(s) in MSJ, MCY, MIP, MED, MMI, MTC, MUS	
Comprehensive Masters Jury	
Total Credit Hours	36

¹ Total Ensemble credits for degree may not exceed 8 credits. Student must participate in at least one assigned ensemble each semester.

M.M. in Jazz Performance, Vocal

Mission Statement

The mission of the Master of Music Degree in Jazz Performance is to prepare jazz musicians to enter the music profession and/or pursue doctoral studies. The Master of Music Program in Jazz Performance provides students with opportunities for advanced vocal study, jazz improvisation and interaction development, and both small and large group ensemble experience. Our principle focus is on the development of high-level performance skills that will enable a student to pursue a career as a professional studio/jazz musician.

The specific objectives are:

- Provide students with advanced jazz performance expertise beyond that developed in the bachelor's degree;
- To prepare students to meet the challenges facing professional musicians today;
- Provide students with an understanding of jazz tradition, current professional trends and an ability to innovate.

This program strives to identify, recruit, and retain high quality students who are seeking to develop jazz performance expertise beyond that developed in the bachelor's degree. We maintain, present, and develop performance and outreach programs that enable the jazz department to serve as a cultural resource in South Florida. We strive to provide a creative, challenging, and nurturing environment that respects tradition, reflects current professional trends, fosters innovation, and stimulates growth among students and faculty alike.

Curriculum Requirements

Code	Title	Credit Hours
Major Area		
Applied Lessons		8
Jazz Ensembles ¹		4
Jazz Improvisation (Choose from)		6
MSJ 665	Advanced Improvisation I	
MSJ 666	Advanced Improvisation II	
MSJ 780	Advanced Jazz Improvisation Theory	
Jazz Composition/Arranging (Choose from)		3
MSJ 715	Jazz Composition Seminar I	
MSJ 716	Jazz Composition Seminar II	
MSJ 619	Advanced Modern Arranging I	
MSJ 620	Advanced Modern Arranging II	
MSJ 812	Master's Recital	1
Other Studies in Music (Choose from)		3
MSJ 644	Jazz Pedagogy and Administration	
MSJ 720	Analysis of Jazz Styles	
Artist Development Courses		3
MED 755	The Teaching Artist	
MMI 632	Arts Leadership	
MMI 735	World of the Working Musician	
MUS 735	Media Creation	
MUS 745	Peak Performance Strategies for Musicians	
MUS 755	Communication, Marketing, and Publicity for the Musical Artist	
Approved Electives (Choose from)		8
MSJ 719	Large Jazz Ensemble Conducting and Repertoire	
MSJ 712	Preliminary Masters Recital	
MSJ 703	Jazz Piano Class I	

MSJ 704	Jazz Piano Class II	
MSJ 742	Jazz Percussion Techniques	
Jazz Ensemble		
MSJ 730	Applied Jazz Instruction Jazz I	
MSJ 731	Applied Jazz Instruction II	
Additional course(s) in MSJ, MCY, MIP, MED, MMI, MTC, MUS		
Comprehensive Masters Jury		
Total Credit Hours		36

¹ Total Ensemble credits for degree may not exceed 8 credits. Students must participate in at least one assigned ensemble each semester.

M.M. in Studio Jazz Writing

Mission Statement

The mission of the Master of Music program in Studio Jazz Writing is to prepare composers/arrangers to enter the music profession and to provide students with opportunities for advanced study in jazz and studio arranging, composition and orchestration with an emphasis on the development of high-level skills that will enable him or her to pursue a career as a professional arranger/composer. We aim to develop student jazz writing skills beyond those developed during the Bachelor's degree.

The program objectives are:

- Identify, recruit, and retain high quality students who are seeking to develop their jazz and studio writing skills beyond that developed in their undergraduate programs;
- Evaluate, revise, and develop curricular offerings to continue to meet the challenges facing professional musicians today;
- Maintain, present, and develop performance and outreach programs that will enable the jazz department to serve as a cultural resource in South Florida;
- Provide a creative, challenging, and nurturing educational experience that respects jazz tradition, reflects current professional trends, fosters innovation, and stimulates growth among students and faculty alike.

Curriculum Requirements

Code	Title	Credit Hours
Major Area		
MSJ 716	Jazz Composition Seminar II	3
MSJ JC6	Applied Jazz Composition	1
MSJ 717	Advanced Jazz Vocal Arranging	2
MSJ 621	Advanced Modern Arranging III	3
MSJ 714	Advanced Orchestration	3
MSJ 622	Introduction to Midi Sequencing and Digital Workstations	2
MSJ 775	Jazz Writing Ensemble	4
MSJ 813	Master's Jazz Writing Project	3
Other Studies in Music		
MTC 611	Film Scoring I	3
MTC 612	Film Scoring II	3
MTC 715	Composition Seminar I	2
or MTC 716	Composition Seminar II	
MTC 763	Virtual Orchestration	3
Electives		
Approved Electives		2
Total Credit Hours		34

Vocal Performance

<https://vocal.frost.miami.edu/index.html>

Graduate students seeking a degree in the department of Vocal Performance have already proven themselves to be highly accomplished artists. They come to the Frost School of Music to further hone their skills, to discover new perspectives, and to gain a competitive edge for the next step in their

professional careers. Candidates for our advanced degrees in performance, conducting, and pedagogy (<https://vocal.frost.miami.edu>) are leaders in the various programs of the Department of Vocal Performance, and they, in turn, go on to become leaders in their respective areas of specialty. For more information please visit the website for the department of Vocal Performance (<https://vocal.frost.miami.edu>).

Masters Programs in Vocal Performance

- M.M. in Choral Conducting (p. 1317)
- M.M. in Vocal Performance (p. 1318)

Doctoral Programs in Vocal Performance

- D.M.A. in Choral Conducting (p. 1315)
- D.M.A. in Vocal Pedagogy and Performance (p. 1316)
- D.M.A. in Vocal Performance (p. 1317)

Artist Diploma in Vocal Performance

- A.D. in Vocal performance (p. 1315)

A.D. in Vocal Performance

Mission Statement

The mission of the **Artist Diploma** in Vocal Performance is to train and equip singers to pursue a career singing on the national and international operatic, recital and concert stages.

Curriculum Requirements

Code	Title	Credit Hours
Requirements		
Applied Lessons in Voice (MVP V05)		8
Performance Ensembles		2
Recital (MVP 814)		2
Approved Studies in Music		6
Total Credit Hours		18

D.M.A. in Choral Conducting

Mission Statement

The mission of the Doctor of Musical Arts in Choral Conducting is:

- To provide a specifically music performance-based education and to train conductors to firmly establish and demonstrate professional level conducting skills;
- To provide a platform of learning that includes performance, creativity, scholarship, and significant research;
- To foster a sense of community involvement of the arts and in the arts.

Because choral conducting students are working with an "instrument" comprised of human singers, the variables with which they must work (as opposed to a solo instrument) are various. After graduation, they are prepared to work in any number of venues, including academia, sacred music setting (church music), professional choir, community choir, and more.

Curriculum Requirements

Code	Title	Credit Hours
Conducting Courses		
Applied Lessons		4
Choral Conducting ¹		2
MVP 772	Choral Conducting: Major Work Emphasis	
MVP 773	Choral Conducting Workshop: Smaller Choral Works	
Ensembles MVP 700 level (1 credit hour each)		4
MVP 608	Choral Score Study	2
MED 732	Vocal Methods and Materials in Music Education	2

MTC 615	Choral Arranging	3
MCY 635	Choral Literature I	2
MCY 636	Choral Literature II	2
MED 790	Teaching Music in College	1
Electives		2
Creative Activities		
MED 702	DMA Essay Proposal	1
MVP 831	Doctoral Essay	8
MVP 832	Doctoral Recital	3
Allied Music Courses		
MTC 717	Analytical Techniques (or other MTC course)	3
Performance Seminars		3
MVP 638	Vocal Pedagogy	2
Applied Voice or Piano Lessons (1 credit hour each)		4
Cognate/Electives		
Select 12 credit hours of Cognate/Electives		12
Total Credit Hours		60

¹ Choral Conducting courses can be taken in any combination for two credits.

D.M.A. in Vocal Pedagogy and Performance

Mission Statement

The mission of the Doctor of Musical Arts in Vocal Pedagogy and Performance is to train the future vocal pedagogues and performers to prepare them for their future as a teacher of singing and performance.

Curriculum Requirements

Code	Title	Credit Hours
Performance Courses		
Applied Lessons		8
Opera Theater		2
Vocal Performance Preparation		2
Creative Activities		
MVP 832	Doctoral Recital	2
MED 702	DMA Essay Proposal	1
MVP 831	Doctoral Essay	9
Vocal Pedagogy		
Vocal Literature for Teaching		
Select 18 credit hours of the following:		18
MVP 710	Vocal Literature for Teaching: English	
MVP 712	Vocal Literature for Teaching: German	
MVP 711	Vocal Literature for Teaching: Italian	
MVP 713	Vocal Literature for Teaching: French	
MVP 730	Studio Teaching Techniques	
MVP 714	Vocal Literature for Teaching: Musical Theater	
MVP 738	Advanced Vocal Pedagogy	
MVP 739	Vocal Pedagogy Internship	
MED 780	Doctoral Seminar	
MED 790	Teaching Music in College	
MVP 736	Voice Disorders	
Allied Music Courses		
MED 662	Psychology of Music I	3
MTC 717	Analytical Techniques (or other MTC course)	3

Cognate/Electives	
Select 12 credit hours of Cognate/Electives	12
Total Credit Hours	60

D.M.A. in Vocal Performance

Mission Statement

The mission of the Doctor of Musical Arts in Vocal Performance is to provide the terminal degree with advanced, in-depth study in the areas of musicianship and performance practice that will support a professional performance career as a classical singer. The student will be provided performance opportunities to integrate the skills learned in music and other classes and will continue to work in established and new areas of research and creative activities. Each student will continue to develop the skills for writing about music in a scholarly, written format.

Curriculum Requirements

Code	Title	Credit Hours
Performance Courses		
Applied Lessons		12
Vocal Performance Preparation		6
Opera Theater		3
Creative Activities		
MED 702	DMA Essay Proposal	1
MVP 831	Doctoral Essay	8
MVP 832	Doctoral Recital	3
Allied Music Courses		
Musicology (Art Song Literature and Opera Literature or other MCY courses)		6
MTC 717	Analytical Techniques (or other MTC course)	3
Performance Seminars		2
MVP 738	Advanced Vocal Pedagogy	3
MED 790	Teaching Music in College	1
Cognate/Electives		
Select 12 credit hours of Cognate/Electives		12
Total Credit Hours		60

M.M. in Choral Conducting

Mission Statement

The mission of the Master of Music degree in Choral Conducting is:

- To provide a specifically music performance-based education and to train conductors to firmly establish and demonstrate professional level conducting skills;
- To provide a platform of learning that includes performance, creativity, scholarship, and significant research;
- To foster a sense of community involvement of the arts and in the arts.

Because choral conducting students are working with an "instrument" comprised of human singers, the variables with which they must work (as opposed to a solo instrument) are various. After graduation, they are prepared to work in any number of venues, including academia, sacred music setting (church music), professional choir, community choir, and more.

Curriculum Requirements

Code	Title	Credit Hours
Major Area		
Applied Lessons		2
MVP 608	Choral Score Study	2
MVP 638	Vocal Pedagogy	2
Choral Conducting ¹		
MVP 772	Choral Conducting: Major Work Emphasis	2

MVP 773	Choral Conducting Workshop: Smaller Choral Works	
Choral Ensembles		3
MED 701	Recital Paper Preparation	1
MVP 812	Master's Recital	1
MVP 811	Master's Recital Paper	2
Other Studies in Music		
MTC 717	Analytical Techniques (or other MTC course)	3
MCY 635	Choral Literature I	2
MCY 636	Choral Literature II	2
MED 732	Vocal Methods and Materials in Music Education	2
Electives		
Approved electives in Voice Lessons, Piano Lessons or Diction		4
Approved Electives		3
Total Credit Hours		31

¹ Choral conducting courses can be taken in any combination for two credits.

M.M. in Vocal Performance

Mission Statement

The mission of the Master of Music Degree in Vocal Performance is to:

- Provide students the highest quality of education available in the areas of vocal performance and musicianship that will provide them the skills required to lead to professional performance careers as classical singers;
- Stimulate the student's awareness and artistic creativity in the field of vocal performance;
- Provide students public performance opportunities in a supportive and encouraging environment;
- Provide students the writing and research skills needed in order to adequately prepare them for study at the doctoral level;
- Provide career development opportunities through direct connections with professionals in the field, including directors, conductors, coaches, and other relevant individuals as chosen by the voice faculty.

Admission Requirements

The candidate must demonstrate the ability to sing in English, French, German, and Italian; be knowledgeable of the more difficult arias of opera and oratorio and of recitative in both the free and measured forms; have a thorough acquaintance with the general song literature; and be able to present a creditable recital.

Languages: If Italian (1 year), German and French (1 year of each or one semester of each) have not been completed upon entering the Master of Music in Vocal Performance degree, language courses can be taken at UM, but at the undergraduate level only. These courses/credits will not count toward the MM degree requirements. The student must show equivalent credit hours before graduation:

- Two semesters of college-level Italian
- Two semesters of college-level French
- Two semesters of college-level German

Curriculum Requirements

Code	Title	Credit Hours
Major Area		
Applied Lessons		8
Performance Ensembles ¹		4
MVP 652	Vocal Prfrm Prep	4
MVP 738	Advanced Vocal Pedagogy	3
or MVP 736	Voice Disorders	
MVP 812	Master's Recital	1
MVP 805	Masters Project	1
Artist Development Courses		3
MED 755	The Teaching Artist	

MMI 632	Arts Leadership	
MMI 735	World of the Working Musician	
MUS 735	Media Creation	
MUS 745	Peak Performance Strategies for Musicians	
MUS 755	Communication, Marketing, and Publicity for the Musical Artist	
Approved Electives		6
MCY 600 or higher elective		
MTC 600 or higher elective		
Other Music Electives		
Artist Development Courses		
MVP 788 Opera Theatre		
MVP 710 - 714 Vocal Literature for Teaching		
MVP 813 Masters Second Recital ²		
Total Credit Hours		30

¹ Students are required to participate in MVP 680 Opera Production or MVP 788 Opera Theater for every semester of study

² Student must have approval of the studio voice teacher

Nursing and Health Studies

<http://www.miami.edu/sonhs>

The University of Miami (UM) School of Nursing and Health Studies (SONHS) is committed to academic excellence, the advancement of healthcare, and service to society. Opportunities are available for students to study and earn course credit in a variety of local and international settings.

Mission

The mission of the SONHS is to educate students and support faculty committed to excellence in nursing and health science. Through research, education and practice, the school will create and disseminate health knowledge and prepare culturally competent leaders to provide safe service to our community, the nation and the world.

Nursing Accreditation

The MSN and DNP programs in the SONHS are accredited by the following:

Commission of Collegiate Nursing Education (CCNE)
One DuPont Circle NW, Suite 530
Washington, DC 20036
(202) 887-6791

The anesthesia program is accredited by the following:

Council on Accreditation of Nurse Anesthesia Education Programs (COA)
222 South Prospect Avenue
Park Ridge, IL 60068-4001
(847) 692-7050 (ext. 1154)

Graduate Degrees and Academic Programs

The SONHS offers a variety of academic programs across six graduate degrees:

1. **Doctor of Philosophy (PhD) in Nursing Science**
 - a. BSN-to-PhD
 - b. MSN-to-PhD
2. **Doctor of Nursing Practice (DNP)**
 - a. BSN-to-DNP, Nurse Anesthesia Track
 - b. MSN-to-DNP (*1 Year, 1 Year Plus, and 2 Year*)
3. **Master of Science in Nursing (MSN)**
 - a. Adult-Gerontology Acute Care Nurse Practitioner (*Full-time and Part-time*)
 - b. Adult-Gerontology Primary Care Nurse Practitioner (*Full-time and Part-time*)
 - c. Family Nursing Practitioner (*Full-time and Part-time*)
4. **Master of Science (MS)**
 - a. Health Informatics (*online*)
5. **Post-Master's Certificate**
 - a. Adult-Gerontology Acute Care Nurse Practitioner
 - b. Adult-Gerontology Primary Care Nurse Practitioner
 - c. Family Nursing Practitioner
 - d. Psychiatric Mental Health Nurse Practitioner
6. **Post-Bachelor's Certificate**
 - a. Health Informatics (*online*)

Admission

Admission to graduate programs in the SONHS is subject to the rules, regulations, and procedures as set forth in the Academic Bulletin, the Student Handbook (<http://www.sonhs.miami.edu/academics/student-handbooks>), and the SONHS website (<http://www.miami.edu/sonhs/index.php/sonhs/admissions>), and as determined by each graduate nursing program, the Graduate School, and the Office of International Admission. Applicants must meet specific admission requirements (<http://www.miami.edu/sonhs/index.php/sonhs/admissions>) before they may be evaluated for admission to the SONHS' graduate programs. Applications for the SONHS' graduate programs, except for the online Informatics programs, are submitted through NursingCAS (<http://www.nursingcas.org>). Applications for the online Informatics programs are submitted through UOnline (<http://www.miami.edu/online/admissions>).

Degree Requirements

The degree requirements for each SONHS graduate program are outlined under the "MASTERS" and "DOCTORAL" tabs above. All graduate programs are lock-step, meaning students must follow the Plan of Study under which they were admitted as listed in the Academic Bulletin and the Student Handbook (<http://www.sonhs.miami.edu/academics/student-handbooks>), and they must successfully complete the courses in each semester to progress to the next. Students should contact their appropriate Associate Dean or Program Director, or a staff member in the OSS (<http://oss.sonhs.miami.edu>) to discuss any questions related to their degree requirements.

Doctor of Philosophy (PhD) in Nursing Science

The principal goal of the PhD with a major in Nursing Science is to prepare scholars and researchers who will contribute to the growth of science in nursing through recognized methods of scholarly inquiry. Admission to the doctoral program is competitive.

Doctor of Nursing Practice (DNP)

The DNP degree is a practice-focused doctorate designed for nurses seeking a terminal degree in nursing practice. The program is offered in two formats: the MSN-to-DNP and the BSN-to-DNP, Nurse Anesthesia track. The BSN-to-DNP, Nurse Anesthesia program is available as an entry into practice degree, meaning it is available to post-baccalaureate nurses with or without a master's degree in nursing.

The outcome objectives for graduates of the DNP program are to:

- Integrate knowledge, theories, and concepts from the biophysical, psychosocial, analytical, and organization sciences to develop ethical health care systems and new frontiers for nursing practice that address health care disparities
- Evaluate research methods and findings to create an evidence base for nursing practice and health care delivery systems that reflect best practices and alleviate health care disparities
- Synthesize knowledge gained from traditional and innovative learning methods to lead quality, cost-effective health care collaborations addressing health care disparities
- Demonstrate expert clinical judgment and knowledge of health care systems to design, deliver and evaluate evidence-based care interventions to reduce health care disparities
- Model expert nursing practice and serve as mentors to nursing colleagues in their efforts to improve nursing practice and health care systems
- Employ knowledge of health care policy and economics to develop and evaluate programs to address health care disparities

Master of Science in Nursing (MSN)

The MSN degree is designed for professional nurses holding a Bachelor of Science in Nursing (BSN) degree. Registered nurses with baccalaureate degrees in other fields are also eligible to apply for admission. The following specialty tracks available in the SONHS focus on selected areas of advanced practice nursing and nursing education:

- Adult-Gerontology Acute Care Nurse Practitioner
- Adult-Gerontology Primary Care Nurse Practitioner
- Family Nurse Practitioner

Degree requirements may be completed in three semesters of full-time study or five semester of part-time study.

Master of Science (MS)

The MS in Health Informatics online program is designed to prepare graduates for rewarding informatics careers in a wide range of industries within healthcare. With the ongoing implementation of the Affordable Care Act, these roles will be essential as more organizations begin moving to electronic healthcare record systems.

Post-Master's Certificate

Post-Master's Certificate options are available in each of the following areas to students who possess a MSN degree and who wish to focus on selected areas of advanced practice nursing and nursing education:

- Adult-Gerontology Acute Care Nurse Practitioner
- Adult-Gerontology Primary Care Nurse Practitioner
- Family Nurse Practitioner
- Psychiatric Mental Health Nurse Practitioner

All students are required to complete core courses for their selected area of study and may be required to take additional courses at the graduate level based on their gap analysis.

Post-Bachelor's Certificate

The Post-Bachelor's Certificate program is designed to prepare graduates for rewarding informatics careers in a wide range of industries within healthcare. UOnline's flexible Informatics programs give students the option to complete their MS in Health Informatics while earning a Post-

Bachelor's Certificate in Health Informatics along the way or to focus on just earning the Post-Bachelor's Certificate itself. The 15 credit Post-Bachelor's Certificate is made up of the first 5 classes of the MS program. Credits completed for the Post-Bachelor's Certificate can be applied toward the MS degree.

Academic Policies

Student Responsibilities

Students in the SONHS are responsible for fulfilling their degree requirements. Students are also responsible for complying with all provisions outlined in the Academic Bulletin and the Student Handbook (<http://www.sonhs.miami.edu/academics/student-handbooks>), as well as all written changes to the plan of study.

Students are provided assistance by faculty advisors and other faculty members. Requests for deviation from the Plan of Study or SONHS requirements are granted only by written approval from the Associate Dean or Dean. Students who are in violation of the provisions of this Academic Bulletin may be withdrawn from classes unilaterally or have a stop placed upon their future enrollment by appropriate SONHS officials. The SONHS reserves the right to change academic requirements to include course offerings that ensure students receive the highest-quality and most-current education. Classes may be held on weekdays or weekends and will be listed as such in the course schedule. Any programmatic changes are transmitted by written notice in the Student Handbook (<http://www.sonhs.miami.edu/academics/student-handbooks>) or by an official in the SONHS.

Academic Bulletin and Student Handbook

In addition to the material listed in the Academic Bulletin, all SONHS students are held to the policies, procedures, and requirements listed in the most current Student Handbook (<http://www.sonhs.miami.edu/academics/student-handbooks>) for their respective degree program. Please note the material included in the Student Handbook is subject to change throughout the academic year and may not be reflected in the Academic Bulletin. The Student Handbook contains the most current information. Consult the appropriate Associate Dean or Program Director or reach out to a staff member in the Office of Student Services (OSS) (<http://oss.sonhs.miami.edu>) to discuss questions related to academic requirements and opportunities.

Technical Standards

Nursing education requires that the accumulation of scientific knowledge be accompanied by the simultaneous acquisition of skills and professional attitudes and behaviors. The nursing degrees awarded by the UM SONHS at the completion of the educational process certifies that the individual has acquired a base of knowledge and skills required for the practice of nursing at the respective undergraduate or graduate level. To this end, all courses in the curriculum must be completed successfully. In order to acquire the knowledge and skills to function in a variety of clinical situations and to render a wide spectrum of patient care, candidates for the undergraduate and graduate degrees in nursing must have abilities and skills in five areas:

1. Observation
2. Communication
3. Motor
4. Conceptual-Integrative
5. Behavioral-Social

Technological compensation can be made for some disabilities in certain of these areas, but a candidate should be able to perform in a reasonably independent manner and exercise independent judgment. Reasonable accommodations will be considered on a case by case basis for individuals who meet eligibility under applicable statutes. Any person expecting to need accommodations should request them prior to beginning the program, as some accommodations may not be considered reasonable and may impact an applicant's ability to complete all components of the program.

Observation

The candidate must be able to observe demonstrations and participate in didactic courses and simulated learning opportunities. A candidate must be able to observe a patient accurately at a distance and close at hand. Observation requires the use of common sense, as well as the functional use of the senses of vision, audition, olfaction, and palpation.

Communication

Candidates must communicate effectively using English in clinical and classroom settings. A candidate must be able to elicit information from patients, describe changes in mood, activity and posture, and perceive nonverbal communications. A candidate must be able to communicate effectively and sensitively with patients. Communication includes not only speech, but reading and writing. The candidate must be able to communicate effectively and efficiently with all members of the health care team in both immediate and recorded modes.

Motor

Candidates should have sufficient motor function to elicit information from patients by palpation, auscultation, percussion and other assessment techniques. A candidate should be able to perform nursing skills requiring the use of gross and fine motor skills (e.g. IV insertion, venous blood draw, urinary catheter insertion). A candidate should be able to execute motor movements reasonably required to provide nursing care and emergency response to patients. Examples of emergency responses reasonably required of nurses are cardiopulmonary resuscitation, medication administration, and application of pressure to stop bleeding. Candidates must perform actions which require the use of both gross and fine muscular movements, equilibrium, and functional use of the senses of touch and vision. Candidates should also be able to assist and/or participate in various lifting activities.

Conceptual-Integrative

These abilities include measurement, calculation, reasoning, analysis, synthesis, and retention of complex information. Critical thinking requires all of these intellectual abilities in order to provide optimal nursing care. In addition, the candidate should be able to comprehend three-dimensional relationships and to understand the spatial relationships of structures.

Behavioral-Social

Candidates must possess the emotional health required for the full use of their intellectual abilities, the exercise of good judgment, the prompt completion of all responsibilities attendant to the care of patients, and the development of mature, sensitive and effective relationships with patients. Candidates must be able to tolerate physically taxing workloads and to function effectively under stress in the classroom and clinical area. They must be able to adapt to changing environments, display flexibility and learn to function in the face of uncertainties inherent in the clinical environment. Compassion, integrity, concern for others, interpersonal skills, interest and motivation are all personal qualities that are assessed during the admissions and educational process.

Clinical Clearance

Before students can enter the SONHS' graduate nursing programs, they must successfully complete a drug test and a background check. Students must have a background report without any infractions, regardless of how they were resolved or adjudicated. Accordingly, if a student's background report contains any infractions, regardless of how they were resolved or adjudicated, he/she will not be able to successfully complete the background check and he/she will be withdrawn from the nursing program.

Students must also provide current immunizations as outlined by the SONHS and obtain a Basic Life Support (BLS) for Healthcare Providers certification from the American Heart Association prior to entry into clinical coursework. The BLS certification must include content on Automated External Defibrillators (AEDs). Additional certifications may be required for specific graduate programs.

Refer to the Student Handbook (<http://www.sonhs.miami.edu/academics/student-handbooks>) or speak with a representative in the OSS (<http://oss.sonhs.miami.edu>) for more information.

Grades

Students should refer to the Student Handbook (<http://www.sonhs.miami.edu/academics/student-handbooks>) for more detailed information on the SONHS' policies related to grades, progression, and dismissal.

Graduate nursing students must earn a B or higher in each course to progress. Any graduate student who receives a "C" or lower in a nursing course will be dismissed from his or her program. A grade of "B-" or "C+" for a course is below graduate standards, and the student must repeat that course. However, a student may only repeat one course, one time. The student will be dismissed if he/she fails a second course even if he/she retook and passed the previous failed course. A passing grade in all clinical experiences is required to pass a course having a clinical component (generally listed as a "lab section" by UM). Students who are not making satisfactory progress may also receive an academic alert at mid-semester or mid-course. All grades are included in the computation of the UM overall grade point average including those that are failed or repeated.

A grade of B or higher is considered a passing grade for the MS Health Informatics program, which includes all courses completed as part of the Post-Bachelor's Certificate Health Informatics program (if applicable).

When a course must be repeated, progression in the graduate program will be altered in order for prerequisites to be met. Such alteration will lengthen the time required to complete the graduate program.

Grade Point Averages (GPAs)

Students should refer to the Student Handbook (<http://www.sonhs.miami.edu/academics/student-handbooks>) for more detailed information on the SONHS' policies related to GPAs, progression, and dismissal.

Requirements to Continue

Students who are enrolled in SONHS' graduate programs must maintain a 3.0 GPA to progress.

Requirements to Graduate

Students who are enrolled in SONHS' graduate programs must maintain a 3.0 GPA to graduate.

Prerequisites and Corequisites

Students must successfully complete all specified prerequisites with a B or higher. Students must also register for all required corequisites at the time of enrollment. If students enroll in a course without the proper prerequisite or corequisite, they may be dropped from the course at the discretion of the course instructor, OSS, Program Director, Associate Dean, or Dean. Students should contact their appropriate Associate Dean or Program Director, or a staff member in the OSS (<http://oss.sonhs.miami.edu>) to discuss any questions related to course enrollment.

Transfer Credit

SONHS graduate students may, depending on their program, transfer up to 9 credits toward their graduate degree at the discretion of their Associate Dean. Detailed course descriptions or syllabi are required for transfer equivalency reviews.

Pre-immersion Course

Prior to enrollment in any SONHS graduate program, except for the Informatics programs, students must complete a mandatory online pre-immersion, orientation, and/or writing express course. These courses are listed in students' first term of enrollment but it does not affect students' GPAs. Failure to complete these courses may delay entry into the clinical nursing courses. Information about these courses will be provided to eligible students by the SONHS.

Research Experience

Students may participate in research experiences through the SONHS (<http://www.miami.edu/sonhs/index.php/sonhs/research>) during their time at the UM. Students should speak with their appropriate Associate Dean or Program Director to learn more about the research opportunities available to them at the UM.

Accommodations Policy for Students with Disabilities

The SONHS adheres to standards of the Americans with Disabilities Act. Any student needing special accommodations should seek assistance through the Office of Disability Services (ODS) (<http://umarc.miami.edu/arc/ODS.html>), which is the primary on-campus resource responsible for the coordination of services for students with disabilities. Students must follow ODS' policies, procedures, and timelines to request assistance. Please note ODS has strict deadlines to apply for accommodations; only students who are officially registered with ODS may be granted accommodations.

Financial Assistance

Students interested in obtaining financial assistance in the form of student loans, grants, etc. should contact the Office of Financial Assistance (<http://www.miami.edu/admission/index.php/ofas>).

The SONHS also offers limited merit-based and need-based scholarships to continuing students. The types of scholarships available and the qualifications for them vary by semester. Continuing students who wish to be considered for SONHS scholarships must apply for such scholarships through the SONHS General Scholarship Application. Calls for applications are e-mailed to continuing students once each semester to prompt students to apply who wish to be considered for a scholarship for the next term. Additional information on SONHS scholarships as well as health science-, nursing-, and public health-related outside scholarships can be found on the SONHS Scholarships website (<http://www.sonhs.miami.edu/admissions-and-financial-aid/financial-aid-and-community-scholarships>).

Full-time PhD students are considered for financial support, which may include:

1. **Tuition Scholarships:** These awards vary in amount and are intended to assist the recipient in pursuit of study and research as required by the degree. These scholarships are awarded on a competitive basis.
2. **Graduate Stipends:** These cash awards, paid monthly, are intended as part of an educational assistance program for PhD degree students. The stipends require service in the form of teaching, research assistance, or other appropriate educational activities that may be designated by the supervisor of the recipient.

Students may speak with a representative in the OSS (<http://oss.sonhs.miami.edu>) if they have any questions.

Facilities

The SONHS is located on the Coral Gables Campus. The four-story, Jerusalem-stone and stucco M. Christine Schwartz Center for Nursing and Health Studies opened in Fall 2006. The building features classrooms and clinical practice labs, conference rooms, a computer lab, and a simulation academy, all equipped with the latest technology. The spacious 53,000 square foot facility supports the work of more than 40 nurse-scientists and clinical educators and approximately 1,100 undergraduate and graduate students enrolled in the SONHS' health science, nursing, and public health programs.

In Fall 2017, the SONHS opened the new, state-of-the-art, 41,000 square foot, 5 story Simulation Hospital (http://www.miami.edu/sonhs/index.php/simulation_hospital). The Simulation Hospital is a one-of-a-kind facility, as it is one of the first education-dedicated simulation facilities located on a college campus. This new facility uses the latest simulation technology to provide SONHS students with the highest-quality healthcare education through a variety of simulated clinical environments. It also provides opportunities for public health-related simulation experiences and creates ample opportunities for inter-professional education (IPE).

Library resources for SONHS students are available at the Otto G. Richter Library (<http://library.miami.edu>) on the Coral Gables Campus and the Louis Calder Memorial Library (<http://calder.med.miami.edu>) on the Medical Campus.

Clinical experiences are offered in a variety of hospitals and health-related agencies in the community, including the University of Miami Hospital, Jackson Health System, Sylvester Comprehensive Cancer Center, Nicklaus Children's Hospital, and approximately 170 other community partners.

Master of Science in Nursing (MSN) Programs

- MSN, Adult-Gerontology Acute Care Nurse Practitioner (p. 1328)
- MSN, Adult-Gerontology Primary Care Nurse Practitioner (p. 1330)

- MSN, Family Nurse Practitioner (p. 1332)

Master of Science (MS) Programs

- MS, Health Informatics (online) (p. 1327)

Post-Master's Certificate Programs

- Post-Master's Certificate, Adult-Gerontology Acute Care Nurse Practitioner (p. 1342)
- Post-Master's Certificate, Adult-Gerontology Primary Care Nurse Practitioner (p. 1343)
- Post-Master's Certificate, Family Nurse Practitioner (p. 1343)
- Post-Master's Certificate, Psychiatric Mental Health Nurse Practitioner (p. 1344)

Post-Bachelor's Certificate Programs

- Post-Bachelor's Certificate, Health Informatics (online) (p. 1345)

Doctor of Philosophy (PhD) in Nursing Science Programs

- BSN-to-PhD (p. 1338)
- MSN-to-PhD (p. 1338)

Doctor of Nursing Practice (DNP) Programs

- BSN-to-DNP, Nurse Anesthesia Track (p. 1325)
- MSN-to-DNP (p. 1334)

BSN to DNP - Nurse Anesthesia Track

BSN-to-DNP, Nurse Anesthesia Track Degree Requirements

The BSN-to-DNP program is a lock-step program. Students must complete the coursework as specified in the Plan of Study for the specific track under which they were admitted and as listed in the Academic Bulletin and the Student Handbook (http://www.miami.edu/sonhs/index.php/sonhs/current_students/student_handbooks). Students must also successfully complete the courses in each semester to progress to the next. Questions related to degree requirements should be directed to the appropriate Associate Dean or Program Director, or staff member in the OSS (http://www.miami.edu/sonhs/index.php/sonhs/office_of_student_services).

To receive the BSN-to-DNP, students must:

1. Complete all course work as required with an overall GPA of 3.0 or better
2. Complete all required clinical and practice immersion hours
3. Successfully complete the DNP scholarly project before graduation
4. Successfully complete annual benchmark exams, before progressing into next phase of the program
5. Successfully pass the DNP comprehensive examination, which is an integrative experience to demonstrate students' mastery of the outcome objectives of the program
6. Pass a comprehensive clinical nurse anesthesia oral board examination

BSN-to-DNP, Nurse Anesthesia Track Plan of Study

The BSN-to-DNP program is a lock-step program. Students must complete the coursework as specified in the Plan of Study below and in the Student Handbook (http://www.miami.edu/sonhs/index.php/sonhs/current_students/student_handbooks) for the specific track under which they were admitted. Students must also successfully complete the courses in each semester to progress to the next. Questions related to degree requirements should be directed to the appropriate Associate Dean or Program Director, or staff member in the OSS (http://www.miami.edu/sonhs/index.php/sonhs/office_of_student_services).

Spring I		Hours	Class Credits	Clinical Credits	Clinical Hours
NUR 601	Advanced Pharmacology	3	3	0	0
NUR 602	Doctoral Level Orientation/Nur (*)	0			
NUR 611	Foundations of Anesthesia Science and Technology for Nurse Anesthetists (CIVIC)	5	4	1	56

NUR 612	Physiology/ Pathophysiology for Advanced Practice Nursing	3	3	0	0	
NUR 613	Advanced Health Assessment and Diagnostic Reasoning	3	2	1	28	
Summer I		Total for Semester	14	12	2	84
NUR 614	Basic Concepts in Anesthesia Nursing (CIVIC)	5	4	1	56	
NUR 617	Pharmacology for Anesthesia Nursing	3	3	0	0	
NUR 654	The Evolution of Nursing Practice and Application of Theory in Nursing Practice	3	3	0	0	
NUR 663	Research I: Evaluating the Evidence for Practice	3	3	0	0	
Fall I		Total for Semester	14	13	1	56
NUR 619	Advanced Concepts of Anesthesia Nursing I (CIVIC)	7	3	4	224	
NUR 655	Health Care Management, Economics, Financing, and Ethics	3	3	0	0	
NUR 664	Research II: Biostatistical Applications for Nursing Practice	3	3	0	0	
Spring II		Total for Semester	13	9	4	224
NUR 620	Advanced Concepts of Anesthesia Nursing II (CIVIC)	9	3	6	336	
NUR 658	Health Policy Development and Implementation	3	3	0	0	
NUR 676	Practice Immersion Experience I (CIVIC)	2	0	2	112	
Summer II		Total for Semester	14	6	8	448
NUR 645	Interdisciplinary Anesthesia Nursing I (CIVIC)	8	3	5	280	
NUR 660	Translational Science	3	3	0	0	
NUR 688	Health Systems Development and Leadership Practice Immersion II (CIVIC)	2	1	1	56	
Fall II		Total for Semester	13	7	6	336

NUR 646	Interdisciplinary Anesthesia Nursing II	10	3	7	392	
NUR 656	Global Health	3	3	0	0	
NUR 659	Technology in Health Care	3	2	1	56	
NUR 689	New Method of Implementation- Practice Immersion Experience III	2	0	2	112	
Spring III						
	Total for Semester	18	8	10	560	
NUR 615	Professional Aspects of Anesthesia Nursing	2	2	0	0	
NUR 650	Interdisciplinary Anesthesia Nursing III (CIVIC)	11	3	8	448	
NUR 672	DNP Scholarly Project Seminar I	3	1	2	112	
Summer III						
	Total for Semester	16	6	10	560	
NUR 657	Population Based Health and Health Care Disparities	3	3	0	0	
NUR 694	Clinical Practicum for DNP Nurse Anesthesia Clinical	7	1	6	336	
Fall III						
	Total for Semester	10	4	6	336	
NUR 673	DNP Scholarly Project Seminar II	3	1	2	112	
NUR 695	Clinical Practicum for DNP Nurse Anesthesia (CIVIC)	9	1	8	336	
		Total for Semester	12	2	10	448
		Total Program	124	67	57	3052

¹ SIM (1 credit=2 lab hours)

* Note: This course is completed online via Blackboard prior to matriculation. Students are registered for the course in their first semester.

MS - Health Informatics (online)

Degree Requirements

The health informatics field is growing. The Bureau of Labor Statistics projects that employment in the field of health informatics increases 23% by 2022, much faster than average of 11% for all occupations nationwide. The UM's online Health Informatics program is designed to prepare graduates for rewarding informatics careers in a wide range of industries within health care, including hospitals, government, health insurance providers, medical vendors, pharmaceutical and biotechnology companies, and consulting firms. With the ongoing implementation of the Affordable Care Act, these roles will be essential as more organizations begin moving to electronic health care record systems.

The Health Informatics program prepares graduates to enter or excel in this field by offering rigorous courses, which cover:

- Information security
- Data analytics
- Project management
- Public health informatics
- Health information exchange
- Database design

The program includes a 3 credit capstone practicum, which allows students to apply the informatics knowledge they have gained to real-world situations and problems.

The Health Informatics program is a lock-step program. Students must complete the coursework as specified in the Plan of Study for the specific track under which they were admitted and as listed in the Academic Bulletin and the Student Handbook (http://www.miami.edu/sonhs/index.php/sonhs/current_students/student_handbooks). Students must also successfully complete the courses in each semester to progress to the next. Questions related to degree requirements should be directed to the UOnline Academic Advisors (<http://www.miami.edu/online/student-services>).

Admission

For information on admission to the program please click here (<http://www.miami.edu/online/online-degrees/masters-health-informatics>).

Plan of Study

The Health Informatics program is a lock-step program. Students must complete the coursework in the order specified in the Plan of Study below, and they must successfully complete each course to progress to the next. Students are admitted to begin the program in the fall, spring, or summer. Questions related to degree requirements should be directed to the UOnline Academic Advisors (<http://www.miami.edu/online/student-services>).

Code	Title	Credit Hours
HCS 685	Introduction to Health Informatics	3
HCS 605	Health Information Exchange	3
HCS 658	Structure and Processes in Health Care Organization and Health Care Policy	3
HCS 603	Healthcare Databases: Design, Development and Clinical Application	3
HCS 604	System Life Cycle/Project Management	3
HCS 608	Information Security	3
HCS 600	Public Health Information	3
HCS 601	Legal, Ethical and Regulatory Issues in Health Informatics	3
HCS 609	Research Methods and Applications for Health Informatics	3
HCS 610	Elective in Health Informatics	3
HCS 611	Capstone in Health Informatics	3
Total Credit Hours		33

MSN - Adult-Gerontology Acute Care Nurse Practitioner

Degree Requirements

The Adult-Gerontology Acute Care Nurse Practitioner program may be completed by finishing one of the following tracks:

- Full-time (3 Semesters)
- Part-time (5 Semesters)

The Adult-Gerontology Acute Care Nurse Practitioner program is a lock-step program. Students must complete the coursework as specified in the Plan of Study for the specific track under which they were admitted and as listed in the Academic Bulletin and the Student Handbook (http://www.miami.edu/sonhs/index.php/sonhs/current_students/student_handbooks). Students must also successfully complete the courses in each semester to progress to the next. Questions related to degree requirements should be directed to the appropriate Associate Dean or Program Director, or staff member in the OSS (http://www.miami.edu/sonhs/index.php/sonhs/office_of_student_services).

Plan of Study (listed by track)

The Adult-Gerontology Acute Care Nurse Practitioner program is a lock-step program. Students must complete the coursework as specified in the Plan of Study below and in the Student Handbook (http://www.miami.edu/sonhs/index.php/sonhs/current_students/student_handbooks) for the specific track under which they were admitted. Students must also successfully complete the courses in each semester to progress to the next.

Questions related to degree requirements should be directed to the appropriate Associate Dean or Program Director, or staff member in the OSS (http://www.miami.edu/sonhs/index.php/sonhs/office_of_student_services).

Full-time (3 Semesters) Plan of Study

Fall I		Hours	Class Credits	Clinical Credits	Clinical Hours
NUR 601	Advanced Pharmacology	3	3	0	0

NUR 606	Advanced Practice Preparation ²	0	0	0	0	
NUR 610	Adult Gerontology Acute Care I	4	2	2	112	
NUR 612	Physiology/ Pathophysiology for Advanced Practice Nursing	3	3	0	0	
NUR 613	Advanced Health Assessment and Diagnostic Reasoning ¹	3	2	1	0	
Spring I						
	Total for Semester	13	10	3	112	
NUR 608	Concepts in Advanced Practice Nursing	3	3	0	0	
NUR 621	Diagnostics and Nursing Interventions for Acute Care Nursing	3	2	1	56	
NUR 625	Adult Gerontology Acute Care II	7	3	4	224	
Summer I						
	Total for Semester	13	8	5	280	
NUR 609	Professionalism in Advanced Practice Nursing	2	2	0	0	
NUR 630	Research Methods and Evidence-Based Practice	3	3	0	0	
NUR 638	Adult Gerontology Acute Care III	6	2	4	224	
		Total for Semester	11	7	4	224
		Total Program	37	25	12	616

¹ NUR 613 includes 28 lab hours that are not included in clinical hours.

² This course is completed online via Blackboard prior to matriculation. Students are registered for the course in their first semester.

Part-time (5 Semesters) Plan of Study

Spring I		Hours	Class Credits	Clinical Credits	Clinical Hours
NUR 601	Advanced Pharmacology	3	3	0	0
NUR 606	Advanced Practice Preparation ²	0			
NUR 612	Physiology/ Pathophysiology for Advanced Practice Nursing	3	3	0	0
Summer I					
	Total for Semester	6	6		
NUR 609	Professionalism in Advanced Practice Nursing	2	2	0	0
NUR 613	Advanced Health Assessment and Diagnostic Reasoning ¹	3	2	1	0

NUR 630	Research Methods and Evidence-Based Practice	3	3	0	0
Fall I		Total for Semester	8	7	1
NUR 608	Concepts in Advanced Practice Nursing	3	3	0	0
NUR 610	Adult Gerontology Acute Care I	4	2	2	112
Spring II		Total for Semester	7	5	2
NUR 621	Diagnostics and Nursing Interventions for Acute Care Nursing	3	2	1	56
NUR 625	Adult Gerontology Acute Care II	7	3	4	224
Summer II		Total for Semester	10	5	5
NUR 638	Adult Gerontology Acute Care III	6	2	4	224
		Total for Semester	6	2	4
		Total Program	37	25	12
					616

¹ NUR 613 includes 28 lab hours that are not included in clinical hours.

² This course is completed online via Blackboard prior to matriculation. Students are registered for the course in their first semester.

MSN - Adult-Gerontology Primary Care Nurse Practitioner

Degree Requirements

The Adult-Gerontology Primary Care Nurse Practitioner program may be completed by finishing one of the following tracks:

- Full-time (3 Semesters)
- Part-time (5 Semesters)
- Part-time Sylvester Program (6 Semesters)

The Adult-Gerontology Primary Care Nurse Practitioner program is a lock-step program. Students must complete the coursework as specified in the Plan of Study for the specific track under which they were admitted and as listed in the Academic Bulletin and the Student Handbook (http://www.miami.edu/sonhs/index.php/sonhs/current_students/student_handbooks). Students must also successfully complete the courses in each semester to progress to the next. Questions related to degree requirements should be directed to the appropriate Associate Dean or Program Director, or staff member in the OSS (http://www.miami.edu/sonhs/index.php/sonhs/office_of_student_services).

Plan of Study (listed by track)

The Adult-Gerontology Primary Care Nurse Practitioner program is a lock-step program. Students must complete the coursework as specified in the Plan of Study below and in the Student Handbook (http://www.miami.edu/sonhs/index.php/sonhs/current_students/student_handbooks) for the specific track under which they were admitted. Students must also successfully complete the courses in each semester to progress to the next.

Questions related to degree requirements should be directed to the appropriate Associate Dean or Program Director, or staff member in the OSS (http://www.miami.edu/sonhs/index.php/sonhs/office_of_student_services).

Full-time (3 Semesters) Plan of Study

Fall I		Hours	Class Credits	Clinical Credits	Clinical Hours
NUR 601	Advanced Pharmacology	3	3	0	0
NUR 606	Advanced Practice Preparation ²	0			

NUR 612	Physiology/ Pathophysiology for Advanced Practice Nursing	3	3	0	0
NUR 613	Advanced Health Assessment and Diagnostic Reasoning ¹	3	2	1	0
NUR 628	Adult Gerontology I	5	2	3	168
	Total for Semester	14	10	4	168
Spring I					
NUR 608	Concepts in Advanced Practice Nursing	3	3	0	0
NUR 631	Adult Gerontology II	6	2	4	224
	Total for Semester	9	5	4	224
Summer I					
NUR 609	Professionalism in Advanced Practice Nursing	2	2	0	0
NUR 630	Research Methods and Evidence-Based Practice	3	3	0	0
NUR 702	Adult Gerontology III	7	3	4	224
	Total for Semester	12	8	4	224
	Total Program	35	23	12	616

¹ NUR 613 includes 28 lab hours that are not included in clinical hours.

² This course is completed online via Blackboard prior to matriculation. Students are registered for the course in their first semester.

Part-time (5 Semesters) Plan of Study

Spring I		Hours	Class Credits	Clinical Credits	Clinical Hours
NUR 601	Advanced Pharmacology	3	3	0	0
NUR 606	Advanced Practice Preparation ²	0			
NUR 612	Physiology/ Pathophysiology for Advanced Practice Nursing	3	3	0	0
	Total for Semester	6	6		
Summer I					
NUR 609	Professionalism in Advanced Practice Nursing	2	2	0	0
NUR 613	Advanced Health Assessment and Diagnostic Reasoning ¹	3	2	1	0
NUR 630	Research Methods and Evidence-Based Practice	3	3	0	0
	Total for Semester	8	7	1	
Fall I					
NUR 608	Concepts in Advanced Practice Nursing	3	3	0	0
NUR 628	Adult Gerontology I	5	2	3	168
	Total for Semester	8	5	3	168
Spring II					

NUR 631	Adult Gerontology II	6	2	4	224
Total for Semester		6	2	4	224
Summer II					
NUR 702	Adult Gerontology III	7	3	4	224
Total for Semester		7	3	4	224
Total Program		35	23	12	616

¹ NUR 613 includes 28 lab hours that are not included in clinical hours.

² This course is completed online via Blackboard prior to matriculation. Students are registered for the course in their first semester.

Part-time Sylvester Program (6 Semesters) Plan of Study

Summer I		Hours	Class Credits	Clinical Credits	Clinical Hours
NUR 601	Advanced Pharmacology	3	3	0	0
NUR 606	Advanced Practice Preparation ²	0			
NUR 612	Physiology/ Pathophysiology for Advanced Practice Nursing	3	3	0	0
Total for Semester		6	6		
Fall I					
NUR 609	Professionalism in Advanced Practice Nursing	2	2	0	0
NUR 630	Research Methods and Evidence-Based Practice	3	3	0	0
Total for Semester		5	5		
Spring I					
NUR 608	Concepts in Advanced Practice Nursing	3	3	0	0
NUR 613	Advanced Health Assessment and Diagnostic Reasoning	3	2	1	0
Total for Semester		6	5	1	
Summer II					
NUR 628	Adult Gerontology I	5	2	3	168
Total for Semester		5	2	3	168
Fall II					
NUR 631	Adult Gerontology II	6	2	4	224
Total for Semester		6	2	4	224
Spring II					
NUR 702	Adult Gerontology III	7	3	4	224
Total for Semester		7	3	4	224
Total Program		35	23	12	616

¹ NUR 613 includes 28 lab hours that are not included in clinical hours.

² This course is completed online via Blackboard prior to matriculation. Students are registered for the course in their first semester.

MSN - Family Nurse Practitioner Degree Requirements

The Family Nurse Practitioner program may be completed by finishing one of the following tracks:

- Full-time (3 Semesters)
- Part-time (5 Semesters)

The Family Nurse Practitioner program is a lock-step program. Students must complete the coursework as specified in the Plan of Study for the specific track under which they were admitted and as listed in the Academic Bulletin and the Student Handbook (http://www.miami.edu/sonhs/index.php/sonhs/current_students/student_handbooks). Students must also successfully complete the courses in each semester to progress to the next. Questions related to degree requirements should be directed to the appropriate Associate Dean or Program Director, or staff member in the OSS (http://www.miami.edu/sonhs/index.php/sonhs/office_of_student_services).

Plan of Study (listed by track)

The Family Nurse Practitioner program is a lock-step program. Students must complete the coursework as specified in the Plan of Study below and in the Student Handbook (http://www.miami.edu/sonhs/index.php/sonhs/current_students/student_handbooks) for the specific track under which they were admitted. Students must also successfully complete the courses in each semester to progress to the next. Questions related to degree requirements should be directed to the appropriate Associate Dean or Program Director, or staff member in the OSS (http://www.miami.edu/sonhs/index.php/sonhs/office_of_student_services).

Full-time (3 Semesters) Plan of Study

Fall I		Hours	Class Credits	Clinical Credits	Clinical Hours
NUR 601	Advanced Pharmacology	3	3	0	0
NUR 606	Advanced Practice Preparation ²	0			
NUR 612	Physiology/ Pathophysiology for Advanced Practice Nursing	3	3	0	0
NUR 613	Advanced Health Assessment and Diagnostic Reasoning ¹	3	2	1	0
NUR 628	Adult Gerontology I	5	2	3	168
	Total for Semester	14	10	4	168
Spring I					
NUR 608	Concepts in Advanced Practice Nursing	3	3	0	0
NUR 623	Maternal Child Health in Primary Care Practice	5	3	2	112
NUR 631	Adult Gerontology II	4	2	2	112
	Total for Semester	12	8	4	224
Summer I					
NUR 609	Professionalism in Advanced Practice Nursing	2	2	0	0
NUR 630	Research Methods and Evidence-Based Practice	3	3	0	0
NUR 647	Advanced Practice Nursing Integration	6	2	4	224
	Total for Semester	11	7	4	224
	Total Program	37	25	12	616

¹ NUR 613 includes 28 lab hours that are not included in clinical hours.

² This course is completed online via Blackboard prior to matriculation. Students are registered for the course in their first semester.

Part-time (5 Semesters) Plan of Study

Spring I		Hours	Class Credits	Clinical Credits	Clinical Hours
NUR 601	Advanced Pharmacology	3	3	0	0

NUR 606	Advanced Practice Preparation ²	0			
NUR 612	Physiology/ Pathophysiology for Advanced Practice Nursing	3	3	0	0
Summer I					
	Total for Semester	6	6		
NUR 609	Professionalism in Advanced Practice Nursing	2	2	0	0
NUR 613	Advanced Health Assessment and Diagnostic Reasoning ¹	3	2	1	0
NUR 630	Research Methods and Evidence-Based Practice	3	3	0	0
Fall I					
	Total for Semester	8	7	1	
NUR 608	Concepts in Advanced Practice Nursing	3	3	0	0
NUR 628	Adult Gerontology I	5	2	3	168
Spring II					
	Total for Semester	8	5	3	168
NUR 623	Maternal Child Health in Primary Care Practice	5	3	2	112
NUR 631	Adult Gerontology II	4	2	2	112
Summer II					
	Total for Semester	9	5	4	224
NUR 647	Advanced Practice Nursing Integration	6	2	4	224
Total for Semester		6	2	4	224
Total Program		37	25	12	616

¹ NUR 613 includes 28 lab hours that are not included in clinical hours.

² This course is completed online via Blackboard prior to matriculation. Students are registered for the course in their first semester.

MSN to DNP

MSN-to-DNP Degree Requirements

The MSN-to-DNP program may be completed by finishing one of the following tracks:

- 1 Year
- 1 Year Plus
- 2 Year (Fall Entry)
- 2 Year (Spring Entry)

The MSN-to-DNP program is a lock-step program. Students must complete the coursework as specified in the Plan of Study for the specific track under which they were admitted and as listed in the Academic Bulletin and the Student Handbook (http://www.miami.edu/sonhs/index.php/sonhs/current_students/student_handbooks). Students must also successfully complete the courses in each semester to progress to the next. Questions related to degree requirements should be directed to the appropriate Associate Dean or Program Director, or staff member in the OSS (http://www.miami.edu/sonhs/index.php/sonhs/office_of_student_services).

To receive the MSN-to-DNP, students must:

1. Complete all coursework as required with an overall GPA of 3.0 or better
2. Complete all required clinical hours

3. Successfully complete the DNP scholarly project
4. Successfully pass a comprehensive examination, which is an integrative experience to demonstrate students' mastery of the outcome objectives of the program

MSN-to-DNP Plan of Study (listed by track)

The MSN-to-DNP program is a lock-step program. Students must complete the coursework as specified in the Plan of Study below and in the Student Handbook (http://www.miami.edu/sonhs/index.php/sonhs/current_students/student_handbooks) for the specific track under which they were admitted. Students must also successfully complete the courses in each semester to progress to the next. Questions related to degree requirements should be directed to the appropriate Associate Dean or Program Director, or staff member in the OSS (http://www.miami.edu/sonhs/index.php/sonhs/office_of_student_services).

1 Year Plan of Study

Spring I		Hours	Class Credits	Clinical Credits	Clinical Hours
NUR 602	Doctoral Level Orientation/Nur (*)	0			
NUR 654	The Evolution of Nursing Practice and Application of Theory in Nursing Practice	3	3	0	0
NUR 658	Health Policy Development and Implementation	3	3	0	0
NUR 663	Research I: Evaluating the Evidence for Practice	3	3	0	0
NUR 664	Research II: Biostatistical Applications for Nursing Practice	3	3	0	0
NUR 676	Practice Immersion Experience I	4-12	1	3-11	168-608
Total for Semester		16-24	13	3-11	168-608
Summer I					
NUR 657	Population Based Health and Health Care Disparities	3	3	0	0
NUR 660	Translational Science	3	3	0	0
NUR 672	DNP Scholarly Project Seminar I	3	1	2	112
NUR 688	Health Systems Development and Leadership Practice Immersion II	2	0	2	112
Total for Semester		11	7	4	224
Fall I					
NUR 655	Health Care Management, Economics, Financing, and Ethics	3	3	0	0
NUR 656	Global Health	3	3	0	0
NUR 659	Technology in Health Care	3	2	1	56
NUR 673	DNP Scholarly Project Seminar II	3	1	2	112
Total for Semester		12	9	3	168
Total Program		39-47	29	10-18	560-1000

1 Year Plus Plan of Study

Fall I		Hours	Class Credits	Clinical Credits	Clinical Hours
NUR 602	Doctoral Level Orientation/Nur (*)	0			
NUR 655	Health Care Management, Economics, Financing, and Ethics	3	3	0	0
NUR 659	Technology in Health Care	3	2	1	56
Spring I					
Total for Semester		6	5	1	56
NUR 654	The Evolution of Nursing Practice and Application of Theory in Nursing Practice	3	3	0	0
NUR 658	Health Policy Development and Implementation	3	3	0	0
NUR 663	Research I: Evaluating the Evidence for Practice	3	3	0	0
NUR 664	Research II: Biostatistical Applications for Nursing Practice	3	3	0	0
NUR 676	Practice Immersion Experience I	4-12	1	3-11	168-608
Summer I					
Total for Semester		16-24	13	3-11	168-608
NUR 657	Population Based Health and Health Care Disparities	3	3	0	0
NUR 660	Translational Science	3	3	0	0
NUR 672	DNP Scholarly Project Seminar I	3	1	2	112
NUR 688	Health Systems Development and Leadership Practice Immersion II	2	0	2	112
Fall II					
Total for Semester		11	7	4	224
NUR 656	Global Health	3	3	0	0
NUR 673	DNP Scholarly Project Seminar II	3	1	2	112
Total for Semester		6	4	2	112
Total Program		39-47	29	10-18	560-1000

2 Year (Fall Entry) Plan of Study

Fall I		Hours	Class Credits	Clinical Credits	Clinical Hours
NUR 602	Doctoral Level Orientation/Nur (*)	0			
NUR 664	Research II: Biostatistical Applications for Nursing Practice	3	3	0	0

NUR 659	Technology in Health Care	3	2	1	56	
Spring I		Total for Semester	6	5	1	56
NUR 654	The Evolution of Nursing Practice and Application of Theory in Nursing Practice	3	3	0	0	
NUR 658	Health Policy Development and Implementation	3	3	0	0	
NUR 663	Research I: Evaluating the Evidence for Practice	3	3	0	0	
Summer I		Total for Semester	9	9		
NUR 657	Population Based Health and Health Care Disparities	3	3	0	0	
NUR 660	Translational Science	3	3	0	0	
Fall II		Total for Semester	6	6		
NUR 655	Health Care Management, Economics, Financing, and Ethics	3	3	0	0	
NUR 656	Global Health	3	3	0	0	
Spring II		Total for Semester	6	6		
NUR 672	DNP Scholarly Project Seminar I	3	1	2	112	
NUR 676	Practice Immersion Experience I	4-12	1	3-11	168-608	
Summer II		Total for Semester	7-15	2	5-13	280-720
NUR 673	DNP Scholarly Project Seminar II	3	1	2	112	
NUR 688	Health Systems Development and Leadership Practice Immersion II	2	0	2	112	
		Total for Semester	5	1	4	224
		Total Program	39-47	29	10-18	560-1000

2 Year (Spring Entry) Plan of Study

Spring I		Hours	Class Credits	Clinical Credits	Clinical Hours
NUR 602	Doctoral Level Orientation/Nur (*)	0			
NUR 654	The Evolution of Nursing Practice and Application of Theory in Nursing Practice	3	3	0	0
NUR 663	Research I: Evaluating the Evidence for Practice	3	3	0	0

NUR 664	Research II: Biostatistical Applications for Nursing Practice	3	3	0	0
Summer I		Total for Semester	9	9	
NUR 657	Population Based Health and Health Care Disparities	3	3	0	0
NUR 688	Health Systems Development and Leadership Practice Immersion II	2	0	2	112
Fall I		Total for Semester	5	3	2
NUR 655	Health Care Management, Economics, Financing, and Ethics	3	3	0	0
NUR 656	Global Health	3	3	0	0
Spring II		Total for Semester	6	6	
NUR 658	Health Policy Development and Implementation	3	3	0	0
NUR 676	Practice Immersion Experience I	4-12	1	3-11	168-608
Summer II		Total for Semester	7-15	4	3-11
NUR 660	Translational Science	3	3	0	0
NUR 672	DNP Scholarly Project Seminar I	3	1	2	112
Fall II		Total for Semester	6	4	2
NUR 659	Technology in Health Care	3	2	1	56
NUR 673	DNP Scholarly Project Seminar II	3	1	2	112
		Total for Semester	6	3	3
		Total Program	39-47	29	10-18
					560-1000

*Note: This course is completed online via Blackboard prior to matriculation. Students are registered for the course in their first semester.

PhD - Nursing Science

PhD, Nursing Science Degree Requirements

The PhD in Nursing Science program may be completed by finishing one of the following tracks:

- BSN-to-PhD
- MSN-to-PhD

The PhD in Nursing Science program is a lock-step program. Students must complete the coursework as specified in the Plan of Study for the specific track under which they were admitted and as listed in the Academic Bulletin and the Student Handbook (http://www.miami.edu/sonhs/index.php/sonhs/current_students/student_handbooks). Students must also successfully complete the courses in each semester to progress to the next.

Questions related to degree requirements should be directed to the appropriate Associate Dean or Program Director, or staff member in the OSS (http://www.miami.edu/sonhs/index.php/sonhs/office_of_student_services).

To receive the PhD degree, the candidate must meet all the general requirements for the PhD degree with respect to course work, residency, the qualifying examination, 12 credit hours of dissertation, and successful defense of the dissertation.

Students in the SONHS are responsible for meeting their degree requirements. It is the student's responsibility to understand fully and comply with all the provisions of the Academic Bulletin and written changes to their Plan of Study. Students are provided assistance by faculty advisors and other faculty members. Requests for deviation from the Plan of Study or SONHS requirements are granted only by written approval from the Associate Dean or Dean. Students who are in violation of the provisions of this Academic Bulletin may be withdrawn from classes unilaterally or have a stop placed upon their future enrollment by appropriate SONHS officials. The SONHS reserves the right to change academic requirements to include course offerings that ensure students receive the highest-quality and most-current education. Classes may be held on weekdays or weekends and will be listed as such in the course schedule. Any programmatic changes are transmitted by written notice in the Student Handbook (http://www.miami.edu/sonhs/index.php/sonhs/current_students/student_handbooks) or by an official in the SONHS.

PhD, Nursing Science Plan of Study

The PhD in Nursing Science program is a lock-step program. Students must complete the coursework as specified in the Plan of Study below and in the Student Handbook (http://www.miami.edu/sonhs/index.php/sonhs/current_students/student_handbooks) for the specific track under which they were admitted. Students must also successfully complete the courses in each semester to progress to the next. Questions related to degree requirements should be directed to the appropriate Associate Dean or Program Director, or staff member in the OSS (http://www.miami.edu/sonhs/index.php/sonhs/office_of_student_services).

BSN-to-PhD Plan of Study

Summer I		Hours	Class Credits	Clinical Credits	Clinical Hours
NUR 652	Introduction to Clinical Inquiry I	3	1	2	112
Online writing immersion course		0	0	0	0
Total for Semester		3	1	2	112
Fall I					
NUR 602	Doctoral Level Orientation/Nur	0	0	0	0
NUR 662	Nursing Epistemology	4	4	0	0
NUR 665	Quantitative Research Methods	3	3	0	0
NUR 670	Qualitative Methods in Research	3	3	0	0
NUR 680	Research Ethics	0	0	0	0
NUR 703	Becoming a Successful Nurse Scientist 1	0	0	0	0
Total for Semester		10	10		
Spring I					
NUR 671	Scientific and Theoretical Writing	3	2	0	0
NUR 674	Applied Statistics: Generalized Linear and General Estimating Equations	5	5	0	0
NUR 704	Becoming a Successful Nurse Scientist 2	0	0	0	0
Elective		3	3	0	0
Online self-guided statistics and database introduction (Note: completed during winter intersession)		0	0	0	0
Total for Semester		11	10		
Summer II					

NUR 653	Introduction to Clinical Inquiry II	6	1	5	280
	Total for Semester	6	1	5	280
Fall II					
NUR 679	Applied Statistics: Structural Equation Modeling and Hierarchical Linear Modeling	3	3	0	0
NUR 681	Measurement of Nursing Phenomenon	3	3	0	0
NUR 696	Crafting the Dissertation Proposal Part I	2	2	0	0
NUR 705	Becoming a Successful Nurse Scientist 3	0	0	0	0
Elective		3	3	0	0
	Total for Semester	11	11		
Spring II					
NUR 624	Introduction to Pedagogy	2	2	0	0
NUR 706	Becoming a Successful Nurse Scientist 4	0	0	0	0
NUR 796	Crafting the Dissertation Part 2	2	2	0	0
Elective		3	3	0	0
Elective		3	3	0	0
	Total for Semester	10	10		
Summer III					
NUR 830	Doctoral Dissertation	1-6	1-6	0	0
Fall III					
NUR 830	Doctoral Dissertation	1-6	1-6	0	0
Spring III					
NUR 830	Doctoral Dissertation	1-6	1-6	0	0
Summer IV					
NUR 830	Doctoral Dissertation	1-6	1-6	0	0
	Total for Semester	1-6	1-6		
	Total Dissertation Credits	3-18	3-18		
	Total Course Credits	52-57	44-49	7	392
	Total Program	55-75	47-67	7	392

Note: The first summer session follows the Summer B Academic Calendar. All other summer semesters follow the Summer C Academic Calendar. Students in the BSN-to-DNP program must successfully complete 12 dissertation credits to complete their degree.

MSN-to-PhD Plan of Study

The MSN-to-PhD program is a lock-step program. Students must complete the coursework as specified in the Plan of Study below and in the Student Handbook (http://www.miami.edu/sonhs/index.php/sonhs/current_students/student_handbooks) for the specific track under which they were admitted. Students must also successfully complete the courses in each semester to progress to the next. Questions related to degree requirements should be directed to the appropriate Associate Dean or Program Director, or staff member in the OSS (http://www.miami.edu/sonhs/index.php/sonhs/office_of_student_services).

Summer I	Hours	Class Credits	Clinical Credits	Clinical Hours
Online writing immersion course	0	0	0	0
Fall I				

NUR 602	Doctoral Level Orientation/Nur	0	0	0	0
NUR 662	Nursing Epistemology	4	4	0	0
NUR 665	Quantitative Research Methods	3	3	0	0
NUR 670	Qualitative Methods in Research	3	3	0	0
NUR 680	Research Ethics	0	0	0	0
NUR 703	Becoming a Successful Nurse Scientist 1	0	0	0	0
Total for Semester		10	10		
Spring I					
NUR 671	Scientific and Theoretical Writing	3	2	0	0
NUR 674	Applied Statistics: Generalized Linear and General Estimating Equations	5	5	0	0
NUR 704	Becoming a Successful Nurse Scientist 2	0	0	0	0
Elective		3	3	0	0
Online self-guided statistics and database introduction (Note: completed during winter intersession)		0	0	0	0
Total for Semester		11	10		
Summer II					
NUR 618 Research Immersion		1	1	0	0
Total for Semester		1	1		
Fall II					
NUR 679	Applied Statistics: Structural Equation Modeling and Hierarchical Linear Modeling	3	3	0	0
NUR 681	Measurement of Nursing Phenomenon	3	3	0	0
NUR 696	Crafting the Dissertation Proposal Part I	2	2	0	0
NUR 705	Becoming a Successful Nurse Scientist 3	0	0	0	0
Elective		3	3	0	0
Total for Semester		11	11		
Spring II					
NUR 624	Introduction to Pedagogy	2	2	0	0
NUR 706	Becoming a Successful Nurse Scientist 4	0	0	0	0
NUR 796	Crafting the Dissertation Part 2	2	2	0	0
Total for Semester		4	4		
Summer III					
NUR 830	Doctoral Dissertation	1-6	0-6	0	0
Fall III					

NUR 830	Doctoral Dissertation	1-6	1-6	0	0
Spring III					
NUR 830	Doctoral Dissertation	1-6	1-6	0	0
Summer IV					
NUR 830	Doctoral Dissertation	1-6	1-6	0	0
	Total for Semester	1-6	1-6		
	Total Dissertation Credits	3-18	2-18		
	Total Course Credits	38-43	37-42		
	Total Program	41-61	39-60		

Note: All summer semesters follow the Summer C Academic Calendar. Students in the MSN-to-DNP program must successfully complete 12 dissertation credits to complete their degree.

Post Masters Certificate - Adult Gerontology Acute Care Nurse Practitioner Degree Requirements

A Post-Master's Certificate in Adult-Gerontology Acute Care Nurse Practitioner is available to students who possess a MSN degree and who wish to focus in this specific area of advanced practice nursing and nursing education. All students are required to complete core courses for their selected area of study and may be required to take additional courses at the graduate level based on their gap analysis.

Once the gap analysis is complete, students will be issued a Plan of Study specific to their level of preparation. The Post-Master's Certificate program is then lock-step, which means students must complete the coursework as specified in their Plan of Study and must successfully complete the courses in each semester to progress to the next. Questions related to degree requirements should be directed to the appropriate Associate Dean or Program Director, or staff member in the OSS (http://www.miami.edu/sonhs/index.php/sonhs/office_of_student_services).

Sample Plan of Study

A Post-Master's Certificate in Adult-Gerontology Acute Care Nurse Practitioner is available to students who possess a MSN degree and who wish to focus in this specific area of advanced practice nursing and nursing education. All students are required to complete core courses for their selected area of study and may be required to take additional courses at the graduate level based on their gap analysis.

Once the gap analysis is complete, students will be issued a Plan of Study specific to their level of preparation. The Post-Master's Certificate program is then lock-step, which means students must complete the coursework as specified in their Plan of Study and must successfully complete the courses in each semester to progress to the next. Questions related to degree requirements should be directed to the appropriate Associate Dean or Program Director, or staff member in the OSS (http://www.miami.edu/sonhs/index.php/sonhs/office_of_student_services).

The following is a **sample** Plan of Study for a student who only needs to complete the core courses to earn the Post-Master's Certificate in Adult-Gerontology Acute Care Nurse Practitioner:

Course	Title	Credit Hours
Year One		
Fall		
NUR 610	Adult Gerontology Acute Care I	4
	Credit Hours	4
Spring		
NUR 621	Diagnostics and Nursing Interventions for Acute Care Nursing	2-3
NUR 625	Adult Gerontology Acute Care II	7
	Credit Hours	9-10
Summer		
NUR 638	Adult Gerontology Acute Care III	6
	Credit Hours	6
	Total Credit Hours	19-20

Post Masters Certificate - Adult Gerontology Primary Care Nurse Practitioner

Degree Requirements

A Post-Master's Certificate in Adult-Gerontology Primary Care Nurse Practitioner is available to students who possess a MSN degree and who wish to focus in this specific area of advanced practice nursing and nursing education. All students are required to complete core courses for their selected area of study and may be required to take additional courses at the graduate level based on their gap analysis.

Once the gap analysis is complete, students will be issued a Plan of Study specific to their level of preparation. The Post-Master's Certificate program is then lock-step, which means students must complete the coursework as specified in their Plan of Study and must successfully complete the courses in each semester to progress to the next. Questions related to degree requirements should be directed to the appropriate Associate Dean or Program Director, or staff member in the OSS (http://www.miami.edu/sonhs/index.php/sonhs/office_of_student_services).

Sample Plan of Study

A Post-Master's Certificate in Adult-Gerontology Primary Care Nurse Practitioner is available to students who possess a MSN degree and who wish to focus in this specific area of advanced practice nursing and nursing education. All students are required to complete core courses for their selected area of study and may be required to take additional courses at the graduate level based on their gap analysis.

Once the gap analysis is complete, students will be issued a Plan of Study specific to their level of preparation. The Post-Master's Certificate program is then lock-step, which means students must complete the coursework as specified in their Plan of Study and must successfully complete the courses in each semester to progress to the next. Questions related to degree requirements should be directed to the appropriate Associate Dean or Program Director, or staff member in the OSS (http://www.miami.edu/sonhs/index.php/sonhs/office_of_student_services).

The following is a **sample** Plan of Study for a student who only needs to complete the core courses to earn the Post-Master's Certificate in Adult-Gerontology Primary Care Nurse Practitioner.

Course	Title	Credit Hours
Year One		
Fall		
NUR 628	Adult Gerontology I	5
	Credit Hours	5
Spring		
NUR 631	Adult Gerontology II	4-7
	Credit Hours	4-7
Summer		
NUR 702	Adult Gerontology III	7
	Credit Hours	7
	Total Credit Hours	16-19

Post Masters Certificate - Family Nurse Practitioner

Degree Requirements

A Post-Master's Certificate in Family Nurse Practitioner is available to students who possess a MSN degree and who wish to focus in this specific area of advanced practice nursing and nursing education. All students are required to complete core courses for their selected area of study and may be required to take additional courses at the graduate level based on their gap analysis.

Once the gap analysis is complete, students will be issued a Plan of Study specific to their level of preparation. The Post-Master's Certificate program is then lock-step, which means students must complete the coursework as specified in their Plan of Study and must successfully complete the courses in each semester to progress to the next. Questions related to degree requirements should be directed to the appropriate Associate Dean or Program Director, or staff member in the OSS (http://www.miami.edu/sonhs/index.php/sonhs/office_of_student_services).

Sample Plan of Study

A Post-Master's Certificate in Family Nurse Practitioner is available to students who possess a MSN degree and who wish to focus in this specific area of advanced practice nursing and nursing education. All students are required to complete core courses for their selected area of study and may be required to take additional courses at the graduate level based on their gap analysis.

Once the gap analysis is complete, students will be issued a Plan of Study specific to their level of preparation. The Post-Master's Certificate program is then lock-step, which means students must complete the coursework as specified in their Plan of Study and must successfully complete the

courses in each semester to progress to the next. Questions related to degree requirements should be directed to the appropriate Associate Dean or Program Director, or staff member in the OSS (http://www.miami.edu/sonhs/index.php/sonhs/office_of_student_services).

The following is a **sample** Plan of Study for a student who only needs to complete the core courses to earn the Post-Master's Certificate in Family Nurse Practitioner:

Course	Title	Credit Hours
Year One		
Fall		
NUR 623	Maternal Child Health in Primary Care Practice	5
	Credit Hours	5
Spring		
NUR 628	Adult Gerontology I	5
NUR 631	Adult Gerontology II	4-7
	Credit Hours	9-12
Summer		
NUR 647	Advanced Practice Nursing Integration	6
	Credit Hours	6
	Total Credit Hours	20-23

Post Masters Certificate - Psychiatric Mental Health

Degree Requirements

The Psychiatric Mental Health Nurse Practitioner program is a lock-step program. Students must complete the coursework as specified in the Plan of Study for the specific track under which they were admitted and as listed in the Academic Bulletin and the Student Handbook (http://www.miami.edu/sonhs/index.php/sonhs/current_students/student_handbooks). Students must also successfully complete the courses in each semester to progress to the next. Questions related to degree requirements should be directed to the appropriate Associate Dean or Program Director, or staff member in the OSS (http://www.miami.edu/sonhs/index.php/sonhs/office_of_student_services).

Plan of Study

The Psychiatric Mental Health Nurse Practitioner program is a lock-step program. Students must complete the coursework as specified in the Plan of Study below and in the Student Handbook (http://www.miami.edu/sonhs/index.php/sonhs/current_students/student_handbooks) for the specific track under which they were admitted. Students must also successfully complete the courses in each semester to progress to the next.

Questions related to degree requirements should be directed to the appropriate Associate Dean or Program Director, or staff member in the OSS (http://www.miami.edu/sonhs/index.php/sonhs/office_of_student_services).

Spring I		Hours	Class Credits	Clinical Credits
NUR 682	Advanced Practice Psychopharmacology	2		
NUR 684	Advanced Practice Psychiatric Mental Health Nursing Therapeutic Interventions	5		
	Total for Semester	7		
Summer I				
NUR 683	Theoretical Bases for Advanced Practice Psychiatric Mental Health Nursing	2		
NUR 685	Advanced Practice Psychiatric Mental Health Nursing Preceptorship	4		
	Total for Semester	6		
Fall I				

NUR 686	Advanced Practice Psychiatric Mental Health Nursing Preceptorship II	5
	Total for Semester	5
	Total Program	18

Post-Bachelors Certificate - Health Informatics (online)

Degree Requirements

UOnline's flexible Informatics programs give students the option to complete their MS in Health Informatics while earning a Post-Bachelor's Certificate in Health Informatics along the way or to focus on just earning the Post-Bachelor's Certificate itself. The 15 credit Post-Bachelor's Certificate is made up of the first 5 classes of the MS program. Credits completed for the Post-Bachelor's Certificate can be applied toward the MS degree.

The health informatics field is growing. The Bureau of Labor Statistics projects that employment in the field of health informatics increases 23% by 2022, much faster than average of 11% for all occupations nationwide. The UM's online Post-Bachelor's Certificate program is designed to prepare graduates for rewarding informatics careers in a wide range of industries within health care, including hospitals, government, health insurance providers, medical vendors, pharmaceutical and biotechnology companies, and consulting firms. With the ongoing implementation of the Affordable Care Act, these roles will be essential as more organizations begin moving to electronic health care record systems.

The Post-Bachelor's Certificate program is a lock-step program. Students must complete the coursework as specified in the Plan of Study for the specific track under which they were admitted and as listed in the Academic Bulletin and the Student Handbook (<http://www.sonhs.miami.edu/academics/student-handbooks>). Students must also successfully complete the courses in each semester to progress to the next. Questions related to degree requirements should be directed to the UOnline Academic Advisors (<http://www.miami.edu/online/student-experience/student-support>).

Admission

For information on admission to the program please click here (<http://www.miami.edu/online/online-degrees/masters-health-informatics>).

Plan of Study

The Post-Bachelor's Certificate program is a lock-step program. Students must complete the coursework in the order specified in the Plan of Study below, and they must successfully complete each course to progress to the next. Students are admitted to begin the program in the fall, spring, or summer. Questions related to degree requirements should be directed to the UOnline Academic Advisors (<http://www.miami.edu/online/student-services>).

Code	Title	Credit Hours
HCS 685	Introduction to Health Informatics	3
HCS 605	Health Information Exchange	3
HCS 658	Structure and Processes in Health Care Organization and Health Care Policy	3
HCS 603	Healthcare Databases: Design, Development and Clinical Application	3
HCS 604	System Life Cycle/Project Management	3
Total Credit Hours		15

GRADUATE STUDENT HANDBOOK FOR ONLINE STUDENTS

Message from the Dean

Graduate school at the University of Miami is a place where students gain proficiency in a specialty with the guidance of dedicated faculty in the presence of a community of world-class scholars. UM students are thought leaders and innovators whose accomplishments are showcased on a global stage. Our students represent the best and the brightest and their engagement with our faculty continues to elevate the University.

University of Miami
Graduate School
1252 Memorial Drive
235 Ashe Administration Bldg.
Coral Gables, FL 33146
Tel: 305-284-4154
Fax: 305-284-5441
Website: grad.miami.edu (<https://grad.miami.edu>)

University of Miami
Online Enrollment Office
1320 South Dixie Highway
Suite 902, Loc. 2991
Coral Gables, FL 33146
Tel: 1-800-411-2290
Website: www.miami.edu/online (<http://www.miami.edu/online>)
Email: onlineinfo@miami.edu

The Graduate Student Handbook for Online Students

The *Graduate Student Handbook for Online Students* is an excellent resource for graduate online students at the University of Miami. The Handbook contains all applicable policies and valuable information for graduate online students compiled into one comprehensive manual. Online graduate student enrollment is governed by this Handbook. This handbook describes policies and procedures pertaining to the Graduate School and online graduate study at the University of Miami. Policies or procedures for online graduate students may vary from policies or procedures of campus-based graduate students. **This Graduate Student Handbook is applicable to UOnline Students only.** In the event of a conflict between this handbook for online graduate students and any other applicable University policies or procedures, the terms of this handbook shall control. It is the student's responsibility to be aware of and comply with all policies, procedures and deadlines. Although the Handbook contains general information, students should be aware of regulations and policies that directly pertain to individual graduate programs, as many programs have additional requirements of their own, as well as a program handbook.

Policies Modification

This is the official University of Miami source for the enrollment, business, and financial policies associated with the University's UOnline programs. The University reserves the right to amend and update these policies at any point in the future. Amendments to these policies will be published on the University Registrar's website.

Additional University of Miami Policies

Please also consult these policies:

- Our privacy statement (http://www.miami.edu/index.php/privacy_statement) for our privacy and data collection policies.
- Technology policies
 - Acceptable Use of Information Technology Resources (http://www.miami.edu/it/index.php/a060_acceptable_use_of_info_tech_resources_by_students)
 - Use of University Computing Facilities (http://www.miami.edu/it/index.php/a046_use_of_university_computing_facilities)

About the Graduate School

The Graduate School is the administrative body overseeing all master's and doctoral programs.

Mission and Goal Statement

The mission of the Graduate School is to promote graduate education, scholarship and research; to support individuals, departments and programs in the pursuit of excellence; to foster innovative, multidisciplinary, and interdisciplinary activities; and to maintain high ethical and academic standards in graduate studies.

The standards of study and conduct in the Graduate School are high. They are not set and maintained by the Graduate School but rather by the faculty who determine the standards for their individual program. The Graduate School through its Council sets no course requirements for a degree. It does set certain general residence, grade and examination standards. Fundamentally, the Graduate School delegates responsibility to the student and his/her program. Within this broad responsibility, the recommendation for the degree rests with the faculty.

Academic Calendar

Please visit the Office of the University Registrar (<http://www.miami.edu/index.php/registrar/calendar>) website for the most recent academic calendar for UOnline programs.

Definitions

New Student

A new student is a student who has been admitted to a program and paid the enrollment deposit but not yet completed the first 7 days of the first program course.

Continuing Student

A continuing student is a student who has completed **at least** the first 7 days of the first course in their program and not yet graduated from the program.

Course

A course is an educational component made up of academic content, assignments and activities, the successful completion of which earns a student credit hours toward completion of a program. A course is delivered and accessed online via a learning management system (LMS). A course is 7 weeks long.

Academic Plan/Program of Study

A series of courses that make up a full degree or certificate program. All courses in a program must be successfully completed for a student to be considered for graduation.

Academic Year

The academic year is August through July and consists of 3 terms (Fall, Spring, Summer).

Term

A term is the discrete length of time in which courses are offered. A term is 15-weeks long and encompasses two 7-week sessions with a 1-week break in between them.

- Fall Term is August – December
- Spring Term is January – April
- Summer Term is May – July

Session

A session is the discrete length of time during which a single course is completed. A session is 7-weeks long.

General Academic Requirements and Regulations

All graduate work (except for the master's degree in Law, J.D. in Law, and M.D. degree) at the University of Miami is under the direction of the Dean of the Graduate School and the Graduate Council.

All graduate students at the University of Miami are subject to the general standards and requirements of their programs in regard to attendance, examinations, payment of fees and conduct, as well as to the specific requirements of the Graduate School. The graduate student is expected to assume the initiative in completing all requirements in the time specified.

Prospective students should note that "graduate study" means an integrated program of advanced, specialized study, based on an undergraduate major and/or adequate background, presupposing academic and personal maturity, and making much more than average demand upon the industry, initiative and scholarship of the student. The term must be distinguished from "post-graduation study" which means merely that courses, not necessarily of graduate level, are taken after the student has received a bachelor's degree.

To preserve its ideals of scholarship, conduct, and character, the Graduate School reserves the right and the student by his/her registration concedes the right, to require the withdrawal of any student for any reason deemed sufficient by the Graduate School at any time.

Time to Completion

Time to completion starts when a student begins any program in the Graduate School. All work must be completed within **three (3) years** of the start date to the graduate program, for those studying for the various master's degrees. Individual programs may set a shorter time period. Exceptions may be granted by the Dean of the Graduate School at the request of the Graduate Program Director. Course availability may vary by program and term; therefore students who may need to withdraw or take a break from their program should work directly with their Academic Advisor (<https://myonlinesupport.miami.edu/advising>) to ensure timely completion within the three (3) year window.

A student is ineligible for financial aid when it becomes mathematically impossible for him/her to complete the program within 150% of the length of the program. The length of the program is the amount of time necessary for a student to complete all requirements for a degree or certificate.

Each online degree program has a *minimum* time within which a student may complete the degree if the student takes the courses on a continually enrolled basis. Online degrees are flexible, and the actual time to completion, within the three-year limit, can vary by student. However, **if a student is not continuously enrolled for a period greater than one year, he or she must reapply to the program and will lose any tuition discounts previously applied to their account.** A student may be eligible for any tuition discounts available to new students at the time of the student's re-admission, and should contact the Online Enrollment Office to see if they qualify.

Graduate Transfer Credits

- Transfer credits from an outside institution may not be applied toward any online degree in the School of Business.
- A maximum of 6 credit hours may, with the permission of Program Director, be applied to the M.S. Ed. in Sport Administration degree online.
- Certain UOnline business courses may be transferable to other UOnline business programs. Students should contact their Academic Advisor (<https://myonlinesupport.miami.edu/advising>) to see if their courses are eligible to transfer.
- Graduate credit hours transferred from another university may not be applied toward a graduate degree at the University of Miami if their age at the time of acceptance into the University of Miami program **exceeds six years**. On an individual basis, students may be permitted to validate over-aged credit hours by examination, with program approval.
- Students in the UOnline degree programs may not transfer or transfer credit hours from the online degree version of these programs to the campus based versions of the programs without the permission of the Program Director and the Dean of the school. Should a student obtain permission for such a transfer, they will not be admissible back to their original program once transferred.
- Students may not transfer any credits from any campus-based program to any of the UOnline programs without the permission of the Program Director and the Dean of the school.
- Students may not take any individual UOnline course and transfer into an existing campus program using the online course as an elective course option.
- Transfer credit hours grades will not be factored into a student's cumulative grade point average at the University. Transfer credit hours only impact the number of credit hours earned.

Online Program Course Information

Students should review their school's program page for more information on course descriptions, pre-requisite requirements, and other program specifics. Course sequencing is subject to change each term and does not align with campus sequencing. For additional information on course sequencing or specific online student requirements, please contact Academic Advising (<https://www.tfaforms.com/433870>).

BUSINESS

MS Finance (p. 1019)

Certificate in Corporate Finance (p. 1019)

Certificate in Financial Decision Making (p. 1019)

Master of Professional Accounting (p. 1016)

Certificate in Accounting Practice (p. 1016)

Professional MBA (p. 998)

EDUCATION AND HUMAN DEVELOPMENT

MSEd Sport Administration (p. 1073)

Doctor of Education (Ed.D.) in Applied Learning Sciences (p. 1076)

MSEd in Applied Learning Sciences (p. 1077)

Certificate in Applied Learning Sciences (p. 1075)

ARTS & SCIENCES

Masters in Public Administration (p. 981)

NURSING

MS Health Informatics (p. 1328)

Registration

Registration and Online Course Access

Registration starts about **4 weeks** before each term. Each term contains two 7-week sessions with about a 1-week break in between each session. Students will have access to their online course via Blackboard approximately four (4) days before the first day of class. **New and continuing students will be automatically registered by their advisor**, and are only registered for classes at the beginning of each semester. Students may take time off from their program, but run the risk of exceeding the time to completion requirements depending on available course sequencing. Students who wish to take time off should contact their Academic Advisor (<https://myonlinesupport.miami.edu/advising>) prior to their withdrawal to ensure appropriate course availability and to determine their ability to complete their degree program in the required time frame upon the student's return. **All UOnline students will have an Academic Advising hold showing in their CaneLink account throughout the remainder of their program.** This hold *will not* be removed and is used for registration purposes only. Students should pay close attention to the Academic Calendar for important registration deadlines.

New Student Registration

Students will be eligible for registration once the University has received their enrollment deposit, paid in full, and once students have **completed and passed** their required Student Readiness Orientation (SRO) no later than their given deadline. Students will be registered into courses for the entire first term, both first and second sessions (2 courses per term), by the Registrar's Office. In some cases, students may be registered for their Session I course prior to the start of the term and registered for their Session II course up to 10 days after Session I begins. If this occurs, a student may request to have their Session II course added prior to the start of the term by contacting Academic Advising (<https://www.tfaforms.com/433870>). Students will have access to the online course approximately **4 days before** each session start date. New students enrolled in a Certificate program, but plan on applying to a Master's program upon completion, are encouraged to contact Academic Advising (<https://www.tfaforms.com/433870>) immediately to discuss the most optimal registration options available.

Continuing Student Registration

Students will be eligible for registration provided they have **no financial or other holds on their account or are not withdrawn**. If a student has previously withdrawn from their UOnline program, and it has been less than one year since they have been enrolled, the student should contact their Academic Advisor (<https://www.tfaforms.com/433870>) to be re-enrolled for the upcoming term no later than the Readmission Deadline for their desired term. Please refer to the UOnline Academic Calendar (<http://www.miami.edu/index.php/registrar/calendar>) for important deadlines regarding registration for continuing students. Students will be registered into courses for the entire term, both first and second sessions (2 courses per term), by the Registrar's Office. Students will have access to their course approximately **4 days before** each session start date.

Financial, Academic and Other Holds

If students have any financial or other holds, they will **not** be registered into a course until they have met the requirements to remove the hold. Please refer to the UOnline Academic Calendar (<http://www.miami.edu/index.php/registrar/calendar>) for important dates regarding registration for continuing students and readmission. Students will not be registered past the deadline due to delayed payments on the students account. Tuition for each term must be paid in full and can not be deferred to a future term.

Full-Time Study

All online programs are designed for students to attend full time. Students are considered full time pending they meet the credit requirements posted by the Office of the Registrar. Students should contact their Academic Advisor (<https://www.tfaforms.com/433870>) for further information on part time status.

In all cases, determination as to whether or not a student is in full-time study is the privilege of the Dean of the Graduate School and the Registrar's Office.

No full-time faculty member may be a full-time online student, whether or not working toward a degree. Nor may a full-time online student be a full-time faculty member.

No full-time online student will be a principal investigator on any grant or contract, whether in name or fact. And no principal investigator will be a full-time online student.

Admissions

Applying to the Online Programs

In addition to holding the baccalaureate degree from an institution accredited by SACS or another regional accrediting body, the applicant for admission to the Graduate School should have the prerequisite coursework/work experience required by the program to which he/she is applying. In general, those applying for graduate admission should have achieved an overall average grade of "B" or better (3.0 G.P.A. on a 4.0 scale). International students will be required to give evidence of adequate knowledge of English through a TOEFL or IELTS test score.

Admission of a student to the University of Miami for any semester does not imply that such student will be re-enrolled in any succeeding academic semesters.

If students would like to apply to a UOnline program, they will need to create a profile and apply online via our on line application portal found here (<https://myonline.miami.edu/SignIn>). Here students will be assigned a personal Enrollment Advisor who will help guide them as the student submits all the components and required documents for their application. Students' Enrollment Advisors will also guide them through the onboarding process and be available to answer any questions. Students will then transition to their UOnline Student Advocate who will work with them through their first year, then transition to their designated Academic Advisor for important Graduation and completion requirements throughout the remainder of their program.

International Students (who attended college/university outside of the United States)

All graduate applicants who have attended a college or university outside the United States must submit official transcripts and diplomas (if available) from all colleges and universities attended to one of the **three approved evaluation services** listed below. Follow the specific instructions of the selected evaluation service to **request a course-by-course evaluation with degree equivalency and grade point average (gpa) calculation**. We do not issue any student Visa's for International UOnline students.

All online international students who have been admitted to an online program at the University of Miami are **not** eligible for an F-1 visa.

The evaluation report and copy of all the official documents used in the evaluation must be sent directly from one of the three approved evaluation services to the address below. It is the responsibility of the student to ensure their evaluation is sent to the correct address. Evaluations sent to other addresses on campus will **not** be received and will delay the admissions process.

University of Miami Online Enrollment Office 1320 South Dixie Highway Gables One Tower –Suite 902, **Locator Code: 2991**
Miami, FL 33146

The evaluation report and supporting documents are *required* before the Admissions Committee can review the application. Any documents received by the University will become the property of the University and will not be returned to the applicant or sent to a third party including the evaluation services.

Approved Evaluation Services

- Educational Credential Evaluators, Inc. (ECE) (<https://www.ece.org>)
- World Education Services (WES) (<http://www.wes.org/students>)
- Josef Silny & Associates (JS&A) (<http://www.jsilny.org/html/documents/universityofMIAMI-graduate.pdf>)

TOEFL (Test of English as a Foreign Language)

If students do not hold a U.S. undergraduate degree, they may be required to take the TOEFL exam. If they are required to submit a TOEFL score, students should visit this web page (<http://www.ets.org/toefl>) to arrange to take the test. The TOEFL and IELTS scores are valid for 2 years after the test date. The TOEFL code for the University of Miami is **5815**.

The University will consider candidates with these minimum TOEFL scores; however, TOEFL score requirements may vary by program:

TOEFL Internet Minimum Score	94
TOEFL Computer Minimum Score	240
TOEFL Paper Minimum Score	600

TOEFL Waiver

The TOEFL requirement may be waived for non-native English speakers provided they meet one of the following criteria:

- Students earned their undergraduate degree in a country where the official language is English (this does not include degrees from just English-speaking institutions or just a country where English is spoken).
- Students studied in the United States at an undergraduate level for at least one year or the equivalent of 30 consecutive credit hours.
- Students have lived **and** worked in an English-speaking country for the past two or more years.

Letters of Recommendation

Students will input their recommender's information directly into the online application which will generate an email with a unique link sent directly to the recommender. Letters of Recommendations must be submitted directly by the student's recommender using the unique link provided to them via email. Letters of Recommendation received in a Word document, body of an email, or any other format **will not** be accepted. The student's Enrollment Advisor may provide guidance to the recommender if they have technical trouble or questions regarding the process.

Admissions & Admissions Decisions

Once the University receives the student's **complete** application with all required documents, the admissions review process will start.

Regular Admit (with Official Transcripts)

If the application meets the standard admissions requirements and the University has received all official transcripts, the student will receive an offer of full admission **in approximately 48 business hours** after the University has received the completed application. The student will receive an official email from the Enrollment Advisor and be able to view the admissions decision via their Online Application portal.

Conditional Admit (with Unofficial Transcripts and/or Test Scores)

If the application fully meets the standard admissions requirements, the student may be conditionally admitted if the University has received and accepted the unofficial transcripts for all institutions attended and/or the student's unofficial test scores (if required). Unofficial transcripts may be considered acceptable **ONLY IF** the document is in a pdf format and **ALL** of the following items are legible on the transcript document:

- Name of the institution
- Student name
- Cumulative Grade Point Average (preferred)
- Course numbers
- Course names
- Credit hours earned
- Grades earned
- Degree conferred with date (if applicable)
- No other documents will be accepted

Students receive notification typically **within 48 business hours** after the University has received a complete application (including other required documentation) that the student has been Conditionally Admitted. The notification of Conditional Admission will also address the requirements the student will have to satisfy in order to be officially admitted. The failure to meet any of these conditions will be grounds for the withdrawal of the Conditional Admission and/or the withdrawal from all programs. The student will receive an official email from his/her Enrollment Advisor and be able to view the admissions decision via your Online Application portal.

Students **MUST** pay their tuition bill or have accepted their Financial Aid Award, no later than by the payment due date. Once students are fully admitted and have paid their non-refundable enrollment deposit, and successfully passed the Student Readiness Orientation (SRO), they may be eligible to receive financial aid within the same term, provided the University has granted the student full admission during the same academic year. Students may start their course and continue through the term as long as they have been awarded Financial Aid, and have accepted their Financial Aid award no later than the first day of class. Student's Financial Aid funds *will not be disbursed* until the student has participated in their first course and all official admissions documents and all required Financial Aid documents have been received. Students are responsible for checking CaneLink to ensure that their funding is ready for disbursement.

Students will not be registered for the next term until their current balance is paid in full. In the event the student's financial aid award is delayed, students should work directly with their Student Advocate or Academic Advisor to determine the appropriate next steps and ensure they meet the appropriate payment deadlines. Students should refer to the Academic Calendar (<http://www.miami.edu/index.php/registrar/calendar>) for important deadlines regarding Financial Aid Application due dates. Students may submit their FAFSA after the Financial Aid application priority consideration due date, but may have to use an alternative form of payment if their Financial Aid is not processed by the required payment deadlines.

Students should review the Monthly Payment Plan (MPP) (p. 1356) section for guidance on setting up a monthly payment plan, as well as the Payment Policies section for payment options and consequences for non-payment. Monthly payment plans are available for students at the beginning of each term. Fall and Spring MPP consist of four (4) payments; however, Summer MPP consist of three (3) payment options and is *only available to online students* at this time. **UM Employees are not eligible for Monthly Payment Plans at this time.**

Students should review the Transcripts section for official transcripts deadlines and consequences if the University has not received all official transcripts. Students should also review the UOnline (<http://www.miami.edu/index.php/registrar/calendar>) Academic Calendar (<http://www.miami.edu/index.php/registrar/calendar>) for official transcript deadlines.

Accepting Admission

When a student's admission decision has been made, the student will receive an official Admissions decision email from the Enrollment Advisor which includes next steps (<https://myonlinesupport.miami.edu/recently-admitted>) for accepting their offer. Students can also view the admissions decision the online application portal found here (<https://myonline.miami.edu>).

A student's Enrollment Advisor will guide him/her through the next steps (<https://myonlinesupport.miami.edu/recently-admitted>) to accept their offer of admission and pay their non-refundable enrollment deposit. A student's offer of admission has not been accepted until their non-refundable enrollment deposit has been paid.

Students will have **fourteen (14) calendar days to accept their offer of admission** by paying their non-refundable \$300 Enrollment Deposit. If a student fails to accept their offer of admission within the fourteen (14) calendar day timeframe according to the Deposit Date on the official Admission letter, the student's application will be withdrawn. Students who apply late will forfeit the full (14) calendar day acceptance policy and will be required to accept their offer no later than the last official Deposit Deadline as set on the UOnline Academic Calendar (<http://www.miami.edu/index.php/registrar/calendar>), which may be less than (14) calendar days. Students should refer to their official Admissions letter for their exact deposit deadline. If a student chooses to reapply, they will need to wait one (1) additional term before reapplying. Deferrals are not permitted unless the student has been approved for a Deferral Exception (<https://qafederation.ngwebsolutions.com/sp/startSSO.ping?PartnerIdId=https://caneid.miami.edu/idp/shibboleth&TargetResource=https://dynamicforms.ngwebsolutions.com/ShowForm.aspx?RequestedDynamicFormTemplate=2688d0b9-6031-4812-8f79-84fe37812020>).

Deferral Exception Appeal

In extenuating circumstances, students may choose to apply for a Deferral Exception (<https://qafederation.ngwebsolutions.com/sp/startSSO.ping?PartnerIdId=https://caneid.miami.edu/idp/shibboleth&TargetResource=https://dynamicforms.ngwebsolutions.com/ShowForm.aspx?RequestedDynamicFormTemplate=2688d0b9-6031-4812-8f79-84fe37812020>). Students who choose not to accept their offer of admission must apply for a Deferral Exception no later than their Deposit Deadline as specified by the Admissions letter, or will be withdrawn and will need to wait one (1) additional term before reapplying. Deferral Exception Requests are only eligible for the next immediate term. Students who would like to wait to start in future terms will need to reapply and should contact their Enrollment Advisor for additional information regarding documents required for admission.

Any student who has already accepted their offer of admissions must apply for a Deferral Exception no later than the official Completed Enrollment Application Deadline for their current term as per the Academic Calendar. (<http://www.miami.edu/index.php/registrar/calendar>) Deferral requests submitted after the deadline will not be reviewed. Any student who has already been withdrawn due to missing their deposit deadline, failing their SRO requirement, or by voluntarily submitting a Withdrawal request will not be eligible to defer and must reapply.

- If a student's Deferral Exception application is **denied**, the student's offer of admission will be withdrawn and they must wait one (1) additional term before reapplying.
- If a student's Deferral Exception is **approved**, the student's start date will be updated to **the next immediate term** and the student will be sent a new admissions letter indicating the approval and updated start date.
 - If a student **has not accepted their offer of admission**, and is approved for a deferral exception, the student will have fourteen (14) calendar days to accept their offer from the date of the deferral approval as per their deferral approval letter. If a student does not accept their offer of admission within the fourteen (14) calendar day time frame, the student's application will be withdrawn and the student must sit out (1) one additional term before reapplying.
 - If a student **has already accepted their offer of admission**, and has been approved for a deferral exception, the student's start date will be updated and a new admissions letter will be sent with the updated term and approval. If a student chooses to withdraw before the census date or is administratively withdrawn for any reason, the student must sit out one (1) additional term before reapplying to the program.

Any student who chooses to reapply for a future term is **not guaranteed admission** and will be subject to any changes in tuition, scholarships, and/or admissions requirements for that term.

Offer of Admission Expiration

Offers of Admission are **valid for one term only unless a Deferral Exception has been granted**. To officially accept the offer of admission, a student must log into Canelink (<https://myonlinesupport.miami.edu/recently-admitted>) and pay their non-refundable enrollment deposit. If a student has not accepted an offer of admission within the fourteen (14) day time frame/deadline on their official Admissions Letter, he/she must reapply to the University and program after sitting out one additional term. Student should contact the Online Enrollment Office to verify what documents must be submitted for consideration.

Reapplying/Readmission

There are a few situations in which students have to reapply to a program. Students will have to reapply to a program if:

- A student's original Offer of Admission has expired and he/she never started the online program.
- A student requests to change to a different program.
- A student has been withdrawn from his/her program for more than 1 calendar year (3 consecutive terms).
- A student failed to meet the requirements of a Conditional Admission.
- A student failed or did not complete the Student Readiness Orientation (SRO)

- A student's Deferral Exception Appeal was denied

To reapply, students can login and start the Online Application (<https://myonline.miami.edu/signup>) using their previous log-in credentials. A student should contact the Online Enrollment Office at 1-800-411-2290 if they have questions regarding the application.

Not Admitted

If a student's application does NOT meet the standard admissions requirements, he/she will receive a notification that he/she has not been admitted into the program typically **within 48 business hours** after the University received the student's completed application. Students will receive an email from their Enrollment Advisor and be able to view their admissions decision via their Online Application portal (<https://myonline.miami.edu/signup>).

If a student is not admitted into a program, he/she will receive an explanatory email from the Enrollment Advisor and will be able to view their admissions decision via their Online Application portal. Students may be eligible to reapply once they have met the admission requirements or choose to apply to a new program. A student's Enrollment Advisor will contact a student to discuss their options.

Transcripts for Admissions

Official Transcripts

- **MUST** Arrive in a sealed envelope with the school's stamp/seal across the back or on the institution's official envelope
- Be opened only by a member of the University of Miami admission staff
- Have a Registrar's signature and/or watermark and/or indented seal which appears on the transcript

Mailing Address for submission of transcripts:

University of Miami Online Enrollment Office 1320 South Dixie Highway Gables One Tower –Suite 902, **Locator Code: 2991**
Miami, FL 33146

Please ensure that the locator code is included in the address. Transcripts may not be received if address is missing the locator code or sent to another address on campus. **Students are responsible for ensuring that they have their transcripts sent to the address above** and are subject to all deadlines as per the Academic Calendar (<http://www.miami.edu/index.php/registrar/calendar>).

Electronic Transcripts

Electronic transcripts will be considered official **only** if they are sent directly from the accredited institution and received directly by the Online Enrollment Office at etranscripts@miami.edu. A transcript sent directly to the student's Enrollment Advisor will be considered as **unofficial** and will need to be re-sent to the official etranscripts address.

Official Transcripts, Scores & Conditional Admission

The University must receive official transcripts for all institutions attended before any student can be considered fully admitted into the University.

Official Transcripts/International Evaluations Due Date

If a student was Conditionally Admitted into a program with unofficial transcripts, the University **MUST receive the student's official transcripts from all institutions attended**, as entered on their online application, **or International Evaluations from an approved evaluation service, by the date listed on the UOnline Academic Calendar**. A student's Admissions letter will provide the exact due date for the official transcript(s) and he/she may check Canelink to verify that the University has received the student's official transcripts. Students should refer to the Academic Calendar (<http://www.miami.edu/index.php/registrar/calendar>) for important due dates.

Official Test Scores Due Date

If a student was Conditionally Admitted into a program with unofficial test scores and is required to submit official GRE, GMAT or TOEFL official test scores, the University **MUST receive their official test scores by the the date listed on the UOnline Academic Calendar**. A student's Admissions letter will provide the exact due date for the student's official test score(s) and he/she may check Canelink to verify that the University has received the student's official test scores. Students should refer to the Academic Calendar (<http://www.miami.edu/index.php/registrar/calendar>) for important due dates.

Financial Aid & Tuition Payment

If students apply for Financial Aid, Financial Aid will be NOT be awarded until the University has received the official transcripts from all institutions attended and/or test scores, if required.

Because Financial Aid will not be awarded until official transcripts from all institutions attended and test scores are received, a student **MUST** pay the tuition bill by the payment due date. Students should review the Payment policies for payment options and consequences for non-payment.

Official Transcripts and Test Scores Not Received

If Official Transcripts and/or Test Scores (if required) are NOT received by the due date:

- A student will be removed from the next course
- A student will be administratively withdrawn and may be reinstated if the University receives the student's official transcripts.
- A student may owe a tuition balance from being withdrawn and must have their tuition bill paid in full before being eligible for reinstatement

Enrollment Deposit

Once students have received their offer of admission or conditional admission, they will pay a **non-refundable** enrollment deposit in order to accept their offer of admission. Once the deposit in full has been received, students will be required to complete and pass their Student Readiness Orientation (SRO) within (4) four weeks or by the deadline provided, in order to be eligible for their first term registration.

What the Enrollment Deposit Is

The enrollment deposit payment is:

- Paid one time per UOnline program
- **Non-refundable** including if the student's Offer of Admission has expired, he/she failed the Student Readiness Orientation (SRO), and he/she never started the program or if they were conditionally admitted and did not meet the conditions for full admission.
- Due no later than **the date listed on the academic calendar**.
- Applied against a student's 1st tuition bill
- Valid for as long as the Offer of Admission is valid:
 - If a student's Offer of Admission for their UOnline program has **expired** and he/she reapplies to any program (campus-based or online), a student will be required to pay the deposit again and any applicable fees.
- Transferrable to a new UOnline program: if a student applies to a new UOnline program while the existing Offer of Admission is still valid, the student will not have to pay the deposit again.
- **Not transferrable** to any campus-based program.

Paying the Enrollment Deposit

After a student has received the Offer of Admission, the student will be provided access to Canelink (<https://canelink.miami.edu>) to pay the student's enrollment deposit with the following payment options:

- Online Credit Card payment:
 - MasterCard
 - Visa
 - American Express
 - Discover
- E-check (drawn on a US bank only)
 - Bank-to-Bank, Exchange Bureau or Wire Transfer.
 - Students are responsible for any fees or currency exchange processing charged by their bank or exchange bureau when transferring funds and should account for this when sending tuition payments.
- International Payments with Flywire (http://www.miami.edu/finance/index.php/student_account_services/cashier_services-1/international_student_payments)

New Students

Student Readiness Orientation

Once a student has been admitted and paid the non-refundable enrollment deposit, a student can start the Student Readiness Orientation. (<https://myonline.miami.edu/signup>) The Student Readiness Orientation (SRO) is an interactive series of **required** activities in the University's social media environment. and will be accessed by students through their UOnline student portal (<https://myonline.miami.edu/signup>). During the SRO, students will meet other students, prepare for online learning at the University of Miami and familiarize themselves with their support structures and University academic policies.

Students will **have (4) four weeks** to complete and pass the SRO and will receive an email with their official SRO completion deadline via email from their Enrollment Advisor. For students to be fully prepared for their courses, completion of the SRO is **mandatory** and must be passed within (4) four weeks of submitting the enrollment deposit. Students who submit their enrollment deposit **late** may have **less than (4) four weeks to complete the required activities** and should refer to their official SRO email for their deadline. **There are no extensions or exceptions allowed when completing the SRO.**

Students who fail to complete or do not pass the SRO by the deadline will be administratively withdrawn and will need to wait (1) one additional term before being eligible to reapply. Additional activities, such as the New Student Checklist, (<https://myonlinesupport.miami.edu/2015/08/13/new->

student-checklist) may also be required in order for students to be prepared for class. Student should work closely with their Enrollment Advisor and Student Advocate to receive guidance on completion of these additional activities.

Successful Completion

Once students have **successfully completed and passed all required activities** in the Student Readiness environment, they will be eligible to register for their first term's courses. Students should review the Syllabus to ensure that they complete the required activities with a passing grade.

Program Change

If a student **changes his/her program**, the student may be required to complete some program-specific portions of the Student Readiness Orientation (<https://myonline.miami.edu/signup>) or New Student Checklist (<https://myonlinesupport.miami.edu/2015/08/13/new-student-checklist>). If so, the student's Enrollment Advisor will inform the student and provide access to the relevant Student Readiness Orientation activities.

Offer of Admission Expiration

If a student's **Offer of Admission has expired** and he/she has not started a program, the student will be required to retake the Student Readiness Orientation (<https://myonline.miami.edu/signup>) once he/she has been re-admitted into the program.

Technical Requirements

To help ensure success, students should be proficient using e-mail, the Internet, and common desktop productivity software. During the course of the program, requirements (either hardware or software) may change from the original technology recommendation. Students should consult the software/hardware requirements within the program or with the faculty member or Student Support Team (<https://www.emailreform.com/builder/form/ift36G870a5UABMY>) for any technology recommendations that may have changed since the original recommendation mentioned below or within the program of study. Below are some **initial** recommendations. **Please note that these recommendations and requirements may change as technology changes and may also vary from course to course. Also please note that specific programs of study may have other specific requirements:**

Recommended Setup

- Internet access required; 6-10 Mbps speed or higher recommended; Broadband is recommended as students with dial-up may experience degraded performance
- Windows Vista/7 or Mac OS X with virtualization software (like Parallels with Windows OS)
- 2GB of RAM minimum
- 40GB hard drive
- speakers, and headphone connected to the computer
- Inkjet or laser printer
- Scanner or Scanning Application for mobile devices
- Portable media (thumb drive)

Software Requirements

- Recommended Web browser—current version of Chrome
- Other Web browsers (Internet Explorer ver. 9.0 or higher or Firefox's current and next most recent releases).
- Microsoft Office
- Adobe Reader ver. 10.1 or higher
- Adobe Flash Player ver. 11.7 or higher
- Apple QuickTime ver. 7.7 or higher
- Windows Media Player ver. 11 or higher
- Antivirus software (e.g., McAfee or Norton) installed, running, and kept current by promptly installing the upgrades and patches made available by the software manufacturer

Tablet/Laptop Recommendation

Students enrolled in programs that require participation in academic residencies are encouraged to use a laptop or tablet computer for their work. Some coursework may not be fully compatible with use of a tablet or mobile device; therefore, it is recommended that students have a desktop/laptop available if needed.

Additional Technology Requirements

Some programs may require additional technology requirements that are not mentioned above. Please refer to the program course(s) syllabi or course materials list in the UOnline Support Center (<https://myonlinesupport.miami.edu>) to review any special technology requirements for the program of study.

Cost, Fees, Billing and Payment

Tuition Includes

- Online learning environment and courses
- Application processing
- **Non-refundable** Enrollment Deposit (paid separately and deducted from 1st tuition bill)
- Technology fee
- Access to the online library, career center, and disability services
- Student and Technical Support

Tuition Does NOT Include

- Course Materials, Books and e-books
- Late Payment Fees, if assessed
- Graduation related fees

Your Tuition Invoice and Payment

Immediately after students have been registered into class, their tuition bill will be available in their student center through Canelink (<https://canelink.miami.edu>). Payment in full is due or arrangements to pay finalized **by the 1st day of the 1st class of each term**. If the University does not receive payment in full by this date, students will be removed from the online classes. **Students are responsible for ensuring their payments are made on time regardless of whether they are utilizing a third party for payment.** Students who are utilizing a third party for payment may need to find alternative payment arrangements to ensure they meet the payment deadlines as per the Academic Calendar. (<http://www.miami.edu/index.php/registrar/calendar>)

Payment Currencies

A student invoice is in **United States Dollars (USD)** and the University accepts payment only in **United States Dollar, USD**.

Payment Methods

The University offers several payment methods, described below. A student's tuition invoice will contain instructions for using these payment methods.

Credit Card

A student may pay by credit card via the University's partner, Elavon. A student can pay with:

- MasterCard
- Visa
- American Express
- Discover

Students will be charged a processing fee of 2.5% to pay by credit card.

eCheck (ACH)

Students may pay their tuition by E-check (ACH) online through your Canelink account:

- Click on the "Student Home" tab
- Navigate to Finances section
- Click on "Account Inquiry"
- Click on "Payment" and follow the instructions.

Students will not be charged any additional fee if they pay by e-Check. For additional help, contact the Student Support Team (<https://www.emailmeform.com/builder/form/ift36G870a5UABMY>).

Wire Transfer

Students may pay their tuition by wire transfer. The wire transfer instructions can be obtained through CaneLink.

How to obtain wire transfer instructions:

1. Log into CaneLink and go to Student Center, click on the Account Inquiry button under the Finances.
2. Click on Make a Payment to pay your tuition and select Wire Transfer Payment (USA & International).

3. Select the country from the “What country are you paying from” dropdown list. For domestic wire instructions, select the US wire transfer payment option.
4. Create a Flywire account, to track your wire payment, and enter basic identification information for the University to identify your payment.
5. The bank account wire instructions will be provided.
6. An email will be sent with a unique wire identification number.

Students should make sure their full name, student ID number, and unique wire ID number are included with the wire transfer to ensure the funds are applied correctly.

Wire/Bank Transfer Fees

Students are responsible for any fees or currency exchange processing charged by their bank or exchange bureau when transferring funds and should account for this when sending tuition payment. The University is not responsible for any fees students may incur during the transfer process.

Payment by a Third Party

A “third party sponsor” refers to any organization which formalizes a contract with the University and provides a guarantee letter assuming financial responsibility for a student’s, or group of student’s, tuition and fees, in full or portion thereof. Employers are **not** considered third party sponsors since sponsorship cannot be dependent upon the student’s continued employment with the organization. Students who plan on using their employers tuition reimbursement benefits are responsible for their tuition by the due date. Students with this type of assistance must inform the Financial Aid Office to ensure that financial aid is awarded appropriately and that funds are applied appropriately.

If a student’s tuition is paid via Third Party Sponsorship, **the student will still remain subject to all policies, including due dates, late payment fees and financial hold rules** and consequences.

Monthly Payment Plan (MPP)

Through the Monthly Payment Plan, term tuition payment is divided into 4 monthly payments for the Fall and Spring terms. The Summer term payment schedule is divided into 3 monthly payments and is only available to online students at this time. Each monthly payment is due on the 1st of the month and is **not** directly debited from the student’s account. **UM Employees are not currently eligible to enroll in the Monthly Payment Plan at this time.** UM Employees are encouraged to reach out to the Enrollment Advisor for other payment options.

- Students must pay each term in full before they will be registered for the next term (see payment methods section). This chart details the Monthly Payment Plan option available during the Fall and Spring Terms only.

Payment #	Reminder Sent	Payment Due By
1	1 week before	No later than 1st day of class
2	1 week before	1st of the next consecutive month
3	1 week before	1st of the next consecutive month
4	1 week before	1st of the next consecutive month

Late Payment

- If payment is not received by payment due date, a registration hold will be placed on a student’s account the next business day.
- Once payment has been received, the registration hold issued for late payment will be removed.

Tuition Reductions, Scholarships, Special Offers

During the Enrollment and Admissions process and at the University’s discretion, tuition reductions and scholarships may be offered to incoming students. Existing students will not be eligible for any **new** tuition reductions offered to incoming students. A tuition reduction will remain on a student’s account for the duration of the online program for which they received the reduction provided the student remains academically eligible and does not withdraw from the program for longer than one-year. Any student who is not enrolled in their program for greater than one year, will no longer be eligible for their initial tuition reduction and must reapply for admission to a program. A student may be eligible for any new tuition reductions being offered upon reapplication to a UOnline program. Students should contact an Enrollment Advisor for current offerings and qualifying criteria.

If students qualify for a tuition reduction, their Enrollment Advisor will provide them, in writing, the formal terms and conditions specific to that tuition reduction. The reduction will be included in a student’s tuition statement/note in Financial Aid package if applicable and deducted from tuition accordingly. If financial aid is awarded prior to the tuition reduction being applied to a student’s bill, the financial aid award will be adjusted accordingly. Student should contact (gradprof.finaid@miami.edu) the Financial Aid Office if they have questions regarding this adjustment.

UM Tuition Remission

As with other special Master’s degree programs and doctorate programs, UOnline programs are **not** available for University of Miami Tuition Remission. Please refer to the Tuition Remission policies on the University of Miami’s Human Resources website for additional details on the benefit program.

Tuition Increase

The University reviews tuition rates each year and reserves the right to increase tuition for existing students.

If the University does increase tuition:

- The increase will be implemented at the beginning of the Fall term and will apply forward to any future unbilled tuition.
- Students' tuition invoices moving forward will be adjusted to reflect the increase.

Change Payment Plan

Students may request to change payment plans. Currently the options are:

- Payment in Full to Monthly Payment Plan.
- Monthly Payment Plan to Payment in Full.

Payment Plan changes will be implemented **only at the beginning of the next term**. Students must complete any payments due for the current term as agreed under their current payment plan before they can request a new payment plan.

Students should contact the Student Support Team for more information about changing their payment plan. Formal requests must be in writing/online form

Billing Support

The student's Enrollment Advisor and Student Support Team will be able to answer questions or provide information about a student's invoice.

Graduate Grading Scale/Quality Points

An average of B (3.0) is required for a graduate degree, and no "D" credit hour may be counted toward the degree. All work leading to the graduate degree and taken as a graduate student will be counted in computing the quality point average, including courses graded "D".

No transferred credit hours are calculated into the University of Miami G.P.A.

Grade Interpretations

A	Excellent accomplishment.
B	Good accomplishment.
C	Fair, but below that expected of graduate students (C- is the lowest passing grade. Some programs may require higher standards.).
S	Symbol used for acceptable (U-unacceptable) thesis, dissertation, practicum and internship credit hour. It may be used for regular courses under special circumstances with the prior approval of the instructor, department chairman, and the Dean of the Graduate School. The Graduate School considers a grade of "S" to indicate a minimum of a 3.0 GPA in a graduate course if a student has taken no prior coursework on the graduate level. A grade of "S" reflects that a student is in good academic standing.
D	Poor (not acceptable for credit hour toward the advanced degree).
F	Failure.
W	Course dropped prior to the last day for withdrawing from classes as published in the official calendar of the University. Courses dropped after last date must have approval of Dean of Graduate School. Credit hour can be earned only by successful repetition of the course.
I	Incomplete work in passing status with the instructor's permission to complete the course. (Not to be used for thesis or dissertation credit hours). Student may request an incomplete from the professor if: • they have completed at least 75% of the course and • have a C or better in the course at the time of the request. The "I" should be changed to a letter grade within one (1) calendar year after it is given, unless the Academic Dean of the student's primary school or college and the Dean of the Graduate School approve the delay. If the "I" is not changed within one year, credit hour can be earned only by successful repetition of the course. (Note: Fellowships and financial aid may be withdrawn if there is an excess accumulation of "I"s on a student's transcript.).
NG	Symbol assigned by the Office of the University Registrar indicating that the instructor has not yet reported the student's grade. For a student to receive credit hour for the course, the instructor must report a passing grade prior to the student's graduation. ¹

¹

Quality Points

A+	4.00
A	4.00
A-	3.70
B+	3.30
B	3.00
B-	2.70
C+	2.30
C	2.00
C-	1.70
D+	1.30
D	1.00
F	0.00

The quality point average is then determined by dividing the total of quality points earned by the total of credit hours attempted. The symbols "S", "W", and "I" are not counted as credit hour attempted.

Repeating Courses & Academic Progression

A student may repeat a course in which a failing grade was earned, but the repetition of the course will not eliminate the previous grade from the record and the student is responsible for tuition and other costs related to the repeated course. A course may be repeated only once unless written authorization is provided by the Program Director, Dean of the School and Dean of the Graduate School. All grades are included in the computation of the quality point average. If a course in which an unsatisfactory grade (as determined by the program advisor) was earned is repeated and the repeat grade is a "C-" or higher, the number of credit hours required for graduation will be increased by the number of credit hours repeated. If a student attempts to retake a passed course, taking the same course to obtain a better grade, financial aid may be affected.

Registrations which involve repeating a course in which a grade of "A" or "B" has already been earned may not earn quality points or credit hours, nor count as credit hours attempted.

UOnline Business Students

Graduate students in the Miami Business School who fall below the 3.0 GPA may be placed on academic probation. Within one semester after their GPA falling below 3.0, Master's students wishing to repeat a course may petition their program director to do so. If the petition is approved by the graduate program director, the grade obtained in their second attempt will replace the original grade for purposes of calculating their GPA for clearance for graduation only. Authorization to repeat a course is limited to courses in which an unsatisfactory grade was earned (as determined by the graduate program director).

Additionally, a course may be repeated only **once** and students may not repeat more than two courses. The student's transcript will continue to show all attempts and the GPA computation will include all grades earned for purposes other than computing the GPA for clearance for graduation. If a course in which an unsatisfactory grade of lower than a "B-" was earned is repeated and the repeat grade is "C-" or higher, the number of credits required for graduation will be increased by the number of credits repeated. Registrations which involved repeating course in which a grade of "A" or "B" has already been earned may not earn quality points or credit hours, nor count as credits attempted.

UOnline MEd Sport Administration

UOnline students must earn a grade of "C" or better in KIN 601 before taking KIN 602 or KIN 603. Should a student earn below a "C" in KIN 601, the student will be automatically withdrawn from their Session 2 course for that term and rescheduled for the immediate next term in KIN 601 to repeat. Students failing to earn the required pre-requisite grade will be responsible for tuition for both attempts.

UOnline MS Health Informatics

The minimum passing grade for each course is a B. An overall average of B (3.0) is required for the graduate degree and certificate.

A student may receive only **one** (1) grade below a B while they are enrolled in the program. If that grade is below a C, the course must be repeated and a grade of B or better achieved on the retake. The repetition of the course will **not** eliminate the previous grade from the record and the student is responsible for tuition and other costs related to the repeated course. All grades are included in the computation of the quality point average.

Students receiving a second grade below B will be **dismissed** from the program

Attendance

Military Withdrawal

Tuition refunds of 100% are granted to students who withdraw due to military service, provided they do not receive credit hour for the course (see below). A student should contact their Academic Advisor if they need to request a military withdrawal (<https://qafederation.ngwebsolutions.com/sp/startSSO.ping?PartnerIdpld=https://caneid.miami.edu/idp/shibboleth&TargetResource=https://dynamicforms.ngwebsolutions.com>).

If a student receives federal financial aid and withdraws before they complete 60% of the term, a pro rated calculation will determine the amount of financial aid the student has earned. It is based on the amount of time the student was enrolled. This calculation is independent of any charges incurred at the University.

1. On recommendation of the Dean of the school, students who withdraw after the 5th week of the session because of official orders to active duty with the Armed Forces of the United States may be awarded credit hour in any course in which they have achieved a C or better up to the time of withdrawal. Instructors must certify that the student had achieved satisfactory accomplishment on the basis of previous work in the course by awarding an appropriate grade. Accomplishment of less than C should be entered on the permanent record as a withdrawal without prejudice (W).
2. Credit hour granted for a course under this policy should count toward graduation.
3. There should be no refund of tuition for courses for which credit hour has been granted. Refunds of courses not awarded credit hour should be on the same basis as complete withdrawals for military service.
4. The above recommendations are procedures for determining the awarding of credit hour and do not release the student from the usual withdrawal procedures.

Attendance and Participation, 1st Week (new and continuing students)

Online courses are **not** independent study courses. They involve a mixture of independent work outside the online course environment and presence within the course room. Authentic student engagement includes activities such as doing assigned readings, preparing and presenting quality assignments and participating substantively in online discussion. **Logging into the online course alone does not demonstrate adequate engagement or participation.**

Attendance during the first week of each course ensures you are on the right path to successfully completing your course and helps ensure that all students are assigned to groups with active participants to support quality group work. Participation in an online course is defined as the submission of a gradable assignment and/or discussion post about academic matters.

Students are required to attend, engage and participate in each of their online course(s) in an active and timely fashion. For each course, a student must participate by submitting their Week 1 assignments/discussion(s) during the first 7 calendar days from the course start date. This policy is the same for both New and Continuing students. If a new or continuing student logs in, but does not participate in any Week 1 activities by the end of day 7 (Eastern Standard Time) of a course, they will be administratively withdrawn from the program and must contact their Enrollment Advisor or Academic Advisor regarding eligibility for readmission. If a student's instructor has approved submission of late work in Week 1, **the student is still responsible for submitting the work no later than day 7 of the course or they will still be administratively withdrawn due to lack of participation regardless of any extensions made by their instructor.**

Attendance by Day 7

By the **end of the Day 7** (Eastern Standard Time) of each Course, a student must log into the Blackboard classroom to actively indicate his/her intention to participate in and complete that course. If by Day 7 the student has logged in and submitted an assignment and has not formally rescheduled his/her start date or withdrawn from the program the student will:

- Be considered as attending the course.
- Be obligated to pay for the course in full or make all payments in accordance with the monthly payment plan.
- Be responsible for adhering to all University policies and course policies

No Attendance by Day 7

Starting on the first day of each course the Enrollment Advisor or Academic Advisor will contact the student if the student has not yet logged in to the Blackboard classroom, and remind the student to do so. If the student does **not** log into the Blackboard classroom the **end of Day 7** (Eastern Standard Time), the student will be removed from the current course and will no longer be able to attend class. The student will be administratively withdrawn from the term and will need to contact their Enrollment Advisor or Academic Advisor to discuss their options for returning the following term.

If a student is a **new student** and has been administratively withdrawn for lack of participation, the student will need to sit out one (1) term before being eligible to reapply in the future. A student who chooses to remain in the course will be subject to all applicable deadlines as stated in the course syllabus.

If a student is a **continuing student** and the Academic Advisor has been able to contact the student, the student will be encouraged to submit a withdrawal request (<https://qafederation.ngwebsolutions.com/sp/startSSO.ping?PartnerIdpld=https://caneid.miami.edu/idp/>)

shibboleth&TargetResource=https://dynamicforms.ngwebsolutions.com) with a return date to ensure he/she is not withdrawn from the program. A student who chooses to remain in the program will be subject to all applicable deadlines as stated in the course syllabus.

The Enrollment Deposit will remain on the student's account and remains non-refundable. If the student has a tuition balance, it will be voided and reissued on the 1st day of the next course for which the student is registered should the student choose to change their start date.

Removed from Course Erroneously

If a student believes he/she has been **removed from the course erroneously**, the student should contact his/her Academic Advisor (<https://www.tfaforms.com/433870>) to discuss options.

No Contact or Response by Day 7

A student will be designated as a non-starter and will be administratively withdrawn, if a student has not logged into the Blackboard classroom by Day 7 and the Enrollment Advisor or Academic Advising Team has not been able to contact the student.

New Students

If an Enrollment Advisor cannot reach the student, or does not receive a withdrawal form (<https://qafederation.ngwebsolutions.com/sp/startSSO.ping?PartnerIdpId=https://caneid.miami.edu/idp/shibboleth&TargetResource=https://dynamicforms.ngwebsolutions.com>) from the student by Day 7 of the term, the student will be administratively withdrawn from the term. If the Offer of Admission expires, the student will be required to reapply to the program.

Continuing Students

If the Academic Advising Team cannot reach or does not receive a withdrawal form (<https://qafederation.ngwebsolutions.com/sp/startSSO.ping?PartnerIdpId=https://caneid.miami.edu/idp/shibboleth&TargetResource=https://dynamicforms.ngwebsolutions.com>) from the student by Day 7 of the term, the student will be administratively withdrawn from the program. The student should contact the Academic Advising Team (<https://www.tfaforms.com/433870>) if they intend to return in the future and should review the Academic Calendar for all applicable deadlines regarding readmission.

On-going Attendance

Students should continue to login and attend class every week. Students who do not participate in their courses as indicated by course requirements, or fail to notify the University that they are no longer attending will be administratively withdrawn. This may result in the requirement for the return of previously awarded federal financial aid. If the University is required to return federal student aid funds, the student will be required to pay any outstanding balance owed the University.

If a student receives federal financial aid and withdraws before they complete 60% of the term, a pro rated calculation will determine the amount of financial aid the student has earned. It is based on the amount of time the student was enrolled. This calculation is independent of any charges incurred at the University. This Federal Financial Aid calculation is separate and in addition to the Refund Policy and Schedule. If a student has questions pertaining to either policy, they should contact their Academic Advisor (<https://www.tfaforms.com/433870>).

Student Change Requests

Reschedule Start Date, Student Initiated

A new student may not reschedule his/her start date once the offer of admission has been accepted unless a Deferral Exception Appeal Request (p. 1350) has been approved.

Students must submit their Deferral Exception Appeal form (<https://qafederation.ngwebsolutions.com/sp/startSSO.ping?PartnerIdpId=https://caneid.miami.edu/idp/shibboleth&TargetResource=https://dynamicforms.ngwebsolutions.com/ShowForm.aspx?RequestedDynamicFormTemplate=2688d0b9-6031-4812-8f79-84fe37812020>) to their Enrollment Advisor and discuss the options and any financial and academic consequences no later than the approved deferral deadline. In extraordinary circumstances, such as a serious illness or accident, students may request to appeal their withdrawal date by contacting their Academic Advisor for more information regarding the UOnline Student Appeal process.

Choosing to Remain in the Course

If after discussing with their Enrollment Advisor students decide to **remain** in the course, students' Enrollment Advisors will confirm this verbal decision with the students formally, in writing via email, reiterating the financial and academic obligations. Students should reply to the email and confirm their wish to remain in the course. Otherwise, the original written request to withdrawn will be honored.

Choosing to Reschedule

If after discussing with their Enrollment Advisors students are approved to **defer** their start date, the Enrollment Advisors will process the formal request and:

- Students will be removed from any courses currently enrolled.
- Students will be enrolled into the courses for the term of the requested start date.
- Students may lose any associated tuition reductions (please see tuition reduction's terms and conditions).

The Enrollment Advisor should confirm formally within 1-2 business days that the start date change has been completed. The student may also view their start date change in Canelink.

The Enrollment Deposit will remain on the student's account. If a student has received the 1st tuition balance, it will be voided and reissued before the 1st day of the new start date.

Financial Obligations After Day 7

If a student does **not** contact his/her Enrollment Advisor and submit the Withdrawal Request form (<https://qafederation.ngwebsolutions.com/sp/startSSO.ping?PartnerIdId=https://caneid.miami.edu/idp/shibboleth&TargetResource=https://dynamicforms.ngwebsolutions.com>) by the end of Day 7, after Day 7 the student will be obligated to pay for the course in accordance with the refund policy and schedule and is not eligible for a credit of tuition towards the rescheduled terms.

Offer of Admission Expired

If a student's **Offer of Admissions has expired**, he/she will not be able to reschedule the start date and must reapply to the Program.

Add a Course

Each active student will be registered at least **14 days before each term start** into the appropriate course(s) according to the sequence and rules of the program. Any student requested changes will be implemented by **1 day before the course start** to ensure proper section and group assignments. New students must contact their UOnline Student Advocate to discuss any changes or concerns about course registration. Continuing students should contact their Academic Advisor to discuss any changes or concerns about course registration.

Drop a Course

A student may drop a course only **before or by the end of Day 7** (Eastern Standard Time) in order to avoid financial or academic (grading) consequences as per the refund policy and course syllabus.

If a student is a new student, he/she must contact the Enrollment Advisor to discuss the need to drop a course and potentially reschedule the start date. Due to the scheduling and sequence of courses, new students may need to be dropped from all courses in the term and may need to wait to be rescheduled at the beginning of the next available term for their program.

If the student is a continuing student he/she must contact the Academic Advisor to discuss the need to drop a course and withdraw from the program. In some cases, due to course scheduling and sequence, a student may need to drop all courses from the term and wait to enroll in a future term. Continuing students should work closely with their Academic Advisor to discuss all rescheduling options and ensure they are meeting the required times-to-completion for their program.

If a student receives federal financial aid and withdraws before he/she completes 60% of the term, a pro rated calculation will determine the amount of financial aid the student has earned. It is based on the amount of time the student was enrolled. This calculation is independent of any charges incurred at the University. If a student plans to drop a course or to withdraw from their program, they should consult both the Financial Aid withdrawal policy as well as the Refund Policy for UOnline programs to determine their financial responsibilities.

Retaking the Entire Course

If a student is required to retake an entire failed course and/or has achieved a grade lower than the required in a pre-requisite :

- The student will be re-registered for the failed course the next time it is offered or in the next session
- If the student has already been registered into the next course in the program sequence, the registration will be adjusted.
- The student will be billed the full course tuition.
- The student can receive Financial Aid to pay for the second course retake, but if the student fails and takes the course a THIRD time, Financial Aid will not be available and the student must pay for the course tuition out-of-pocket. A student may contact their Academic Advisor for more information on payment options.

Change of Program

Students may request to change from their current program to another online program. The student must apply to the new program and provide information necessary for admission into that program. The student's Enrollment Advisor will work with the student and the admissions staff to determine if the student is qualified to apply for a new program. Please note that program changes will be implemented as per the University's Online academic calendar.

If the student is still a new student (has not completed the 1st 7 days from the start date) the student should contact their Enrollment Advisor. If the student is a continuing student he/she should contact the Academic Advisor to discuss all of the options and the new program admissions

requirements. Tuition and any applicable tuition discounts that were previously applied to a new or continuing student's balance will be subject to change upon changing the program.

Certificate to Master's Students

Certificate students who are interested in completing the remaining half of the Master's courses must formally apply and get admitted to the Master's program in order to continue. Students should reach out to their Enrollment Advisor after their third Certificate course in order to allow enough time to apply for the Master's degree. There is no guarantee that students will be admitted into the Master's degree and are subject to the same admissions requirements as a new applicant. It is the student's responsibility to reach out to the UOnline Enrollment Department for further details on what is needed to apply.

Non-Standard Change of Program

If a student is eligible to change into a new program, he/she will be registered into the appropriate course and start the new program in the next available term. Approved completed courses will be transferred into the new program. Students will not be charged another enrollment deposit.

If a student does not meet the admissions requirements, the student should continue to work with the Enrollment Advisor or Academic Advising on other options available.

Withdraw from Course but Not Program

If a student needs to withdraw from a course but does not wish to withdraw from the program, the student should contact their Academic Advisor to discuss the academic and financial implications. The student should also review the academic calendar for important dates regarding withdrawal from a course and how the withdrawal will be reflected on the transcript. In some cases, due to course scheduling and sequencing, a student may need to drop all courses from the term and may have to wait longer than one term to be rescheduled. Continuing student should work closely with their Academic Advisor to discuss all rescheduling options and ensure they meet time-to-completion requirements for their program.

If after discussions with their Academic Advisor the student decides to withdraw from a course, the deadlines for withdrawal, as they appear on the academic calendar, will apply. Additionally, if students withdraw from the course after the "**last day to drop without a W**" as per the Academic Calendar, they will:

- Be required to pay for the course in accordance with the refund policy and schedule for online programs.
- Receive a Withdrawn (W) grade for that course and, for this reason, will remain registered in that course until the course end date so the final grade can be posted to the student's official record.

Students must submit their Withdrawal Request (<https://qafederation.ngwebsolutions.com/sp/startSSO.ping?PartnerIdpld=https://caneid.miami.edu/idp/shibboleth&TargetResource=https://dynamicforms.ngwebsolutions.com>) no later than the "**last day to drop With a W**" as per the Academic Calendar. Any Withdrawal requests submitted after this date will not be processed for the current session. The student will remain in their current course and must be resubmit the Withdrawal form (<https://qafederation.ngwebsolutions.com/sp/startSSO.ping?PartnerIdpld=https://caneid.miami.edu/idp/shibboleth&TargetResource=https://dynamicforms.ngwebsolutions.com>) after the course ends in order to be formally withdrawn.

Withdraw from Program

If students are withdrawn from the program this means they are permanently suspended from continuing with their studies. Therefore, students will not be registered for future courses or have access to the online student community, the academic environment or other related program privileges.

If a student is considering withdrawing from the program, he/she should be aware of the financial and academic consequences for doing so. There are different consequences for withdrawing **before and after Day 7**.

If a student receives federal financial aid and withdraws before he/she completes 60% of the term, a pro rated calculation will determine the amount of financial aid the student has earned. It is based on the amount of time the student was enrolled. This calculation is independent of any charges incurred at the University as per the refund policy and schedule. Students should contact their Academic Advisor before withdrawing to fully understand their financial obligations upon withdrawal.

Student-Initiated Withdraw from Program BEFORE Day 7

Should a student wish to withdraw from the program **before, or by the end of Day 7** (Eastern Standard Time) of their first course, students must submit a Withdrawal Form (<https://qafederation.ngwebsolutions.com/sp/startSSO.ping?PartnerIdpld=https://caneid.miami.edu/idp/shibboleth&TargetResource=https://dynamicforms.ngwebsolutions.com>) by the end of Day 7 (Eastern Standard Time) of their current course to make the request. If the student decides to withdraw from the program by end of Day 7 of the current course:

- The student will be removed from their course(s).
- The student will be refunded for the course(s) in accordance with the refund policy for online programs (minus the enrollment deposit).
- The course(s) will **not** appear on the student's record.

The effective program withdrawal date will be the date/time the Withdrawal Form was submitted and should be processed within 3-4 business days by the Office of the University Registrar. Should the student's withdrawal need to be reviewed by other departments, such as Financial Aid, processing time may be extended to 14 business days.

The Enrollment Deposit remains non-refundable. If the student received a tuition invoice, it will be recalculated or cancelled in accordance with the refund policy and schedule and effective date of program withdrawal.

Student-Initiated Withdraw from Program AFTER Day 7

If the student would like to withdraw from the program **after Day 7** (Eastern Standard Time) of the course start, students must submit a Withdrawal Form (<https://qafederation.ngwebsolutions.com/sp/startSSO.ping?PartnerIdpId=https://caneid.miami.edu/idp/shibboleth&TargetResource=https://dynamicforms.ngwebsolutions.com>) by the end of Day 7 (Eastern Standard Time) of their current course to make the request. If the student decides to withdraw from the program or their current course:

- The student will be removed from any course currently enrolled.
- The student will receive a **Withdrawal (W)** on the student's record for their course.
- The effective program withdrawal date will be the date/time the Withdrawal Form was submitted and should be processed within 3-4 business days by the Office of the University Registrar. Should the student's withdrawal need to be reviewed by other departments, such as Financial Aid, processing time may be extended to 14 business days.

The enrollment deposit remains non-refundable. Any tuition payments made by the student for the course through the time of withdrawal will not be applied or credited towards any future courses the student may enroll into. If a student is using Financial Aid, a recalculation of financial aid may be required to determine if any funds need to be returned to Title IV. In this case, the calculation may take up to 45 days from the effective date of withdrawal to appear on the student's account. Students may check Canelink to review their account and balance.

Students must submit their Withdrawal Request (<https://qafederation.ngwebsolutions.com/sp/startSSO.ping?PartnerIdpId=https://caneid.miami.edu/idp/shibboleth&TargetResource=https://dynamicforms.ngwebsolutions.com>) no later than the **"last day to drop With a W"** as per the Academic Calendar. Any Withdrawal requests submitted after this date will not be processed for the current session. The student will remain in their current course and must be resubmit the Withdrawal form (<https://qafederation.ngwebsolutions.com/sp/startSSO.ping?PartnerIdpId=https://caneid.miami.edu/idp/shibboleth&TargetResource=https://dynamicforms.ngwebsolutions.com>) after the course ends in order to be formally withdrawn.

Administration-Initiated Withdraw from Program

The student may be withdrawn from the program for academic progress issues, academic integrity, non-payment or other administrative issues. In this event, the student will receive formal notification that he/she will be withdrawn from the program.

The student will still be responsible for completing payment on any previously taken courses and will be subject to all billing, payment and collections policies.

Withdraw from Institution

If the student requested to withdraw from the program, he/she will be formally withdrawn from the Institution within 1-calendar year/365 days of the effective withdrawal date on record. Until this time, the student may still request to be reinstated to the program under certain circumstances. A student should contact Academic Advising for next steps on reinstatement if they choose to return after that time.

If the student is withdrawn from the program he/she will be withdraw from the Institution immediately and may not be reinstated either to the program or Institution.

Withdrawal Appeal Process

In extraordinary circumstances, such as a serious illness or accident, students may request to appeal their withdrawal date by contacting their Academic Advisor (<https://www.emailmeform.com/builder/form/u0FnTh276J4GycEdxz7>) for more information on the UOnline Withdrawal Appeal process. The appeal form must be submitted within 30 calendar days from the date of withdrawal from the University or if the appeal is being submitted for a semester that is completed, the form must be submitted within 30 calendar days of the last day of the end of the semester in question. Students must adhere to the specific documentation requirements as stated on the Appeal Form and submit all required documentation, along with the completed form to registrar@miami.edu. A decision will be sent electronically to the email address provided on the Appeal Form within a months time from the date it was received.

Reinstatement to Program

If a student has been withdrawn from the program, he/she may be reinstated to the program if:

- The student was **not** withdrawn from the program for academic progress or misconduct reasons.
- The student was **not** withdrawn from the Institution or is not in the process of being withdrawn from the Institution.
- The student has no unpaid tuition balance.

- The student has been withdrawn from the program for **less than 1 calendar year** (365 calendar days). If the student is withdrawn for **more than 1 calendar year**, he/she must reapply to the program.

Students may not credit any previously paid tuition to courses they register into once reinstated and should contact their Academic Advisor (<https://www.emailmeform.com/builder/form/u0FnTh276J4GycEdxz7>) to discuss the reinstatement process and requirements.

Late Payments, Holds, Collections and Refunds

Late Payment Fees

A payment is considered late if it has **not been paid by 1 day after** the payment due date. Late fees may be assessed to the student's account.

Financial Hold

Students are expected to pay tuition on time. Paying on time ensures timely registration into subsequent courses so that a student can continue to advance toward completing the program. Students must pay for each term in full before they can continue on to the next term.

If a student is **15 or more days past due on 1 or more invoices**, he/she will be placed on Student Account/Financial Hold.

If a Student Account/Financial hold is placed, students:

- will be able to complete the current course
- will **not** be registered into future courses until all outstanding invoices have been paid.
- will **not** be able to receive transcripts or a diploma

Placement on Student Account Hold

Students will receive a reminder that payment is due as well as overdue. Students will also be notified once a Student Accounts Hold is placed on their account.

Removal From Student Account Hold

Once students have made their overdue payment, the Student Accounts Hold will be removed within 24 hours and students will be registered into the next course in the next available term.

Third Party Collections

The University utilizes third party collections services to collect on unpaid balances.

Refund Schedule

A student who withdraws or is withdrawn from the program may be entitled to a refund according to the rules outlined below.

By or Before Day 7 (Week 1) of Each Course

If a student withdraws from the program **by, or before Day 7** (Eastern Standard Time) of a course, he/she will be refunded 100% of tuition paid for that course, excluding the enrollment deposit. If the student withdraws during the refund period and has not yet paid any tuition owed for that course, the Student Accounts Office will cancel the balance for that course.

Day 8-14 (Week 2) of Each Course

If a student withdraws from the program **after Day 7, but not later than Day 14**, he/she will receive a **50% refund**.

Day 15-49 (Week 3-Week 7) of Each Course

If a student withdraws from the program on or **after Day 15**, he/she will receive **no refund** and will be obligated to pay for the **entire course they are currently enrolled**.

The effective withdraw date is:

- If initiated by the student, it is the date the student formally submitted the withdrawal form (<https://qafederation.ngwebsolutions.com/sp/startSSO.ping?PartnerIdpId=https://caneid.miami.edu/idp/shibboleth&TargetResource=https://dynamicforms.ngwebsolutions.com>)
- If initiated by the Administration, it is the date the administration formally entered/processed the withdrawal.

Overpaid Tuition

After students have withdrawn, if they paid more than what they owed on a course, they will be refunded the difference between what they paid and the amount due as determined by the refund schedule and effective withdraw date. Overpayment tuition refunds are typically processed on or about

14 days after the start of each term; however, in certain circumstances this time frame may be delayed. Students may check their Canelink account to view when refunds have been processed.

Refund Policy and Schedule - Timeline and Methods

All refunds will be paid via the payment method paid and within 30 days of the effective withdrawal date on record.

Day Formally Withdrawn from Program	Day 0-7 (Week 1)	Day 8-14 (Week 2)	Day 15-49 (Week 3-7)
Enrollment Deposit	No refund	No refund	No refund
Tuition Refund (minus the enrollment deposit)	100% refund	50% refund	No refund

Ethics, Student Rights and Responsibilities

Students agree to abide by the Graduate Student Honor Code.

The University of Miami expects all graduate students to adhere to the highest standards of ethics and academic integrity. All forms of academic fraud are strictly prohibited. These include, but are not limited to, plagiarism, cheating, collusion, falsification, violation of professional ethics, or misrepresentation of research data. Students certify that all work (whether an examination, dissertation, thesis, research paper, research project, form of creative expression, experimental data, or any other academic undertaking) submitted for evaluation, presentation, or publication meets these standards. Additionally, graduate students are expected to respect and appreciate the diversity of the community and to respect the rights of others, be they property, privacy, opinion, or expression. Students found to be in violation of these standards are subject to disciplinary actions by the student's program and/or the Graduate School. All graduate students are bound by the rules and regulations of the University of Miami that apply to them. The **Graduate Honor Code** can be reviewed on the Dean of Students (p. 1367) website.

Disciplinary and Grievance Procedures for Graduate Students

Two types of procedures exist:

- Academic and
- Nonacademic.

Procedures for handling disciplinary and grievance matters are handled by the Graduate Student Appeals Committee. Contact the Graduate School for details about the appeals process. The Graduate School expects an appeal to have gone through the program or department and then the School's Academic Dean prior to its being heard by the Graduate School. The University Ombudsperson may also be consulted. For more information, please refer to the Academic Policies page.

Honors and Awards

Award of Academic Merit

Students who obtain a 3.8 G.P.A. or better will receive an Award of Academic Merit from the Graduate School. The Award is posted on the transcript.

Who's Who Among Students in American Universities and Colleges

The Graduate School solicits nominations for this award annually. Nominations are provided by Graduate Program Directors at the beginning of the spring term.

- Graduate Student Awards
- Graduate Student Organization Award
- GSA Executive Award
- Senate Award
- Academic Award
- Graduate Student Award

Requirements for Commencement

It is the responsibility of the student to apply for graduation through Canelink during the student's final term prior to the deadline for the next commencement ceremony.

Both the dates for commencement and the deadline to apply for graduation are published in the online academic calendar (<http://www.miami.edu/index.php/registrar/calendar>). Students who previously applied for graduation but did not receive the degree must repeat the application procedure. Deadlines for the commencement program are firm. Students will be degree candidates until they have been cleared by the Graduate School.

Participation in the commencement ceremony or the listing of a student's name in the commencement book in no way implies or ensures graduation. A student's graduation is contingent upon successful completion of the degree requirements and approval by the academic school or college.

Commencement ceremonies are held in May and December only. Those students completing degree requirements during the fall, spring, or summer sessions may, if they wish, participate in the graduation ceremonies of the previous or following May or December. Students receiving a Ph.D., D.M.A., D.N.P., D.P.T., or Ed.D. degree and plan to participate in the hooding ceremony and all master's students marching in the graduation ceremony must have the approval of the graduate advisor, director, or appropriate person in the department/school to participate in the ceremonies.

Participation in commencement for students in all graduate programs is contingent upon the following:

1. The student must have met the requirements for the program.
2. The student must have a minimum of 3.00 cumulative grade point average;
3. The student may not have any outstanding debt including, but not limited to, tuition, fines, and fees. Tuition for the last term of study must be paid in full by the beginning of the final term.

Clearance for Degree Conferral

For the Graduate School to clear a student for graduation:

1. All original documents (transcripts from previous degrees, GRE scores, etc.) must be on record in the Graduate School (except for MBA students).
2. The Admission to Candidacy form must have been completed by the program at least one term before graduation. The Graduate School does not require application to candidacy for master's, D.P.T., nor D.N.P. degrees.
3. The student must defend his/her thesis or dissertation (if applicable) no later than two weeks before the last day of class in the term he/she wishes to graduate.
4. The student must submit his/her final, Dissertation Editor-approved thesis or dissertation with all corrections completed and final paperwork turned in to the Graduate School by the last day of exams in the term he/she wishes to graduate for their clearance to be processed in time.

Graduate Student Association

The primary function of the GSA is to promote effective graduate student participation in University affairs. The GSA serves as a liaison between graduate students, faculty, and the administration. In addition, the GSA exists as a forum to support and improve the quality of the graduate student environment at the University of Miami. The University of Miami Graduate Student Association is an active member of the National Association of Graduate-Professional Students. All graduate students at the University of Miami are members of the GSA.

Graduate Council

The mission of the Graduate Council is to promote graduate education, scholarship, and research; to support individuals, departments and programs in the pursuit of excellence; to foster innovative, multidisciplinary, and interdisciplinary activities and to maintain high ethical and academic standards in graduate studies.

Student Resources

Dean of Students Office

The mission of the Dean of Students Office is to foster the personal development of students by providing a range of programs and services that create an optimal learning and living environment. The Graduate Honor Code (https://doso.studentaffairs.miami.edu/_assets/pdf/policies/student_rights_and_responsibilities_handbook.pdf#page=10) and the Student Rights and Responsibilities Handbook (p. 1346) are two methods in which the University encourages ethical behavior in all its students. The Graduate Honor Council is a student organization which investigates violations of the Graduate Honor Code and decides appropriate action. The Dean of Students Office also oversees the University Chaplains Association, which consists of various campus ministries to serve the spiritual needs of students. For more information on these and other services offered by the Dean of Students Office, call 305-284-5353 or visit our website (<https://doso.studentaffairs.miami.edu>).

Career Development

The Toppel Career Center assists undergraduate students, graduate students, and alumni in formulating their career plans and in pursuing internship opportunities.

It is the intent and desire of the University of Miami and the Toppel Career Center to provide equal employment opportunities for students and graduates regardless of race, color, national origin, religion, gender, sexual orientation, age or disabilities.

HireACane.com is a management system where students can access internships, jobs, on-campus recruiting information, career programs, and companies/organizations attending Careers Expos and Fairs. Students can only access these additional online resources by activating and logging into their HireACane.com account.

Student Disability

The Academic Resource Center (ARC) provides academic resources and support to ensure that students with documented disabilities are able to access and participate in the opportunities available at the University of Miami.

All students seeking accommodations for a disability **must register** with the Office of Disability Services. **Students should disclose that they are a UOnline student for fastest processing times.** Students should register as soon as possible so that the office has sufficient time to receive and review the necessary documentation and coordinate reasonable accommodations. To register, schedule an appointment with the ARC at 305-284-2374 or e-mail us (disabilityservices@miami.edu).

Before a determination is made regarding a request for accommodations, the student must complete the proper forms and submit current, appropriate, and full documentation of the disability as required by ARC.

Important Phone Numbers

Graduate School	305-284-4154	
Office of Financial Assistance Services	305-284-3115	gradprof.finaid@miami.edu
Online Enrollment Office	1-800-411-2290	onlineinfo@miami.edu
Student Accounts	305-284-6430	saccounts@miami.edu
Office of the University Registrar	305-284-2294	registrar@miami.edu
UM General Information	305-284-2211	
Student Support Team	800-411-2290 ext2	uonlinestudentsupport@miami.edu
Academic Advising	800-411-2290 ext3	uonlineadvising@miami.edu

SPECIAL PROGRAMS

Miami Semester

<http://www.miami.edu/miamisemester>

The Miami Semester – Visiting Student Program provides the opportunity for degree-seeking students attending other colleges to spend one or two semesters living, studying and doing research at the University of Miami. Domestic and international students may enroll in this program, taking advantage of our diverse academic community, renowned faculty, and beautiful South-Florida landscape.

The Miami Semester – Visiting Student Program is limited to degree-seeking undergraduates in good standing attending other universities and colleges. Participating students will be required to take a minimum of twelve credits.

If an academic area of study is not listed below, please contact the Miami Semester Program office to inquire if your program of interest is available.

Course offerings are subject to change depending on availability.

American Studies

American Studies allows students to select three courses from the American Studies (AMS) Program's course offerings, and additional classes from other departments based on availability and interests. It is an interdisciplinary approach for students to reflect on the interrelated nature of subjects like, but not limited to, Sociology, Geography, History, and Anthropology, and topics that are relevant to today's society such as cultural diversity, the global economy, regional and geographical norms, and popular culture. The goal of this program is to assist in students' understanding of the world around them by analyzing events, policies, societal norms and cultures, and historical events. Students may take any combination of courses that equal at least 12 credit hours.

Code	Title	Credit Hours
Core Courses ¹		
Select a minimum of one of the following:		3-6
AMS 101	Introduction to American Studies	
AMS 310	The United States in the World	
AMS 350	History and Culture of South Florida	
Additional Course		
AMS 401	Seminar in American Studies	
Elective		6
Total Credit Hours		9-12

¹ Core courses are selected in conjunction with an advisor.

Architecture: New Urbanism

The Architecture program allows for students currently majoring in architecture at other colleges and universities to gain perspective of the field in South Florida. Students enroll in six credits of Architectural Design and six to nine credits of related electives or courses in Urban Studies. Students will also have opportunities to participate in study abroad programs in London, Venice, and/or Spain during intersession and spring breaks as an additional enrollment option (additional tuition and program fees apply). Students are required to maintain a standard full-load of credits for the spring semester of 12-15 UM credits.

Code	Title	Credit Hours
Core Courses ¹		
Students must submit a design portfolio prior to enrolling in courses		
Select one of the following:		6
ARC 407	Architecture Design VII	
ARC 408	Architecture Design VIII	
ARC 509	Architecture Design IX	
ARC 510	Architecture Design X	
Choose one or two of the following		3-6
ARC 323	On Site Study of Selected Architecture and Urbanism	
ARC 452	Management of Professional Practice	
ARC 512	Advanced Visual Analysis	

PHY 103	General Physics	
URB 301	Cities in Time and Space	
Other Architecture elective course offerings (Interior Design, Landscape, and Historic Preservation)		3
Total Credit Hours		12-15

¹ Core courses are selected in conjunction with an advisor.

Audio Engineering

Audio Engineering allows for students currently majoring in electrical engineering to study areas such as circuit theory, electronics, signal processing and multimedia with audio studies in acoustics, digital audio, recording and post production. Students enroll in three Electrical Engineering courses; and add courses from other areas of interest based on availability.

Code	Title	Credit Hours
Core Courses ¹		
Choose two of the following:		4-6
ECE 436	Digital Signal Processing	
ECE 437	Real-Time Digital Signal Processing Laboratory	
ECE 502	Engineering Acoustics	
ECE 540	Digital Speech and Audio Processing	
Additional Courses		
ECE 595	Special Topics in Computer Engineering	
ECE 596	Special Topics in Computer Engineering	
Courses Available through the Frost School of Music		
MMI 141	Experiential Musicianship II	
MMI 501	Transducer Theory	
Total Credit Hours		4-6

¹ Core courses are selected in conjunction with an advisor.

Ecosystem Science and Policy

Ecosystem Science and Policy provides an opportunity for students from other universities to explore the South Florida environment, ecology and culture via interdisciplinary courses and experiential learning.

Students must take at least two core courses in Ecosystem Science and Policy. Miami Semester students will complete their schedules with courses chosen from among the interdisciplinary ECS courses and from other departments based on availability and interests.

Code	Title	Credit Hours
Core Courses ¹		
ECS 112	Field Problems in Ecosystem Science and Policy	
ECS 202	Seminar Series in Contemporary Environmental Issues II	
ECS 302	Perspectives on Environmental Decision Making	
ECS 403	Interdisciplinary Approaches	
Elective		3
Total Credit Hours		3

¹ Core courses are selected in conjunction with an advisor.

International Finance and Marketing

The International Finance and Marketing program is designed for business students from other universities who want to add an international dimension to their studies. This program allows students to select from a limited set of courses offered by the School of Business. The program focuses on the international aspects of business. The program is open to students with at least a junior standing who have met the course prerequisites. Students must take at least two courses below, but may take all four.

Code	Title	Credit Hours
Core Courses ¹		
FIN 330	International Finance	

MKT 360	International Marketing	
ECO 442	International Monetary Economics	
BSL 412	International Business Law	
Total Credit Hours		0

¹ Core courses are selected in conjunction with an advisor.

Marine Science

Marine Science is a hands-on study opportunity for those interested in marine science, oceanography, geology and marine physics. Students must enroll in a minimum of three Marine Science courses. In addition, highly qualified students may be eligible for an independent study research project. Students may also opt to add courses in other areas based on availability and interests.

Code	Title	Credit Hours
MSC Courses ¹		
Elective		
Total Credit Hours		0

¹ MSC courses should be selected in consultation with your advisor. See the courses page (p. 1965) for a list of MSC courses.

Sport Administration

Sport Administration is an opportunity for students who are interested in the ethics, leadership, and business of managing athletic organizations. Students will have the opportunity to participate in an internship that fits their interest area as well taking hands-on courses in the Department of Exercise & Sport Sciences. Internships may take place within the UM Athletic Department or local professional sport franchises. Students make take any combination of courses that equal at least 12 credit hours.

Code	Title	Credit Hours
Core Courses ¹		12
KIN 206	Sport Facilities and Event Management	
KIN 302	Sport Marketing	
KIN 306	Essential Leadership in Sports and the Professions	
KIN 308	Ethical Decision Making in Sport and the Professions	
KIN 401	Legal Aspects of Sport	
KIN 403	Sport Information Management	
KIN 405	Finance and Budget in Sport Administration	
KIN 498	Seminar in Sport Administration (internship)	
Total Credit Hours		12

¹ Core courses are chosen in conjunction with an advisor.

Office of Professional Advancement - Non Credit Courses

www.continue.miami.edu/opa

Dedicated to providing the highest quality, competency-based, continuing professional education, the Office of Professional Advancement offers seminars, courses and certificate programs to meet the training and professional development needs of both corporations and individuals.

For more information, specific curriculum descriptions and a listing of current seminars, courses and workshops, contact the:

Office of Professional Advancement, Division of Continuing and International Education

University of Miami

111 Allen Hall

Coral Gables, Florida 33146-1610

305-284-4000 or

email opa@miami.edu.

Additional information on the web (<http://www.continue.miami.edu>).

Electronic Medical Records Specialist Certificate

Manage electronic medical records and gain the professional knowledge to become an essential member of the healthcare team. Learn through hands-on practice sessions using PrimeSUITE®, electronic medical records software. The Program prepares students to sit for the Certified Electronic Health Records Specialist (CEHRS) examination through the National Health Career Association.

For detailed course description, calendar and prices, please visit our website (<https://www.continue.miami.edu/default.aspx>).

Medical Billing and Coding Certificate

The Medical Billing & Coding Program begins with a standard block of courses necessary to obtain the foundation knowledge needed for certification in billing and coding. Essential sciences are covered in the medical terminology, anatomy & physiology, diagnostic coding, and disease pathology modules. Once these core medical topics are covered, the Program provides the learner with the knowledge and skills needed to perform diagnostic coding, using the ICD-9 and ICD-10 coding systems, and procedural coding. Students will participate in a module specific focusing on CPC® examination preparation.

For detailed course description, current schedule and prices, please visit our website. (<http://www.continue.miami.edu/en/packagedetail.aspx?p=182>)

Business and Leadership Certificate Programs

The Business Program offerings provide a range of certificates focused on enhancing skills and improving organizational performance. The development of core skills in cutting edge disciplines, with application based learning, will prepare Program participants for profit and non-profit sectors across a broad spectrum of disciplines, including Leadership and Management, Business and Communication Skills, Consulting, Human Resources, Nonprofit, and Meeting and Event Planning.

Leadership Development and Management offerings include Executive Leadership, Fundamentals of Leadership, Managing Cross-Functional Teams, Management and Supervision, Organizational Leadership, and Strategies for successful negotiation. These Programs emphasizes the development and enhancement of vital leadership skills for those tasked with leading organizations, or have the desire to enter into one in the near future.

Business offerings include Ethical Business Decision Making, Alternative Methods of Problem Solving, Group Facilitation, Problem Solving and Decision-Making Strategies. These Programs prepare participants for the skilled, ethical decision-making, problem solving, and critical thinking skills necessary to make informed decisions that create and maintain an ethical work environment.

Human Resources offerings include Managing Organizational Change, Fundamentals of Delivering Training, and Conflict Resolution. These programs emphasize the development and enhancement of key skills for those who have the need and desire to learn how to effectively manage change, present effective training, and resolve workplace conflict to increase employee engagement, productivity, and teamwork.

The Nonprofit Programs are designed to develop and cultivate necessary skills that nonprofit managers to effectively manage challenges often associated with the nonprofit sector. Participants who currently hold a management role, or have the desire to move into a management role within a non-profit organization of any type will elevate skills in Nonprofit Operational Management, Nonprofit Fundraising, Grant Writing, and Fundamentals of Philanthropy.

Meeting and Event Planning Program participants are those tasked with or looking to engage in designing and coordinating any type of organizational meeting or event. Program areas include Fundamentals of Meeting Planning and Event Development and Negotiation Skills for Event Planners. Emphasis is placed on gaining an in-depth understanding of skills that will enable participants to help clients and/or internal organizational departments design and coordinate an effective, multifaceted meeting and/or event that will accomplish the client's or organizational goals and objectives.

Additional Programs include Innovation and Organizational Consulting. The Innovation Program emphasizes key roles of individual entrepreneurs and organizational innovation in private and public services, design thinking as a problem-solving tool, and understanding communication approaches, leadership practices, and the relationship between the marketing and sales functions in the workplace. The Organizational Consulting Program provides the knowledge needed to think critically and solve problems creatively for an organization based on assessment of the client's needs

For a full list of business certificate programs offered, please visit our website (<https://www.continue.miami.edu/default.aspx>).

Certified Professional Coach Program

This Coach Certificate Training Program is designed to support you in becoming a professional coach or in using coaching skills to enhance your leadership, management, and/or communication skills. This program has been written by master coaches and aligns with the International Coach Federation (ICF) Core Coaching Competencies. The University of Miami has designed a thorough program that will allow you to make a powerful leap into using coaching skills and becoming a professional coach. The Certified Professional Coach Program is a 140 hour, eleven month program designed for those interested in a career in coaching, who also want outstanding training in order to serve clients at the highest level. Additionally, it is designed for leaders, managers, human resource professionals, teachers, or service professionals (doctors, lawyers, counselors, consultants, etc.) who want to dramatically improve their ability to communicate, motivate, inspire, and empower others.

For more detailed course descriptions, current schedule and prices, please visit our website (<https://www.continue.miami.edu/default.aspx>).

Human Resources Management Certificate Program

This certificate provides the latest in proven techniques and strategies to effectively manage organizational challenges. The curriculum covers the following topics: Strategic Management, Legal and Regulatory Issues; Employment, Planning, and Placement; Benefits and Compensations; Development and Administration; Training and Development and Employee and Labor Relations. The HR Program is recognized by the Greater Miami Society for Human Resource Management. The comprehensive curriculum works for the newcomer as well as the seasoned professional and is especially useful to small and medium-size business owners. (6 months)

For more detailed course descriptions, current schedule and prices, please visit our website (<https://www.continue.miami.edu/default.aspx>).

SHRM® Certification Course (SHRM-CP™/SHRM-SCP™)

Establish yourself as a globally-recognized human resource expert by earning the new standard in HR Certification: SHRM Certified Professional (SHRM-CPT®) and SHRM Senior Certified Professional (SHRM-SCP™). Designed for SHRM credential candidates, this course will expand and test your knowledge of practical, real-life competencies in areas critical for HR career success. Combining expert instruction with the SHRM Learning System® for SHRM-CP™/SHRM-SCP™, you will learn faster, retain more knowledge, and stay on track for success on the exam.

For more detailed course descriptions, current schedule and prices, please visit our website (<https://www.continue.miami.edu/default.aspx>).

Interior Design Certificate Program

If you have always had an eye for design, and have a knack for taking an ordinary space and making it feel extraordinary, then the University of Miami Certificate in Interior Design is for you. The Certificate in Interior Design Program offers non-credit courses to those who want to enrich their cultural experiences or who are interested in improving their professional or occupational skills. Taught by industry professionals, our Certificate in Interior Design program focuses on the important fundamentals to enter the design field. A hands-on program, students will learn history of interiors, principles and elements of design, Color Theory, freehand and computer drafting, specification and materials, professional practice, and building a portfolio.

For more detailed course descriptions, current schedule and prices, please visit our website (<https://www.continue.miami.edu/default.aspx>).

Paralegal Studies Certificate Program

The UM Paralegal Studies program is an intense four-month course of study which certifies the successful student as a qualified professional ready to start an exciting new career as a paralegal. Classes are taught by prominent local attorneys, Judges and Magistrates. The Paralegal Program classes are offered on the weekends or weekday evenings at the Coral Gables campus and on weekday evenings in Broward. This program is also available as a fully online program.

For more detailed course descriptions, current schedule and prices, please visit our website (<https://www.continue.miami.edu/default.aspx>).

Paralegal Concentration Certificates

The Paralegal Concentration Certificates provide both beginning and experienced paralegals with expansive educational and professional opportunities. These Practice Area Concentration certificate programs allow paralegals to augment current skills and focus on virtually any area of the law. Choose to specialize in one of the following areas of concentration: Contract law, Business law, Criminal law and Procedures, Bankruptcy law, Intellectual Property, Immigration law, Wills and Trust, Employment law, Real Estate law, and Litigation. Give yourself an edge in today's competitive job market. All Paralegal Concentration courses are available online so students are able to enroll at any time.

For more detailed course descriptions, current schedule and prices, please visit our website (<https://www.continue.miami.edu/default.aspx>).

Personal Financial Planning Certificate Program

Designed for students preparing for professional examinations and professional practice in personal financial planning.

Our program consists of providing the highest quality CFP education through Dalton Education, a leading provider of innovative education solutions in financial planning. The founders of Dalton Education have helped thousands of financial professionals earn the CFP® certification marks with their leading CFP review course, THE DALTON REVIEW®. Students can choose from an independent, self-paced, online education program or a live, instructor – led, internet delivered program.

For more detailed course descriptions, current schedule and prices, please visit our website (<https://www.continue.miami.edu/default.aspx>).

Social Media Management Education Program

University of Miami is proud to offer a Social Media Professional Certificate and Social Media Strategist Certificate through Dalton Education. This is a cutting edge program, designed to teach the business applications of social media communications. This self-paced online program is convenient, practical, and affordable with the flexibility to begin at a time that works best for you.

For more detailed course descriptions, current schedule and prices, please visit our website (<https://www.continue.miami.edu/default.aspx>).

Project Management Professional Certificate (PMP®)

This program satisfies the educational requirement needed to qualify to take the Project Management Professional (PMP®) exam.

Learn the core competencies of project management, following the Project Management Institute's A Guide to the Project Management Body of Knowledge, (PMBOK®- Guide). Become proficient in the knowledge areas, process groups, skills and techniques delineated in the PMBOK® Guide to execute projects effectively and efficiently through all stages.

For more detailed course descriptions, current schedule and prices, please visit our website (<https://www.continue.miami.edu/default.aspx>).

Coding Boot Camp Certificate

University of Miami (UM) Coding Boot Camp is a 24-week, part-time web development course offered on our Coral Gables campus. The full-stack curriculum includes HTML5, CSS3, JavaScript, jQuery, Node.js, Java, Database Theory, MongoDB, Heroku, Git, and more.

For more detailed course descriptions, current schedule and prices, please visit our website. (<http://www.continue.miami.edu/en/package/detail.aspx?p=198>)

Cyber Security Certificates

University of Miami Division of Continuing and International Education in collaboration with HackerUSA, offers unique hands-on skill based programs in Cyber security. HackerUSA has over 20 years of experience and is a leading educational provider for cyber security training. They bring a wealth of expertise that allows our cyber security programs to be innovative and high quality. Our students will be exposed to the most advanced technologies used today and will gain real practical experience.

For more detailed course descriptions, current schedule and prices, please visit our website. (<http://www.continue.miami.edu/en/subcategory.aspx?sc=108>)

IT Training Certificates

The University of Miami, Division of Continuing and International Education has partnered with IT Training Solutions to offer database and informational technology non-credit certificate programs. IT Training Solution is an international training provider specializing in comprehensive IT Technical and Certification courses. Together we are empowering students to learn complex material and review concepts in an easy to use online, interactive course. We are continually updating the content in these courses to stay current with the trends and new developments in the industry. Each quarter 3-5 new titles are released.

For more detailed course descriptions, current schedule and prices, please visit our website (<http://umiamicatalog.ittrainingsolutions.com>).

Post Baccalaureate Certificate in Computer Sciences

The Post Baccalaureate Certificate in Computer Science (PBC) is a non-credit program designed for people with a Bachelor of Science degree in another discipline, who wish to learn the core skills of Computer Science. Completion of the PBC will provide opportunities to apply computational techniques in other areas, to change career paths towards computing, or to continue on to graduate student in Computer Science.

The PBC includes courses in programming, computer architecture and systems, some mathematics, and an elective chosen from the many courses available in the Department of Computer Science. By completing this one-year non-credit program, students will obtain the knowledge and skills at the heart of Computer Science, opening the doors to new and exciting opportunities. Students will be able to:

- Write efficient computer programs using appropriate data structures.
- Use their understanding of computer organization and architecture to select and utilize computer systems effectively.
- Use UNIX-based computer systems, and write programs that make use of the UNIX operating system.
- Characterize the underlying theory of computational systems.
- Discuss and write about a range of topics in Computer Science (as presented in seminars).
- Use basic mathematics in the development of computer software.

Pre-requisites for the PBC program are a Bachelors Degree, Calculus I, and Computer Programming I (or equivalent). Credit can be given for prior study. At least 15 credits of PBC courses must be completed at the University of Miami.

For more detailed course descriptions, current schedule and prices, please visit our website (<http://www.continue.miami.edu/en/package/detail.aspx?p=196>).

Study Abroad

www.studyabroad.miami.edu

Dept. Code: SAP

With over 80 unique opportunities overseas, students have many options to study abroad on UM programs that align with their interests. Students can live and learn abroad through short term and long term programs with UM faculty or at UM partner universities overseas. Programs with UM faculty are unique in their emphasis on experiential learning, pre-arranged group housing, excursions, and courses taught by UM professors and overseas academic experts. Examples of these programs include UM semester-on-locations in Prague, Shanghai, Paris, Buenos Aires, Cape Town, India, the Galapagos, and Rome, as well as short term faculty-led programs during the summer, January intersession, and spring break in Europe, Asia, Africa, and South America.

Students can also receive UM credit hours and grades while studying at any one of UM's partner universities overseas. These programs can be undertaken for a semester, year, and/or during the summer. Among a multitude of other options, students can study Aboriginal studies at University of Sydney, be immersed in Spanish culture in Seville, explore Iceland's unspoiled nature while studying earth sciences at the University of Iceland, immerse themselves in Japanese culture and business practices at Sophia University in Tokyo, or become acquainted with the changing panorama of international relations at University of San Andres in Argentina. Many of these programs are delivered in English so foreign language proficiency is not required for most study abroad opportunities.

Students who participate in UM Study Abroad programs will receive UM grades and credits and are able to use their existing financial aid towards semester program costs. With careful planning and academic department approval, students can apply their courses abroad to their majors, minors, cognates, or elective credits. Programs are open to sophomores, juniors, and seniors who meet posted eligibility requirements for admission such as minimum cumulative GPA.

The Schools and Colleges at UM encourage study abroad options for their students. With the assistance of the Study Abroad Office and the guidance of academic advisors, students can select a study abroad program to fit almost any major. Additionally, UM financial aid will apply to the costs of the UM programs. Students are advised to plan as early as their freshman year so studying abroad can be incorporated into their academic plan.

The cost of studying abroad varies depending on the type, length, and location of the program. Students are often surprised at how affordable studying abroad can be. Students participating in a UM study abroad program will be able to use their financial aid abroad. Participants are charged full tuition for the term abroad and the financial aid package will be adjusted based on the estimated expenses of the program.

As studying abroad is seen as such an important aspect of a college career, many national and institutional scholarships are available. Interested students should begin to research scholarship opportunities early. The most prestigious study abroad scholarships, which grant up to \$10,000 per semester, have applications with deadlines up to 18 months before the study abroad program begins. Several other scholarships, with deadlines similar to program application deadlines, are also available and grant up to \$5,000. Learn more about finances and scholarships by visiting the Study Abroad website, speaking with the advisors in the Study Abroad Office and the Office of Financial Assistance Services.

Students enrolled in any study abroad program at a partner institution may not earn 25 percent or more of their credits toward any UM degree program (credit requirements may vary by major/level), including courses taught by UM faculty. A student who anticipates earning 25 percent or more of his/her degree credits while participating in a study abroad program must immediately inform his/her advisor or program chair, who will be responsible for notifying the appropriate parties so that advance approval can be obtained from the Southern Association of Colleges and Schools Commission on Colleges (SACSCOC).

For additional information, contact:

Office of Study Abroad
Dooly Memorial Classroom Building, Suite 125
Coral Gables, FL 33146
Tel: 305-284-3434
Email: studyabroad@miami.edu
Website: [studyabroad.miami.edu](http://www.studyabroad.miami.edu) (<http://www.studyabroad.miami.edu>)

Summer Scholars Program

<http://www.miami.edu/ssp>

The Summer Scholars Program (SSP) provides a unique opportunity for high school students to study at the University of Miami for three weeks during the Summer Session B and earn 6 credit hours. Students will either live on campus or participate as a commuter. SSP is designed to expose high school students to university academics and campus life before commencing undergraduate studies. Interested high school students should seek further information and application requirements (<http://www.miami.edu/ssp>).

Code	Title	Credit Hours
Select one (1) area of specialization: ¹		6
Each specialization area has a subset of required courses		
Explorations in Architecture		
ARC 109	Introduction to Architecture	
ARC 110	Visual Studies	

Business, Ethics, and Leadership	
GBM 100	Fundamentals of Ethics and Leadership
GBM 101	Fundamentals of Business
Creative Writing and Design	
ENG 209	Creative Writing
STC 290	Special Topics in Strategic Communication
Cyber Security and Introduction to Programming in Python	
CSC 116	Cybersecurity: An Introduction to Security in Cyberspace
BTE 120	Introduction to Business Technology and Programming
Digital Media Production	
JMM 102	Understanding Media and Content in the Digital Age
JMM 206	Special Topics in Journalism and Media Management I
Forensic Investigation, Crime Scene and Intelligence Analysis	
APY 100	Introduction to Forensic Investigation (EXP)
APY 200	Introduction to Forensic Anthropology (EXP)
Engineering: Aerospace, Architectural, Civil, Environmental, and Mechanical Engineering	
CAE 100	Introduction to Civil, Architectural, and Environmental Engineering
MAE 100	Introduction to Mechanical and Aerospace Engineering
Engineering: Biomedical, Computer, and Electrical Engineering	
BME 100	Introduction to Biomedical Engineering for Summer Scholars
ECE 100	Introduction to Electrical and Computer Engineering
Filmmaking	
CIM 103	Survey of Motion Pictures
CIM 151	Introduction to Digital Filmmaking
Global Business and International Relations	
GBM 101	Fundamentals of Business
POL 203	Introduction to International Relations
Health and Medicine: Infectious Diseases	
BPH 200	Basic Concepts Public Health
MIC 100	Microbiology as it Relates to Humans (EXP)
Health and Medicine: Neuroscience	
BPH 200	Basic Concepts Public Health
NEU 100	Introduction to Neuroscience (EXP)
Health and Medicine: Psychiatry	
NEU 200	Introduction to Psychiatry (EXP)
NUR 200	Process of Health Promotion
Law - Litigation and the Legal Profession	
LWU 101	Courtroom 101: Litigation Basics
LWU 102	Introduction to Legal Profession: Law, Ethics, and Society
Sport Administration - The Business of Sport	
KIN 100	Leadership, Management, and Ethics in Sports
KIN 200	Survey of Sports Administration
Sports Medicine - Athletic Performance and Injury Management	
KIN 105	Introduction to Athletic Training and Sports Medicine
KIN 110	Explorations in Sports Medicine
Tropical Marine Biology	
MSC 115	Tropical Marine Biology
MSC 107	Life in the Sea
Total Credit Hours	

¹ Course titles, numbers, descriptions, and credit hours are subject to change.

Summer Sessions and InterSessions

<http://www.miami.edu/summersessions>

Summer Sessions

The Summer Sessions program at the University of Miami is an exceptional opportunity for students to enhance their educational goals in a concentrated time period and for the South Florida community to take part in some of the innovative and unusual courses taught by outstanding faculty and well-known guest lecturers.

InterSession - Special Academic Programs

- January (First) and Spring Break (Second) InterSessions (<http://www.miami.edu/intersession>)
- Summer A (First) and Summer B (second) InterSessions (<https://www.dcie.miami.edu/credit-degree-programs/summer-credit-sessions/summer-intersession-classes>)

January, Spring Break, Summer A (May), and Summer B (June) InterSession are short term credit hour courses designed so you can concentrate fully on topics not normally offered during regular semesters; getting individual quality time with distinguished faculty members; and sharing knowledge with other students.

Tuition charges for January and Spring Break InterSession are separate from and in addition to your spring tuition charges (ARE NOT included in the full time 12-20 credit hours "Flat Rate" of Spring Semester).

Due to the intense format of the InterSession courses, there are special drop and refund policies.

COURSE LISTING

Accounting Business Administration (ACC)

ACC 211. Principles of Financial Accounting. 3 Credit Hours.

Course explores the role of accounting in providing financial information about an enterprise to decision-makers. Emphasis is placed on understanding financial accounting from a user perspective. Course covers the reporting of financial position including coverage of assets, liabilities, equity accounts, the results of operations, and cash flows.

Requisite: Sophomore Standing or Higher.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ACC 212. Managerial Accounting. 3 Credit Hours.

Introduction to managerial accounting. Topics include various product costing techniques, analysis of cost behavior patterns, budgeting, and the use of accounting information to solve problems. The course is taught from a managerial perspective.

Prerequisite: ACC 211 or ACC 221.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ACC 221. Accelerated Principles of Financial Accounting. 3 Credit Hours.

This course explores the role of accounting in providing financial information about an enterprise to decision-makers. Emphasis is placed on understanding financial accounting from a user perspective. Course covers the reporting of financial position including coverage of assets, liabilities, equity accounts, the results of operations, and cash flows. This course is not open to students with credit for ACC 211.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ACC 222. Accelerated Managerial Accounting. 3 Credit Hours.

This course provides an introduction to managerial/cost accounting. Topics include various product costing techniques, analysis of cost behavior patterns, budgeting, and the use of accounting information to solve problems. The course is taught from a managerial perspective. This course is not open to students with credit in ACC 212.

Prerequisite: ACC 221.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ACC 301. Cost Accounting. 3 Credit Hours.

Topics include basic cost concepts, product costing techniques including job-order and process costing, in-depth studies of techniques and issues surrounding cost allocation methods, basic approaches to solving complex accounting problems, standard cost systems and variance analysis, and variable costing. Additionally, activity-based costing concepts and methodology are introduced. Course is designed to provide students with the necessary skills to perform basic cost accounting.

Prerequisite: ACC 212 or 222.

Components: LEC.

Grading: GRD.

Typically Offered: Spring & Summer.

ACC 311. Intermediate Accounting I. 3 Credit Hours.

The accounting principles which shape the financial reporting practices followed by entities that prepare financial statements in accordance with generally accepted accounting principles are discussed. Course also includes the determination of income components and balance sheet elements with brief coverage of the statement of cash flows.

Prerequisite: ACC 212 Or Pre/Corequisite: ACC 222.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Summer.

ACC 312. Intermediate Accounting II. 3 Credit Hours.

A continuation of ACC 311. Course focuses on more complex accounting applications such as leases, postretirement benefits, accounting for income taxes, and other topics. Additionally, the course includes coverage of the statement of cash flows.

Prerequisite: ACC 311.

Components: LEC.

Grading: GRD.

Typically Offered: Spring & Summer.

ACC 315. Accounting for Health Care Organizations.. 3 Credit Hours.

This course develops a working knowledge of the financial accounting and reporting processes in health care, services industry, and governmental organizations. Focus is on accounting in health care, service industry and for-profit organizations. This will not count as an accounting course for accounting majors and will not satisfy any accounting requirements needed to sit for the CPA exam in Florida.

Prerequisite: ACC 212 or 222 and Requisite: HSMP major.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ACC 402. Auditing. 3 Credit Hours.

Course provides an introduction to the field of auditing. It concentrates on conducting an audit of financial statements in accordance with generally accepted auditing standards. Course covers accounting information systems, audit planning, audit risk and materiality assessments, evaluation of internal control, audit evidence, documentation, and audit reports.

Prerequisite: ACC 311.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ACC 403. Fundamentals of Taxation. 3 Credit Hours.

Basic concepts of federal income taxation applicable to all taxpayers. The principles of individual income taxation, the tax consequences of property transactions, and an introduction to the impact of income taxes on corporations and partnerships are discussed. Emphasis is placed on study of the basic income tax formula including income exclusion, inclusions, statutory deductions, exemptions, and credits. The fundamentals of tax research are also introduced.

Prerequisite or Corequisite: ACC 311.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ACC 404. Advanced Taxation. 3 Credit Hours.

Study of Federal income tax laws and regulations as they affect corporations, partnerships, their owners, and employees. Emphasis is placed on tax planning aspects of formation, operation, reorganization, distribution, and liquidation of corporations and partnerships. Also includes an introduction to estate and gift taxation.

Prerequisite: ACC 403.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ACC 406. Accounting Systems. 3 Credit Hours.

Contemporary accounting systems are computer based. Course covers the nature, design, implementation, and controls in computerized systems as well as manual systems. Micro computers are used as a learning tool.

Prerequisite: ACC 311.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ACC 411. Advanced Accounting. 3 Credit Hours.

The primary focus of the course is on business combinations and preparing consolidated financial statements. Additionally, there is coverage of the accounting principles and practices applied to foreign operations and partnerships.

Prerequisite or Corequisite: ACC 312 AND Requisite: Junior Standing or higher.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ACC 496. Directed Studies in Accounting. 1-3 Credit Hours.

Supervised readings, individual research project, or independent investigation of selected non-STEM related problems in the discipline. Offered only by special arrangement with supervising faculty member, who approves topic and evaluation process at time of registration.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ACC 497. Directed Studies in Accounting. 1-3 Credit Hours.

Supervised readings, individual research project or independent investigation of selected STEM-related problems in the discipline. Offered only by special arrangement with supervising faculty member, who approves topic and evaluation process at time of registration.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ACC 498. Special Topics in Accounting. 3 Credit Hours.

Special topics in selected non-STEM areas of Accounting.

Requisite: Business School And Junior Or Senior Status.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ACC 499. Special Topics in Accounting. 3 Credit Hours.

Special topics in selected STEM areas of Accounting.

Requisite: Business School And Junior Or Senior Status.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ACC 506. Internal Auditing. 2 Credit Hours.

Course explores the unique issues associated with the internal audit function. Additionally, the ethical code applicable to internal auditors is discussed.

Prerequisite: ACC 402. And Requisite: Accepted into the Accelerated Program.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ACC 522. Advanced Issues in Auditing. 3 Credit Hours.

Course covers advanced issues which arise in audit practice including audit reporting issues, fraud detection and reporting, attestation engagements, special reporting issues, compilation and review engagements, scope of services issues, and other new issues which have a significant impact on audit practice.

Prerequisite: ACC 402. And Requisite: Accepted into the Accelerated Program.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ACC 524. Accounting for Governmental and Not-for-Profit Entities. 2 Credit Hours.

The course introduces accounting within the environment of modern government and not-for-profit organizations. Emphasis is placed on financial accounting and reporting, current accounting issues, and managerial activities.

Prerequisite: ACC 312 and Requisite: Accepted into the Accounting Accelerated Program.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ACC 530. International Financial Reporting Standards. 1 Credit Hour.

This course provides an overview of International Financial Reporting Standards (IFRS). The course will begin with a study of IFRS Framework and will then examine a number of the major topics covered in the Intermediate Accounting courses. The perspective will be a comparison between IFRS and U.S. generally accepted accounting principles (U.S. GAAP).

Prerequisite: ACC 312 and Requisite: Accepted into the Accounting Accelerated Program.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ACC 550. Accounting Internship. 1-3 Credit Hours.

Student is individually assigned to operating business firm or other organization to gain insight into management practice in area of career interest. Periodic reports and conferences are required. Approval of chairman is required at time of registration.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ACC 555. Accounting Departmental Honors Research Project. 3 Credit Hours.

Research project to fulfill requirements for Departmental Honors Accounting.

Components: THI.

Grading: SUS.

Typically Offered: Offered by Announcement Only.

ACC 572. Advanced Financial Analysis. 2 Credit Hours.

This course builds on the analytical techniques developed in the prerequisite financial accounting courses to augment your understanding of more complex financial reporting issues and to introduce you to the valuation of equity investments. The view point is that of the user of financial statements, particularly from the standpoint of an equity investor or purchaser of a business. We discuss each financial reporting issue in terms of its effect on assessments of a firm's profitability and risk. This course is designed primarily for students who expect to be intensive users of financial statements as part of their professional responsibilities.

Prerequisite: ACC 312. And Requisite: Accepted into the Accounting Accelerated Program.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ACC 600. Accounting for Decision-Making and Control. 3 Credit Hours.

The course focuses on the use and understanding of basic financial and managerial accounting reports. The course is oriented to the user of financial data rather than the preparer of the data. Coverage of basic accounting assumptions and current issues affecting accounting processes and reporting are included, but detailed accounting procedures are not emphasized. Completion of the course should permit students to understand accounting information and to communicate with professional accountants. Does not satisfy any accounting requirements needed to sit for the CPA exam in Florida.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ACC 601. Trends in Present Day Accounting. 2 Credit Hours.

Recent developments in accounting thought and advanced accounting theory. The analysis of trends as disclosed by recent releases of the Securities and Exchange Commission, the American Institute of Certified Public Accountants, and the Financial Accounting Standards Board are discussed. Other topics include terminology, current trends in the measurement, presentation of third financial data to meet the needs of third parties, and surveys accounting literature.

Prerequisite: ACC 312. Or ACC 633.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ACC 602. Analysis of Financial Statements. 1-3 Credit Hours.

Course emphasizes the fundamental techniques of financial statement analysis. Building upon core accounting and investment concepts, the course covers the analysis (including ratio analysis) and interpretation of financial accounting information including the balance sheet, income statement, and statement of cash flows. The course also examines the use of accounting information in investment and credit decisions.

Prerequisite: ACC 312. Or ACC 633.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ACC 603. Studies in Financial Reporting Issues. 2 Credit Hours.

An exploration of complex financial reporting issues using the case method.

Prerequisite: ACC 312. Or ACC 633.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ACC 604. Seminar in Cost Accounting. 2 Credit Hours.

Course covers four major segments. First, it reviews the basic concepts and tools associated with management control systems. Second, it underscores the importance of decentralization and the impact it has on decision making. Third, it examines the strategic place for cost management. Examples include the adoption of the balanced score card, quality control, productivity, and environmental cost management. Fourth, the course brings costing and control tools into the discussion of decision making.

Prerequisite: ACC 301. Or ACC 634.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ACC 606. Internal Auditing. 2 Credit Hours.

Course explores the unique issues associated with the internal audit function. Additionally, the ethical code applicable to internal auditors is discussed.

Prerequisite: ACC 312. Or ACC 633. And ACC 402. Or ACC 635.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ACC 607. Financial Accounting and Reporting. 3 Credit Hours.

Basic concepts of accounting designed to increase understanding of the function of accounting statements and their limitations. The generally accepted principles governing the preparation of financial reports and the use of accounting information in investment and credit decisions. Does not satisfy any accounting requirement needed to sit for the CPA Exam in Florida. Limited to Executive MBA students only.

Components: LEC.

Grading: GRD.

Typically Offered: Spring & Summer.

ACC 608. Managerial Accounting. 3 Credit Hours.

Current managerial accounting techniques and theories. Topics include the use of accounting data in making decisions and planning and control systems for implementation of decisions. Does not satisfy any accounting requirements needed to sit for the CPA Exam in Florida. Limited to Executive MBA students only.

Prerequisite: ACC 607.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ACC 610. Financial Reporting Research. 2 Credit Hours.

The objective of the course is to familiarize students with researching financial information of publicly traded companies and to provide an introduction to accounting research related to the content and presentation in SEC filings. The course will emphasize searching and accessing as well as understanding and interpretation of financial information presented in SEC filings (e.g., 10-K, 10-Q, Proxy Statements). Accounting topics covered will include accounting information and the capital markets, earnings management, earnings quality, effect of recognition vs. disclosure in accounting reports and the role of the SEC in regulating financial reporting.

Prerequisite: ACC 312. Or ACC 633.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ACC 611. Auditing Seminar. 2 Credit Hours.

Practical applications of auditing and research into audit matters. Emphasis of the course is placed on cases involving audit failures, appropriate auditing procedures, reporting, and exercise of audit judgment.

Prerequisite: ACC 402. Or ACC 635.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ACC 616. CPA Review I. 3 Credit Hours.

The CPA Review is an essential ingredient of the accounting accelerated accounting track. Students must provide proof of satisfactory completion of an approved course of study for two parts of the CPA exam (Regulation and Financial Accounting and Reporting). This course cannot be used to meet the State of Florida's educational requirements for taking the CPA exam.

Prerequisite: ACC 411.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

ACC 617. CPA Review II. 3 Credit Hours.

The CPA Review is an essential ingredient of the accounting accelerated accounting track. Students must provide proof of satisfactory completion of an approved course of study for two parts of the CPA Exam (Business Environment and Concepts, and Auditing and Attestation). This course cannot be used to meet the State of Florida's educational requirements for taking the CPA exam.

Prerequisite: ACC 411.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

ACC 620. Accounting Controls in Information Technology. 2 Credit Hours.

Course develops students' understanding of the theory and practice of relational database management systems in the accounting view of enterprise-wide databases. With a focus on controls, students build accounting systems elements related to main accounting transaction cycles, the revenue cycle, and the purchase cycle.

Prerequisite: ACC 406. Or ACC 636.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Summer.

ACC 622. Advanced Issues in Auditing. 3 Credit Hours.

Course covers advanced issues which arise in audit practice including audit reporting issues, fraud detection and reporting, attestation engagements, special reporting issues, compilation and review engagements, scope of services issues, and other new issues which have a significant impact in audit practice. Not open to students with credit in ACC 522.

Prerequisite: ACC 402. Or ACC 635.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ACC 623. International Accounting and Taxation. 2 Credit Hours.

Course covers tax accounting and business considerations in the global business environment. U.S. tax issues involved in international transactions, working across national borders, the Foreign Corrupt Practices Act, money laundering and uses of accounting information in managing an international business. Not open to students with credit for ACC 523.

Prerequisite: ACC 211. Or ACC 600. Or ACC 607. Or ACC 670.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ACC 624. Accounting for Governmental and Not-for-Profit Entities. 2 Credit Hours.

The course introduces accounting within the environment of modern government and not-for-profit organizations. Emphasis is placed on financial accounting and reporting, current accounting issues, and managerial activities. Not open to students with credit for ACC 524.

Prerequisite: ACC 312. Or ACC 633.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ACC 626. Introduction to Forensic Accounting and Litigation Support Services. 2 Credit Hours.

This course provides an overview of fraud perpetrated against an organization, including employee theft, vendor fraud, customer fraud, and management fraud. Students will learn about different investigative techniques for quantifying fraud, and how fraud can be detected and prevented as well as the accountants' role in litigation, such as acting as expert witness.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ACC 627. Accounting Regulations and Compliance. 2 Credit Hours.

This course is designed to expose and educate students in a number of rules and regulations faced by the accounting profession, with an emphasis on the financial industry. This course will cover in moderate depth, regulatory agencies and the compliance of the regulations the agencies are charged with upholding. Students will also be exposed to regulatory and compliance programs, bribery and corruption acts such as the Foreign Corrupt Practices Act and the UK Bribery Act, and various anti-money laundering provisions.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ACC 628. Introduction to Accounting Analytics. 2 Credit Hours.

This course introduces students to applications of data analytics techniques in accounting which includes: financial reporting, managerial accounting, taxation, and auditing.

Prerequisite: ACC 301. And ACC 402. And ACC 403.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ACC 630. International Financial Reporting Standards. 1 Credit Hour.

This course provides an overview of International Financial Reporting Standards (IFRS). The course will begin with a study of IFRS Framework and will then examine a number of the major topics covered in the Intermediate Accounting courses. The perspective will be a comparison between IFRS and U.S. generally accepted accounting principles (U.S. GAAP).

Prerequisite: ACC 312. Or ACC 633.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ACC 631. Advanced Financial Accounting Topics. 2 Credit Hours.

Coverage of the Generally Accepted Accounting Principles governing business combinations, the preparation of consolidated financial statement including local and foreign subsidiaries, and other financial reporting topics.

Prerequisite: ACC 312. Or ACC 633.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ACC 632. Intermediate Accounting I. 2 Credit Hours.

The accounting principles which shape the financial reporting practices followed by entities that prepare financial statements in accordance with generally accepted accounting principles are discussed. Course also includes the determination of income components and balance sheet elements with brief coverage of the statement of cash flows. Does not count towards the credits needed to graduate.

Prerequisite: ACC 211. And ACC 212.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

ACC 633. Intermediate Accounting II. 2 Credit Hours.

The accounting principles which shape the financial reporting practices followed by entities that prepare financial statements in accordance with generally accepted accounting principles are discussed. Course also includes the determination of income components and balance sheet elements with brief coverage of the statement of cash flows. Does not count towards the credits needed to graduate.

Prerequisite: ACC 311. Or ACC 632.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

ACC 634. Cost Accounting. 2 Credit Hours.

Topics include basic cost concepts, product costing techniques including job-order and process costing, in-depth studies of techniques and issues surrounding cost allocation methods, basic approaches to solving complex accounting problems, standard cost systems and variance analysis, and variable costing. Additionally, activity-based costing concepts and methodology are introduced. This course does not count towards the credits needed to graduate.

Prerequisite: ACC 212.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

ACC 635. Auditing. 2 Credit Hours.

Course provides an introduction to the field of auditing. It concentrates on conducting an audit of financial statements in accordance with generally accepted auditing standards. Course covers accounting information systems, audit planning, audit risk and materiality assessments, evaluation of internal control, audit evidence, documentation, and audit reports. This course does not count towards the credits needed to graduate.

Prerequisite: ACC 311. Or ACC 632. And ACC 312. Or ACC 633.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

ACC 636. Accounting Systems. 2 Credit Hours.

Contemporary accounting systems are computer based. Course covers the nature, design, implementation, and controls in computerized systems as well as manual systems. Micro computers are used as a learning tool. This course does not count towards the credits needed to graduate.

Prerequisite: ACC 211. And ACC 212.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

ACC 639. Income Taxation and Business Entitles. 2 Credit Hours.

This course is designed to be the second tax course students who are interested in the business applications of federal income tax laws, as they affect corporations, partnerships, and their owners. Emphasis is placed on tax planning aspects of formation, operation, liquidation, and distributions of corporations and partnerships. Not open to students with credit in ACC 404 or equivalent.

Prerequisite: ACC 403. Or ACC 673.

Components: LEC.

Grading: GRD.

Typically Offered: Spring & Summer.

ACC 640. Corporate Taxation I. 2 Credit Hours.

Course covers treatment of the corporate form of organization, its related opportunities, and problem areas, including formation, tax formula, non-liquidating and liquidating distributions, capital structure, redemptions, alternative minimum tax.

Prerequisite: ACC 404. Or ACC 639.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ACC 641. Corporate Taxation II. 2 Credit Hours.

An in-depth study of taxable and nontaxable corporate reorganizations. An introduction to affiliated corporations, requirements for consolidated returns, and their associated problems and opportunities are discussed.

Prerequisite: ACC 640.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ACC 642. Seminar in Taxation. 2 Credit Hours.

Investigation of current topical areas in taxation.

Prerequisite: ACC 404. Or ACC 639.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ACC 643. Tax Research. 2 Credit Hours.

Study of the tax practice environment including the Treasury Department, the Courts, and the legislative history of the Internal Revenue Code. Ethics in tax practice are also examined. Course includes training in the use of tax services such as RIA Checkpoint and LEXIS, in performing tax research. A research methodology for solving tax problem cases is studied and cases to be researched are assigned.

Prerequisite: ACC 404. Or ACC 639.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ACC 645. Partnership Taxation. 2 Credit Hours.

Taxation of partners and other flow-through entities. Partnership formation, termination, distribution, liquidation, and sales of partnership interests are covered. Limited partnerships in conjunction with their use as tax shelters are discussed as well as family partnerships, limited liability companies, and LLPs.

Prerequisite: ACC 404. Or ACC 639.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ACC 647. Estates and Gift Taxes. 2 Credit Hours.

Estate and gift planning for shifting wealth from one individual to another by death, gift, or by the use of trusts. Property included in the decedent's gross estate valuation methods, gifts in contemplation of death, jointly held property, life insurance, transfers with retained life estates, bequests, revocable transfers, the marital deduction, powers of appointment, gifts of present and future interest, and gifts to minors are covered.

Prerequisite: ACC 404. Or ACC 639.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ACC 648. Financial Reporting Implications of Income Taxes.. 2 Credit Hours.

This course is designed to provide the foundation necessary to understand the financial accounting and reporting of book-tax differences. The course will cover the preparation of the income tax provision and related financial statement disclosures in conformity with U.S. GAAP (FASB ASC 740)

Prerequisite: ACC 312. Or ACC 633. And ACC 404. Or ACC 639.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ACC 649. Issues in Tax Policy. 2 Credit Hours.

This course looks at the process through which our tax laws are created and the important policy issues inherent in individual and corporate income taxes, consumption taxes, and wealth transfer taxes. Topics in this course are not limited to U.S. taxation and include an examination of systems used in other countries (such as the VAT) as possible alternatives to our current tax.

Prerequisite: ACC 403. Or ACC 673.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ACC 650. Accounting Internship. 1-3 Credit Hours.

Student is individually assigned to operating business firm or other organization to gain insight into management practice in area of career interest. Periodic reports and conferences required.

Prerequisite: ACC 312. Or ACC 633.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ACC 660. Managerial Accounting in Healthcare Organizational. 3 Credit Hours.

This course covers Managerial Accounting concepts applied to healthcare organizations. Topics include cost allocation and management control systems.

Prerequisite: ACC 212. Or ACC 608. Or ACC 671.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ACC 662. Taxation of Multinational Corporations. 2 Credit Hours.

This course introduces the fundamental tax concepts underlying U.S. taxation of international transactions. Topics include the taxation of U.S. corporations with income from foreign sources, intercompany pricing, anti-tax avoidance provisions, and tax treaties.

Prerequisite: ACC 640.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ACC 664. Global Mergers and Acquisitions: Accounting and Related Issues. 2 Credit Hours.

This course focuses on the financial, cultural, and strategic aspects of international mergers and acquisitions (M&A) activity and has a global, cross-cultural perspective. It presents a strategic view of the M&A process, examining managerial decision making in the planning, execution, and post-merger phases.

Prerequisite: ACC 312. Or ACC 633.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ACC 665. Health Care Financial and Managerial Accounting. 2-3 Credit Hours.

This course covers managerial and financial accounting concepts applied to health care organizations. Topics include cost allocation and management control systems.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ACC 670. Financial Reporting and Analysis. 2 Credit Hours.

The course focuses on the analysis and use of financial accounting information in the evaluation of corporate performance. The course initially demonstrates the accounting process and resulting generation of financial statements. Building on these core accounting concepts, the course emphasizes the understanding of financial statements prepared under U.S. and International Accounting Standards and the analysis of these financial statements including common size analysis, ratio analysis, the impact of taxes, and credit analysis. Completion of the course enhances the student's ability to read, interpret, and analyze financial statements for making investment, credit, acquisition, and other evaluation decisions. Limited to MBA students and Executive MBA students. Does not satisfy any accounting requirements needed to sit for the CPA Exam in Florida.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ACC 671. Accounting for Decision Making. 2 Credit Hours.

The course focuses on the use of accounting information in reporting managerial performance and making business decisions. The course covers the preparation and use of managerial accounting information for use in planning, budgeting, control, break-even analysis and pricing, including the impact of taxes. Completion of the course will enhance the student's ability to understand managerial accounting reports and use this information in making business decisions. Limited to MBA students and Executive MBA students. Does not satisfy any accounting requirement needed to sit for the CPA Exam in Florida.

Prerequisite: ACC 670.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ACC 672. Advanced Financial Analysis. 2 Credit Hours.

Advanced Financial Analysis and Valuation builds on the analytical techniques developed in the basic financial statement analysis course, Accounting 670: Financial Reporting and Analysis, to augment your understanding of more complex financial reporting issues and to introduce you to the valuation of equity investments. The viewpoint is that of the user of financial statements, particularly from the standpoint of an equity investor or purchaser of a business. We discuss each financial reporting issue in terms of its effect on assessments of a firm's profitability and risk. This course is designed primarily for students who expect to be intensive users of financial statements as part of their professional responsibilities.

Prerequisite: ACC 211. Or ACC 607. Or ACC 670.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ACC 673. Taxation for Business and Investment Decisions. 2 Credit Hours.

This course is designed to be the first tax course for students who are interested in acquiring the basic knowledge that all executives and investors should have about our federal income tax system. It studies basic concepts of federal income taxation applicable to all taxpayers. The basic income tax formula is studied including income exclusions, inclusions, statutory deductions, exemptions, and credits as well as property transactions. Completion of this course will enhance the students' appreciation of the role of taxation in making investment, employment-related, and business decisions. Not open to students with credit in ACC 403 or equivalent.

Prerequisite: ACC 312. Or ACC 633.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

ACC 675. Compensation, Incentives and Strategic Control. 2 Credit Hours.

Internal control is the process by which owners influence manager's of organization to implement the organization's strategies. The key idea is that different organizations typically have different strategies which in turn require different control systems for effective implementation. Internal control involves both formal systems and informal processes. Accounting 675 will begin by describing the formal aspects of management control such as the design of responsibility centers, budgets and standards, performance reports and management compensation. We will then explore the economic and financial reporting consequences (perhaps unintended) of various performance measurement mechanisms. In particular, we will focus on issues of short-termism, earnings, management, and attendant control failures that plague Corporate America today. Finally, we will discuss some of the regulatory changes brought about in recent times (e.g., Sarbanes Oxley) to address the apparent widespread control system failures.

Prerequisite: ACC 301. Or ACC 634.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ACC 677. Forensic Accounting. 2 Credit Hours.

This course provides an overview of fraud perpetrated against an organization, including employee theft, vendor fraud, customer fraud, and management fraud. You will learn how to investigate and quantify fraud, and how it can be detected and prevented as well as the accountants' role in litigation, such as acting as expert witness.

Prerequisite: ACC 312. Or ACC 633. And ACC 402. Or ACC 635.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ACC 681. Introduction to Financial and Managerial Accounting. 4 Credit Hours.

The first half of the course explores the role of accounting in providing financial information about an enterprise to decision-makers. Emphasis is placed on understanding financial accounting from both a preparer as well as user perspective. Course covers the reporting of financial position including coverage of assets, liabilities, equity accounts, the results of operations, and cash flows. Topics covered in the second half include various product costing techniques, analysis of cost behavior patterns, budgeting, and the use of accounting information in decision making from a managerial perspective.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ACC 682. Intermediate Accounting. 4 Credit Hours.

The accounting principles guiding the financial reporting practices of entities that prepare financial statements in accordance with generally accepted accounting principles are discussed. The course begins with a detailed discussion of the components of the income statement as well as the balance sheet followed by more complex accounting applications such as leases, post retirement benefits, accounting for income taxes, and other topics. Additionally, the course includes coverage of the statement of cash flows.

Prerequisite: ACC 681.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ACC 683. Taxation. 4 Credit Hours.

The course begins with a discussion of basic concepts of federal income taxation applicable to all taxpayers. The principles of individual income taxation, the tax consequences of property transactions, and an introduction to the impact of income taxes on corporations and partnerships are discussed. Emphasis is placed on study of the basic income tax formula including income exclusions, inclusions, statutory deductions, exemptions, and credits. This is followed by a study of Federal income tax laws and regulations as they affect corporations, partnerships, their owners, and employees. Emphasis is placed on tax planning aspects of formation, operation, distribution, and liquidation of corporations and partnerships.

Prerequisite: ACC 682.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ACC 684. Accounting Information Systems. 4 Credit Hours.

Course covers the nature, design, and implementation of accounting information systems. The objective of the course is to develop students' understanding of the theory and practice of relational database management systems in the accounting view of enterprise-wide databases. With a focus on controls, students build accounting system elements related to main accounting transaction cycles, the revenue cycle, and the purchase cycle.

Prerequisite: ACC 682.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ACC 685. Financial Statement Analysis and Valuation. 4 Credit Hours.

This course emphasizes the fundamental techniques of financial statement analysis. Building upon core accounting and investment concepts, the course covers the analysis and interpretation of financial accounting information including the balance sheet, income statement, and statement of cash flows. The course also examines the use of accounting information in investment and credit decisions including the valuation of equity investments. The viewpoint is that of the user of financial statements, particularly from the standpoint of an equity investor or purchaser of a business.

Prerequisite: ACC 682.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ACC 686. Auditing. 4 Credit Hours.

Course focuses on conducting an audit of financial statements in accordance with generally accepted auditing standards. Course covers accounting information systems, audit planning, audit risk and materiality assessments, evaluation of internal control, audit evidence, documentation, and audit reports. This is followed by discussion of advanced issues which arise in audit practice including audit reporting issues, fraud detection and reporting, attestation engagements, special reporting issues, compilation and review engagements, scope of services issues, and other new issues which have a significant impact on audit practice.

Prerequisite: ACC 682.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ACC 687. Advanced Cost Accounting. 4 Credit Hours.

The course focuses on the use of accounting information in reporting managerial performance and making business decisions. The course covers the preparation and use of managerial accounting information for use in planning, budgeting, control, pricing, and in making other business decisions. Topics include in-depth studies of techniques and issues surrounding cost allocation methods, approaches to solving complex accounting problems, standard cost systems and variance analysis, and variable costing. Additionally, the formal aspects of management control such as the design of responsibility centers, budgets and standards, performance reports and management compensation will be discussed.

Prerequisite: ACC 682.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ACC 688. Advanced Accounting and Financial Reporting. 4 Credit Hours.

The primary focus of the course is on business combinations and preparing consolidated financial statements. Additionally, the accounting principles and practices applied to foreign operations and partnerships will be discussed along with foreign currency translation issues. This will be followed by an exploration of complex financial reporting issues of contemporaneous interest.

Prerequisite: ACC 682.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ACC 689. Current Issues in Accounting. 4 Credit Hours.

Current issues in accounting focuses on international financial reporting standards and accounting for governmental and not-for-profit organizations. This course introduces core concepts and tools of accounting and financial reporting for managers of global, governmental, and not-for-profit organizations.

Prerequisite: ACC 682.

Components: DIL.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ACC 690. Fraud and Forensic Accounting: Ethics and Legal Environment. 4 Credit Hours.

This course focuses on conducting fraud examinations and includes discussion of procedures used in forensic accounting examinations -and the rationale supporting such procedures.

Prerequisite: ACC 682 And ACC 685.

Components: DIL.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ACC 698. Selected Topics. 3 Credit Hours.

Topics in selected areas of specialization.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ACC 699. Directed Readings. 1-3 Credit Hours.

Individually supervised research projects in selected fields. Approval of supervising professor as to topic and evaluation of project required at time of registration.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ACC 701. Empirical Accounting Research I. 3 Credit Hours.

This is the first course in Empirical Accounting Research for Ph.D. students. The course introduces students to the data sources; current techniques for accessing and analyzing accounting data; research methods employed in hypothesis testing; and the literature on positive accounting theory, accounting anomalies, institutional accounting, and disclosure. The emphasis will be on current research with a historical perspective.

Components: THI.

Grading: GRD.

Typically Offered: Fall.

ACC 702. Empirical Accounting Research II. 3.00 Credit Hours.

This is the second course in Empirical Accounting Research for Ph.D. students. In this course, students will explore research on analyst estimates and stock recommendations, industry research in accounting, and empirical research on compensation. The course will critically evaluate the theory, research design, and methodology employed in these studies. Prerequisite: ACC 701 or permission from the instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ACC 823. Topics in Empirical Accounting Research I. 3 Credit Hours.

This is the first course in Empirical Accounting Research for Ph.D. students. The course introduces students to the data sources; current techniques for accessing and analyzing accounting data; research methods employed in hypothesis testing; and the literature on positive accounting theory, accounting anomalies, institutional accounting, and disclosure. The emphasis will be on current research with a historical perspective.

Components: SEM.

Grading: GRD.

Typically Offered: Fall.

ACC 824. Topics in Empirical Accounting Research II. 3 Credit Hours.

This is the second course in Empirical Accounting Research for Ph.D. students. In this course, students will explore research on analyst estimates and stock recommendations, industry research in accounting, an empirical research on compensation. The course will critically evaluate the theory, research design, and methodology employed in these studies.

Components: SEM.

Grading: GRD.

Typically Offered: Spring.

ACC 825. Comprehensive Test Preparation. 1-3 Credit Hours.

Doctoral students who are preparing for their qualifying examinations may use this course designation. Enrolled students must develop, with the approval of their advisor, a "Plan of Study" for these credits.

Components: THI.

Grading: SUS.

Typically Offered: Fall & Spring.

ACC 826. Introduction to Textual Analysis in Accounting Research. 3 Credit Hours.

This course will provide students with essential practical skills to apply popular textual analysis methods and help develop understanding of the key concepts and challenges associated with textual analysis and data analysis.

Components: SEM.

Grading: GRD.

Typically Offered: Spring.

ACC 830. Doctoral Dissertation. 1-12 Credit Hours.

Required of all candidates for the PhD. The student will enroll for credit as determined by their advisor, but not for less than a total of 24. Not more than 12 hours of ACC 730 may be taken in a regular semester, nor more than six in a summer session. Where a student has passed their qualifying examinations they may take the maximum allowable credit stated above.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

Aerospace Studies (AIS)

AIS 101. The Foundations of the United States Air Force I. 1 Credit Hour.

Survey course designed to introduce students to the United States Air Force and Air Force Reserve Officer Training Corps. Featured topics include: Air Force heritage, military customs and courtesies, career opportunities, Air Force Core Values, interpersonal communications, and team building. Leadership Laboratory is mandatory for AFROTC cadets and complements this course by providing cadets with followership experiences.

Corequisite: AIS 150.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

AIS 102. The Foundations of the United States Air Force II. 1 Credit Hour.

Survey and follow on course to AIS101, designed to introduce students to the United States Air Force and Air Force Reserve Officer Training Corps. Featured topics include: Air Force heritage, military customs and courtesies, career opportunities, Air Force Core Values, interpersonal communications, and team building. Leadership Laboratory is mandatory for AFROTC cadets and complements this course by providing cadets with followership experiences.

Corequisite: AIS 150.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

AIS 150. Leadership Laboratory. 0 Credit Hours.

Leadership Laboratory (LLAB) is a dynamic and integrated grouping of leadership developmental activities designed to meet the needs and expectations of prospective Air Force second lieutenants and complement the AFROTC academic program. It is a student planned, organized, and executed practicum conducted under the supervision of the Detachment 155 Commander and Operations Flight Commander.

Components: LAB.

Grading: CNC.

Typically Offered: Fall & Spring.

AIS 201. The Evolution of USAF Air and Space Power I. 1 Credit Hour.

Survey and follow-on course to AIS 101/102 designed to examine general aspects of the employment of air and space power through a historical perspective. Historical examples assist in understanding the development of Air Force distinctive capabilities and missions. In addition, the students continue discussing the importance of the Air Force Core Values with the use of operational examples and historical Air Force leaders. Students also continue to develop communication skills. Leadership Laboratory is mandatory for AFROTC cadets and complements this course by providing cadets with followership experiences.

Corequisite: AIS 150.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

AIS 202. The Evolution of USAF Air and Space Power II. 1 Credit Hour.

Continuation of AIS 201 which provides students with knowledge level understanding for general element and employment of air and space power. Discusses the importance of Air Force Core Values with use of operational examples and historical Air Force leaders. Continues to develop communication skills. Leadership Laboratory is mandatory for AFROTC cadets and complements this course by providing cadets with followership experiences.

Corequisite: AIS 150.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

AIS 301. Air Force Leadership Studies I. 3 Credit Hours.

Aerospace Studies 301 teaches cadets advanced skills and knowledge in management and leadership. Special emphasis is placed on enhancing leadership skills. Case studies are used to examine Air Force leadership and management situations as a means of demonstrating and exercising practical application of the concepts being studied. A mandatory Leadership Laboratory complements this course by providing advanced leadership experiences in officer-type activities, giving students the opportunity to apply leadership and management principles.

Corequisite: AIS 150.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

AIS 302. Air Force Leadership Studies II. 3 Credit Hours.

Continuation of AIS 301 and is a study of Air Force personnel and evaluation systems, leadership ethics, and communication skills required of Air Force junior officers. Case studies are used to examine Air Force leadership and management situations. Mandatory Leadership Laboratory complements this course by providing advanced leadership experiences in officer-type activities.

Corequisite: AIS 150.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

AIS 401. National Security Affairs/Preparation for Active Duty I. 3 Credit Hours.

Aerospace Studies 401 is designed to examine national security process, regional studies, advanced leadership ethics, and Air Force Doctrine. Special topics of interest focus on the military as a profession, officership, military justice, civilian control of the military, preparation for active duty, and current issues affecting military professionalism with a continuing emphasis on the refinement of communication skills. A mandatory Leadership Laboratory complements this course by providing advanced leadership experiences in officer-type activities, giving students the opportunity to apply leadership and management principles.

Corequisite: AIS 150.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

AIS 402. National Security Affairs/Preparation for Active Duty II. 3 Credit Hours.

Continuation of AIS 401 which examines regional studies and advanced leadership ethics. Special topics of interest focus on the military as a profession, officership, military justice, preparation for active duty, and current issues affecting military professionalism. Continued emphasis is given to refining communication skills. Mandatory Leadership Laboratory complements this course by providing students advanced leadership experiences.

Corequisite: AIS 150.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

Africana Studies (AAS)

AAS 150. Introduction to Africana Studies. 3 Credit Hours.

Experiences of African American and other African-descended peoples with emphases on social, cultural, political, etc.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

AAS 260. History of Slavery in the Atlantic. 3 Credit Hours.

The emergence and eventual abolition of the Trans-Atlantic slave trade and its effects on both old and new world.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

AAS 290. Special Topics. 3 Credit Hours.

Content varies by semester.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

AAS 350. Black Leadership in the U.S.. 3 Credit Hours.

Black leaders and leadership organizations. Emphasis on their role in overcoming oppression and barriers to advancement.

Prerequisite: 3 Credits in AAS.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

AAS 390. Special Topics. 3 Credit Hours.

Content varies by semester.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

AAS 490. Senior Seminar in Africana Studies. 3 Credit Hours.

Content varies by semester.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

American Studies (AMS)

AMS 101. Introduction to American Studies. 3 Credit Hours.

An interdisciplinary approach to American Studies with attention to a particular theme or period.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

AMS 301. Topics in American Studies. 3.00 Credit Hours.

Content varies by semester.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

AMS 310. The United States in the World. 3 Credit Hours.

The culture and history of the United States in a global framework.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

AMS 321. Topics in American Studies: History. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

AMS 322. Topics in American Studies: Literature. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

AMS 323. Topics in American Studies: Politics. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

AMS 324. Topics in American Studies: Religion. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

AMS 325. Topics in American Studies: Law. 3 Credit Hours.**Components:** LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**AMS 326. Topics in American Studies: Education. 3 Credit Hours.****Components:** LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**AMS 327. Topics in American Studies: Film. 3 Credit Hours.****Components:** LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**AMS 328. Topics in American Studies: Music. 3 Credit Hours.****Components:** LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**AMS 329. Topics in American Studies: Art. 3 Credit Hours.****Components:** LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**AMS 330. Topics in American Studies: Sociology. 3 Credit Hours.****Components:** LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**AMS 331. Topics in American Studies: Geography. 3 Credit Hours.****Components:** LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**AMS 332. Topics in American Studies: Anthropology. 3 Credit Hours.****Components:** LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**AMS 333. Topics in American Studies: Environmental Studies. 3 Credit Hours.****Components:** LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**AMS 334. Topics in American Studies: Ethnic Studies. 3 Credit Hours.****Components:** LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**AMS 335. Topics in American Studies: Women's and Gender Studies. 3 Credit Hours.****Components:** LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**AMS 336. Topics in American Studies: LGBTQ Studies. 3 Credit Hours.****Components:** LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**AMS 337. Topics in American Studies: Cultural Studies. 3 Credit Hours.****Components:** LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**AMS 338. Topics in American Studies: International Studies. 3 Credit Hours.****Components:** LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.

AMS 339. Topics in American Studies: Urban Studies. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

AMS 350. History and Culture of South Florida. 3 Credit Hours.

The history and culture of South Florida from a multidisciplinary perspective.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

AMS 399. Independent Study. 1-3 Credit Hours.

By arrangement with instructor; content varies.

Components: LEC.

Grading: CNC.

Typically Offered: Offered by Announcement Only.

AMS 401. Seminar in American Studies. 3 Credit Hours.

Content varies by semester.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

AMS 499. Independent Study. 3 Credit Hours.

By arrangement with instructor; content varies.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Summer.

AMS 501. Senior Project. 3 Credit Hours.

All majors must complete either an individual research project or an internship at a local cultural or civic institution. Either option must be approved by the program director.

Components: THI.

Grading: GRD.

Typically Offered: Spring.

AMS 505. Honors Thesis. 3 Credit Hours.

American Studies majors with a cumulative GPA of at least 3.5 in AMS courses and an overall GPA of at least 3.0 may earn departmental honors by completing AMS 505 : honors thesis. Candidates for departmental honors are responsible for finding a faculty member to serve as the thesis advisor. Students would take AMS 501 in the fall semester or the senior year and AMS 505 in the spring to complete the honors thesis.

Components: THI.

Grading: GRD.

Typically Offered: Spring.

Anthropology (APY)

APY 100. Introduction to Forensic Investigation (EXP). 3 Credit Hours.

Students will go into the field to gain an introductory understanding about skeletal identification and crime lab processes.

Requisite: Plan of Summer Scholar Program.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

APY 101. Introduction to Anthropology. 3 Credit Hours.

A broad overview of archaeology, cultural anthropology, biological anthropology, and linguistics.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

APY 105. HIV: Sex, Science, and Society. 3 Credit Hours.

The important role that science plays and has played in ameliorating suffering for mankind. We will include an analysis of the scientific, human, and policy-related issues associated with HIV/AIDS.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

APY 109. Anthropology of Religion. 3 Credit Hours.

Through themes such as myth, word and text, symbol, gender, pilgrimage, embodiment, and ritual, students learn about lived religion through anthropological research and field methods. The course also exposes introductory-level students to diverse world religious traditions: Korean folk religion, Indonesian Islam, Hinduism in diaspora, Judaism across cultures, Japanese temple Shinto traditions, and more.

Components: LEC.

Grading: GRD.

APY 200. Introduction to Forensic Anthropology (EXP). 3 Credit Hours.

Students will learn the basics of the human bone structure and how it relates to anthropology and forensic studies.

Requisite: Plan of Summer Scholar Program.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

APY 201. Principles of Archaeology. 3 Credit Hours.

History, methods, and theory of archaeology with an outline of the main characteristics of the prehistoric record throughout the world.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

APY 202. Principles of Cultural Anthropology. 3 Credit Hours.

Cultural anthropology, including such topics as economics, politics, kinship and families, health systems, religion, and personality.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

APY 203. Principles of Physical Anthropology. 3 Credit Hours.

The origin and biological development of the human species; human evolution explored by means of the fossil record of prehistoric population; differentiation and adaptation of contemporary populations in various world environments; the comparison of humans and other primates with respect to biological and behavioral variability.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

APY 204. Principles of Linguistic Anthropology. 3 Credit Hours.

Human linguistic principles of phonology, morphology, and grammar to construct a framework for understanding the operation of language in cultural context. The functions of human language in structuring ideological, economic, and political realms.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

APY 205. Medicine and Health Care in Society. 3 Credit Hours.

A sociohistorical analysis of the intersection between medicine, health care and society, using examples throughout the world. It will reflect on 'taking-for-granted' concepts such as the 'body, risk, illness and healing' and their relationships to culture, power, and society, as well as the plurality of narratives and discourses on health and healing practices.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

APY 208. Short-Changed in the City. 3 Credit Hours.

Marginalization plagues sub-populations in almost every large city. An anthropological view of this problem and its origins, presented through readings, discussions, lectures and field trips.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

APY 230. The Sounds of the World's Languages. 3 Credit Hours.

The range of sounds produced by the speakers of the world's languages. An introduction to phonetics, with a focus on acoustically-oriented methods used in contemporary phonetics.

Prerequisite: APY 204.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

APY 301. World Prehistory. 3 Credit Hours.

The global prehistoric record, with emphasis on the development of social complexity and ancient states.

Prerequisite: APY 201.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

APY 302. Ethnographies of Black Life. 3 Credit Hours.

Themes that have shaped Anthropology's engagement with Black Life. Critique between Black Studies and the social Sciences with particular focus on the discipline of anthropology, interrogation of the methods and theoretical frameworks employed to empirically distill the social conditions and political formations of black diasporic peoples.

Components: SEM.

Grading: GRD.

Typically Offered: Fall.

APY 306. Human Evolution. 3 Credit Hours.

The macroevolution of humans using the fossil record of vertebrates, including the development of uniquely human behavioral and anatomical adaptations, and of diversity in living populations.

Prerequisite: APY 201 or APY 203.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

APY 307. Human Adaptation. 3 Credit Hours.

Human biological adaptation to different environments and stress is examined anthropologically within an evolutionary framework. Mechanisms of adaptation to temperature extremes and other climatic variables, high altitude, disease, nutritional stress, urbanization, extraterrestrial conditions, and other environmental challenges are described in relation to biological and behavioral variations among human populations. The limits of human performance and human adaptive potential in the present and future are explored.

Prerequisite: APY 201 and APY 202 and APY 203 and BIL 101 and BIL 109.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

APY 309. Evolution of Human Behavior. 3 Credit Hours.

Origins and evolution of human behaviors as determined by fossil and archaeological evidence, primate research, and the cross-cultural analysis of behavioral variations in contemporary societies. The interaction of human biological and behavioral evolution.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

APY 310. Primate Behavior and Adaptation. 3 Credit Hours.

The taxonomy, distribution, anatomy, social behavior and adaptations to habitats of human and non-human primates as seen from an evolutionary perspective.

Prerequisite: APY 203 and BIL 150.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

APY 315. Folk and Alternative Medicine. 3 Credit Hours.

Historical and cultural backgrounds of health therapies, including theoretical bases of traditional ethnomedical, nonwestern, and complementary medical systems.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

APY 320. The Evolution of Language. 3 Credit Hours.

Popular contemporary hypotheses on the origins and development of language.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

APY 340. Marine Archaeology. 3 Credit Hours.

Location, excavation, and study of submerged sites.

Prerequisite: APY 201.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

APY 345. Blood and Chocolate: Ancient Civilizations of Mesoamerica. 3 Credit Hours.

An archaeological approach to understanding the major pre-Columbian cultures of Mesoamerica, from Olmec to Aztec periods, with emphasis on the ancient Maya. The particular accomplishments of this area such as the domestication of chocolate and corn, hieroglyphic writing, and elaborate sacrificial rituals will be explored.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

APY 356. Florida Archaeology. 3 Credit Hours.

Archaeological remains of ancient cultures in the Florida peninsula, from initial occupation to the Colonial Period.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

APY 360. Anthropology of Food. 3 Credit Hours.

Evolution of human diet, basic nutrition, food taboos, effects of domestication, effects of diet on skeletal remains, analysis of your own food habits, and the impact of certain foods on the biocultural evolution of our species.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

APY 361. Gender and Language. 3 Credit Hours.

The ways in which language is used in the constitution of gender from a cross-cultural perspective. Course is co-listed with WGS 361.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

APY 362. The Languages of the World. 3 Credit Hours.

The world's languages. The primary focus is on major differences and similarities among the structural properties of languages from diverse regions and linguistic families. In short, an introduction to linguistic typology.

Prerequisite: APY 204.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

APY 376. Economic Anthropology. 3 Credit Hours.

The structure and operation of the small-scale economy in the social system is examined. The interrelationship between social and economic systems, and the formation of non-market economies.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

APY 377. Anthropology of Political Systems and Discourse. 3 Credit Hours.

Political systems and processes in tribal societies, with special emphasis on dispute settlement, the organization of political control, and the use of oratory. Case studies from Latin American and African examples.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

APY 384. Caribbean Archaeology. 3 Credit Hours.

An examination of human lifeways in the Antillean archipelago from first settlement through the development of complex socio-political structures in the Late Ceramic Age and ultimately the arrival of European and African migrants.

Prerequisite: APY 201.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

APY 385. Caribbean Cultures. 3 Credit Hours.

Caribbean societies, including ethnic diversity, production and exchange, domestic organization, and belief systems.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

APY 391. Gender in Ancient Cultures. 3 Credit Hours.

A cross-cultural examination of the role gender played in ancient complex culture areas, such as Mesoamerica, Mesopotamia, and the Mediterranean, with emphasis on using the archaeological record to reconstruct social roles.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

APY 392. Sex and Culture. 3 Credit Hours.

A cross-cultural examination of sex roles and sexuality; gender identity, division of labor, functions of marriage, sexual practices, reproductive control, and political relationships between the sexes.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

APY 393. Drugs and Culture. 3 Credit Hours.

Cross cultural review of human drug use with special attention to the use of drugs in cultural context.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

APY 394. Comparative Religion. 3 Credit Hours.

A cross-cultural investigation of differing levels of religious belief systems examined from both etic and emic points of view.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

APY 395. Gender, Race, and Class. 3 Credit Hours.

To explore human differences, we will interrogate common sense as: thinking about gender, race, and class. Certain queries will be addressed. What roles do scientific practice, political systems, and popular media play in shaping our thinking about differences? Where do we draw the line between biological fact and social construction? How do these facets of identity intersect and inform individuals' everyday experiences? How might knowledge allow us to speak truth to power when institutional oppression occurs? An anthropological perspective will provide the central frame, though feminism, history, medicine, biology, psychology, and law will inform our considerations.

Prerequisite: APY 202 or WGS 201.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

APY 396. Youth Culture, Identity, and Globalization. 3 Credit Hours.

Youth cultural practices and experiences in various urban contexts in the world. Particular emphasis is placed on marginalization, identity and commodification of violent practices as embedded in the globalization processes.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

APY 397. Violence and Ritual. 3 Credit Hours.

Various theories of ritual and violence with reference to ethnographically-based topics. It will explore the role of symbols, rituals and ideologies in shaping and contesting power within nations and other political communities.

Prerequisite: APY 202.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

APY 398. Coastal Cultures. 3 Credit Hours.

Fishermen and their special relations to the environment, from Thailand and Sri Lanka to Alaska and the West Indies. Decision-making processes among fishermen, business concepts, responses to technology and myths of the sea.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

APY 399. The Anthropology of Kinship and Family in America. 3 Credit Hours.

Theories of kinship and the family. It will examine emergence of new patterns of kinship networks and construction of individuals. Ethnographic materials will be drawn from the Americas and the Caribbean, particularly Brazil, Cuba, Haiti, Jamaica and the United States.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

APY 405. Readings in Anthropology. 1-3 Credit Hours.

Supervised readings on special topics in Anthropology.

Components: THI.

Grading: GRD.

Typically Offered: Fall.

APY 406. Readings in Anthropology. 1-3 Credit Hours.

Supervised readings on special topics in Anthropology.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

APY 413. Medical Anthropology. 3 Credit Hours.

Cross-cultural and historical perspectives on health and illness in human evolution. Effects of heredity, environment, and culture upon human disease ecology. Biological and behavioral adaptations to disease.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

APY 414. Human Osteology. 3 Credit Hours.

Identification and interpretation of the human skeleton, including age, sex, hard tissue pathology and traumas.

Prerequisite: APY 203.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

APY 415. Forensic Anthropology II: Fieldwork. 3 Credit Hours.

The investigation, analyses, and legal aspects of human remains recovered from crime scenes and mass disasters.

Prerequisite: APY 203 or APY 414.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

APY 416. Bioarchaeology-Peopling the past. 3 Credit Hours.

Contextualization of bodies in space, cultural milieu and time are the primary focus of this course. Students will explore bioarchaeology's history, development and major topical concerns.

Prerequisite: APY 201 or APY 203.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

APY 417. Archaeometry: The Science of Material Culture. 3 Credit Hours.

The archaeological application of a physical science (physics, chemistry, geology, etc.) techniques to answer pertinent anthropological questions about past societies.

Prerequisite: APY 201.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

APY 418. Seminar in Anthropology. 3 Credit Hours.

Consideration of special topics in physical anthropology, linguistics, archaeology and ethnology and their interrelationships.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

APY 419. Politics of the Past. 3 Credit Hours.

The intersection of archaeology, politics, capitalism, and discrimination to consider the presentation, misconstrual, revision, and reclamation of the past. Lecturing will be kept to a minimum, as the bulk of the class will be devoted to discussion and debate.

Prerequisite: APY 201.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

APY 420. Archaeology, Architecture, and the City. 3 Credit Hours.

Ancient architectural remains in the global anthropological perspective, emphasizing the role of architecture in shaping the evolution of social and political interactions.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

APY 421. Interpreting Bodies. 3 Credit Hours.

Perceptions, representations, and regulation of the physical body as a gendered and sexual site, as a source of pleasure, as a means of social validation, and as an object of coercion. Writing Credit. Lecturing will be kept to a minimum, as the bulk of the class will be devoted to discussion and debate.

Prerequisite: APY 202 and WGS 201.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

APY 422. Pseudoscience in Archaeology. 3 Credit Hours.

Reconstructions of how people lived in the past that claim scientific validity, use the terminology of science, but are unsupported by evidence, can be called pseudoscientific. This course critically evaluates the field of pseudoscientific archaeology by applying the scientific method, logic, and common sense.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

APY 423. Paleopathology: Health and disease in ancient peoples. 3 Credit Hours.

Paleopathology aims to familiarize students with the range of health conditions that present in preserved human remains and to explain the linkages between disease prevalence and culture, economics, and politics.

Prerequisite: APY 414 and APY 416.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

APY 435. Anthropology of Nature and Environment. 3 Credit Hours.

This course is an introduction to the anthropological investigation of nature, biology, and environment. Taking examples from cultural anthropology and the subfields of environmental anthropology, political ecology, and the anthropology of science, the course builds an understanding of the various ways in which ideas about nature and human nature and nature making practices shape our contemporary world: its places, spaces, life forms, and forms of life.

Prerequisite: APY 202.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

APY 480. Undergrad Internship Anthrology. 3-9 Credit Hours.

The purpose of the undergraduate internship is practical application of coursework to hands-on learning with field and laboratory research conducted in partnership with an academic, governmental, non-profit and/or private sector business entity. The goal is to acquire and practice skill sets required for advancement in professional careers. Students may elect to participate in more than one internship because of the four-field approach of the discipline of Anthropology.

Prerequisite: APY 201 or APY 202 or APY 203 or APY 204.

Components: DIL.

Grading: GRD.

Typically Offered: Summer.

APY 484. Anthropological Theory. 3 Credit Hours.

Theoretical frameworks directing data collection and research methodology in anthropology.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

APY 485. Archeological Theory and Technique. 3 Credit Hours.

Theoretical traditions that shape modern archaeological research design and interpretation.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

APY 486. Advanced Colloquy in Black Feminist Theory and Praxis: Major Works of 7 Black Feminist Thinkers. 3 Credit Hours.

Components: SEM.

Grading: GRD.

Typically Offered: Fall.

APY 501. Methods of Anthropological Research. 3-6 Credit Hours.

Concentration on research methods for Cultural, Archaeological, Linguistic, and/or Biological Anthropology.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

APY 502. Field Studies in Anthropology. 3-6 Credit Hours.

Field research in advanced topics in Cultural, Archaeological, Linguistic and/or Biological Anthropology. Preparation of data for professional presentation and publication is stressed.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

APY 505. Museum Internship. 3 Credit Hours.

Field work and on-site experience in museum studies conducted in conjunction with the major museums in Miami. Training and research in methods and techniques in museology.

Prerequisite: APY 201.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

APY 506. Workshop in Anthropology. 3-6 Credit Hours.

This course is designed for upper level and graduate students to participate in special topics in Anthropology and related fields.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

APY 511. Artlab At Lowe. 3 Credit Hours.

Organizing an art exhibition at the Lowe Art Museum. Taught by a different faculty member each year.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

APY 512. Advanced Medical Anthropology. 3 Credit Hours.

Applications of theories and methods of medical anthropology to problems in human health and disease.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

APY 518. Advanced Seminar in Anthropology. 3 Credit Hours.

Specialized topics in Anthropology to involve students into current research specializations.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

APY 601. Advanced Seminar in Archaeology, Theory and Practice. 3 Credit Hours.

History and theoretical foundation of modern archaeology; ethics, professional standards, and best practices in archaeology; cultural heritage management with special emphasis on NAGPRA; compliance with Secretary of the Interior standards, Section 106 regulatory knowledge and skills for compliance with government regulations, and current topical literature on archaeology.

Requisite: Graduate Standing.

Components: LEC.

Grading: GRD.

APY 602. Advanced Seminar in Cultural Anthropology. 3 Credit Hours.

The application of the anthropological perspective, data collection and analyses methods, and theoretical foundations of traditional cultural anthropology to understanding and working on solving human problems in the modern world. Topics include the design, conduct, and application of modern ethnological methods to research venues in business, governmental/NGO agencies, conflict studies, natural disasters, medical, globalization and financial organizations.

Requisite: Graduate Standing.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

APY 603. Advanced Seminar in Biological Anthropology. 3 Credit Hours.

The historical and theoretical foundations of modern biological anthropology. Topics include ethics and standards for human subjects; applied bioarchaeology, biological anthropology in medical/legal settings, primatology, Human biology and adaptive diversity, modern perspectives on race, and skeletal biology of modern peoples. The development of professional research and writing skills for the discipline is integral to course goals.

Requisite: Graduate Standing.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

APY 604. Advanced Seminar in Linguistic Anthropology. 3 Credit Hours.

Core aspects of linguistics theory, and consider the ways in which modern linguistic techniques can be applied in the investigation of both common and uncommon typological patterns in the world's 7000+ languages. Requisite: Graduate Status or Permission of Instructor. Requisite: Graduate Status or Permission of Instructor. Typically Offered: Fall & Spring.

Requisite: Graduate Standing.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

APY 605. Museum Internship. 3 Credit Hours.

Field work and on-site experience in museum studies conducted in conjunction with the major museums in Miami. Training and research in methods and techniques in museology.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

APY 611. Methods of Anthropological Research. 3-6 Credit Hours.

Concentration on research methods for Cultural, Archaeological, Linguistic, and/or Biological Anthropology.

Components: RSC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

APY 612. Advanced Medical Anthropology. 3 Credit Hours.

Applications of theories and methods of medical anthropology to problems in human health and disease.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

APY 615. Advanced Museum Internship. 3 Credit Hours.

Components: SEM.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

APY 616. Advanced Workshop in Anthropology. 3-6 Credit Hours.

This course is designed for graduate students to participate in special topics in Anthropology and related fields.

Components: SEM.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

APY 628. Advanced Graduate Seminar. 3 Credit Hours.

Specialized topics in Anthropology to involve students into current research specializations.

Components: SEM.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

APY 690. Teaching Practicum in Anthropology. 3 Credit Hours.

Logistics and pedagogical issues of teaching anthropology, including skill set and materials suitable for employment in settings for which the master's is the required, e.g., two-year schools. The student will evaluate texts, create teaching materials for a given subfield, master commonly-available electronic teaching and learning tools, and teach one class as directed.

Requisite: Graduate Standing.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

APY 696. Advanced & Graduate Colloquy in Black Feminist Theory and Praxis: Major of 7 Black Feminist Thinkers. 3 Credit Hours.

Black feminist theory, produced primarily by Black women scholars, artist and activists, throughout the diaspora, constitutes a distinctive and influential body of politics and thought. Black feminist's uninvited interventions in Black politics arts and letters— produced at the interstices of violence, silence, invisibility, or forgetting— exposes and makes available a wider horizon of possibilities than had been proposed before its emergence. The central theoretical innovation of this praxis (later claimed by theorists of various stripes), is the multiple-'interlocking', 'intersectional', 'compounded' –constitution of "identity," oppression, aesthetic sensibilities, for example, and therefore of roads toward freedom. This distinctive body of work is not only interdisciplinary, multilingual; but also constitutive to specific geographies, politics, experiences, and particular intellectual and political streams.

Components: SEM.

Grading: GRD.

Typically Offered: Fall.

APY 702. Field Studies in Anthropology. 3-6 Credit Hours.

Field research in advanced topics in Cultural, Archaeological, Linguistic and/or Biological Anthropology. Preparation of data for professional presentation and publication is stressed.

Components: SEM.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

APY 805. Graduate Internship: Professional Practice of Anthropology. 1-9 Credit Hours.

An internship designed to provide valuable career-related work experience in a real - world setting, e.g., institutions, organizations and/or businesses. Students will identify an opportunity, supervisor, and write a proposal as to the relevancy to their goals. The Internship may be paid or unpaid. This course may be repeated.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

APY 810. Master's Degree Thesis Preparation and Writing. 1-9 Credit Hours.

Preparation/completion of a written thesis for the master's degree when the student has completed the thesis research, is engaged in writing the thesis, and expects to use the facilities and resources of the Anthropology department and the university; enrollment is required when the completed thesis is defended and approved. This course may be repeated

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

Applied Marine Physics (AMP)

AMP 536. Modeling of Physical-Biological Interactions. 3 Credit Hours.

The course is designed to teach students the basics components for building coupled physical biological models. Students will be able to understand the processes affecting from low- to high-trophic level organisms in the planktonic environment. Emphasis will be given on numerical simulations of mechanisms involved in: Plankton distribution and patchiness; Trophic interactions (NPZD); Larval behavior and transport; Marine population connectivity.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

Applied Music (MAP)

MAP 264. Vocal Techniques. 2 Credit Hours.

Components: LEC.

Grading: GRD.

Arabic (ARB)

ARB 101. Elementary Arabic I. 4 Credit Hours.

Fundamental writing and grammar principles; pronunciation; simple reading and translation. Closed to native speakers.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ARB 102. Elementary Arabic II. 4 Credit Hours.

Modern Standard Arabic; oral and written exercises. Closed to native speakers.

Prerequisite: ARB 101.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ARB 201. Intermediate Arabic I. 4 Credit Hours.

Modern Standard Arabic; oral and written exercises. Closed to native speakers.

Prerequisite: ARB 102.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ARB 202. Intermediate Arabic II. 3 Credit Hours.

Readings designed to integrate listening comprehension, speaking, reading, and writing skills in Modern Standard Arabic. Discussion of Arab society, history and culture. Closed to native speakers.

Prerequisite: ARB 201.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ARB 203. Advanced Arabic. 3 Credit Hours.

5th semester course in Modern Standard Arabic. Continued development of all four language skills (listening, speaking, reading, and writing) together with study of cultural aspects of the Arab world. Conducted in Arabic. Closed to students who graduated from a high school in which the primary language of instruction was Arabic.

Prerequisite: ARB 202.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ARB 204. Arabic 204: Advanced Arabic II. 3 Credit Hours.

The sixth course of the Modern Standard Arabic sequence within the Arabic Studies Program. The three primary goals of the Arabic language sequence are: (1) developing oral and written communicative abilities in Arabic; (2) understanding the rich culture of the Arabic-speaking world through engaging with texts and cultural artifacts; (3) studying and understanding the Arabic language, from grammar and spelling to writing with coherence, cohesion and accuracy.

Prerequisite: ARB 203.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ARB 207. Arabic for Heritage Learners. 3 Credit Hours.

Arabic for Heritage Learners is a 200 level course specifically designed for students of Arab descent who fulfilled the equivalent of ARB 201. The course will hone students' ability in critical reading, writing, debate, and discussion of pertinent topics in Arab culture. The course material will focus on the history of Arab culture, literature, film, and music. By the end of the semester students will develop their ability in critical reading and writing in MSA.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ARB 208. Arabic for Heritage Learners II. 3 Credit Hours.

Arabic 208 is combined with the sixth course of the Modern Standard Arabic sequence within the Arabic Studies Program. The three primary goals of the Arabic language sequence are: (1) developing oral and written communicative abilities in Arabic; (2) understanding the rich culture of the Arabic-speaking world through engaging with texts and cultural artifacts; (3) studying and understanding the Arabic language, from grammar and spelling to writing with coherence, cohesion and accuracy.

Prerequisite: ARB 202 or ARB 207.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ARB 251. Levantine Colloquial Arabic I. 3 Credit Hours.

This course will enable students to converse in the colloquial Arabic dialects of the Levant (Jordan, Lebanon, Palestine, and Syria). Development of communicative abilities in speaking and comprehension, as well as reading and writing (as used in social media, theater, etc.) of colloquial Levantine Arabic. Closed to native speakers (students educated in schools where Arabic was the language of instruction); heritage learners at the beginning level may be accommodated.

Prerequisite: ARB 201.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARB 310. Topics in Arabic Literature and Culture in Translation. 3 Credit Hours.

Specific topics within the literature and cultures of the Arabic-speaking world, including literary, cinematic, and artistic representations of central themes or issues, and the cultural production of particular historical periods or national or immigrant groups. This course is taught in English and does not fulfill the CAS foreign language requirement. May be repeated for credit if topics vary.

Prerequisite: ENG 106 or ENG 107.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARB 312. Arab Cultures: A Cultural History of the Arab World. 3 Credit Hours.

Study of the main points of Arab cultural history, from Pre-Islamic times to the period following European colonization with an emphasis on intellectual history and literary and visual arts. This course is taught in English and does not fulfill the CAS foreign language requirement.

Prerequisite: ENG 106 or ENG 107.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARB 315. Topics in Gender and Sexuality in Translation. 3 Credit Hours.

Topics in gender and sexuality in the context of the Arab world, through literary and/or cultural studies. This course is taught in English and does not fulfill the CAS foreign language requirement. May be repeated for credit if topics vary.

Prerequisite: ENG 106 or ENG 107.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARB 394. Arabic Internship. 1-3 Credit Hours.

The internship is intended to provide the student with an opportunity to apply analytical, interpretive, expressive, and creative skills developed in coursework. Internships ordinarily take place outside the University. They involve UM-faculty supervision as well as supervised on-site experience in an Arabic-speaking cultural, business, or not-for-profit organization. Student needs to fill out the internship application form. Normally 40 internship hours are required per credit earned (the host will supply documentary evidence of hours worked).

Components: PRA.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ARB 410. Language and Power in the Arab World. 3 Credit Hours.

The multiple languages and linguistic registers present in the Arab world and, through materials from linguistics, anthropology, political science, music, art, and literature, leads them into an exploration of the main socio-linguistic features of Arabic and their broader cultural ramifications. This course is conducted in English. It does not fulfill the College of Arts & Sciences language requirement.

Prerequisite: ENG 106 or ENG 107.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARB 591. Directed Readings. 1-3 Credit Hours.

Directed readings (Independent study) in Arabic Studies.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARB 625. Arabic for Graduate Students. 0 Credit Hours.

The Arabic language through a communicative approach implementing the use of new vocabulary and applied use of grammatical theories thereby advancing reading comprehension as well as writing skills. The main focus of this class is on communication in Arabic where we aim for maximum use of the language in the classroom. The instructor will strive to speak exclusively in Arabic during class, and students will be expected to do the same with their instructor and classmates

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ARB 641. Elementary ARB I for Graduate Students. 0 Credit Hours.

Designed to develop graduate students' communicative abilities in speaking, reading, writing, and comprehending Arabic, as well as to provide an introduction to the Arabic-speaking world.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ARB 642. Elementary ARB II for Graduate Students. 0 Credit Hours.

Continuation of ARB641. Designed to develop graduate students' communicative abilities in speaking, reading, writing, and comprehending Arabic, and continued study of the Arabic-speaking world.

Prerequisite: ARB 641.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ARB 651. Intermediate ARB I for Graduate Research. 0 Credit Hours.

For graduate students with previous study of elementary-level Arabic. Designed to enhance graduate students' communication skills at the intermediate level. Intended principally for students who will carry out research in areas related to the Arabic-speaking world.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ARB 652. Intermediate ARB II for Graduate Research. 0 Credit Hours.

Prerequisite: ARB 651.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ARB 653. Advanced ARB I for Graduate Research. 0 Credit Hours.

Designed to enhance graduate students' communication skills in the Arabic language at the advanced-low level. Intended principally for students who will carry out research related to the Arabic-speaking world.

Prerequisite: ARB 651.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ARB 654. Advanced ARB II for Graduate Research. 0 Credit Hours.

Designed to enhance graduate students' communication skills in the Arabic language at the advanced-intermediate level. Intended principally for students who will carry out research related to the Arabic-speaking world.

Prerequisite: ARB 653.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ARB 657. Intermediate Arabic - Graduate Heritage. 0 Credit Hours.

Designed to enhance graduate students' communication skills in the Arabic language at the high-intermediate level. Intended principally for heritage learners who will carry out research related to the Arabic-speaking world.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ARB 658. Advanced ARB for Graduate Heritage Learners. 1 Credit Hour.

Designed to enhance graduate students' communication skill in the Arabic language at the advanced-low level. Intended principally for heritage learners who will carry out research related to the Arabic-speaking world.

Prerequisite: ARB 657.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ARB 691. Directed Readings. 1-3 Credit Hours.

Directed readings (Independent study) in Arabic Studies.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARB 692. Directed Readings. 1-3 Credit Hours.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

Architecture (ARC)

ARC 101. Architecture Design I. 6 Credit Hours.

Introduction to architectural design as an intellectual and aesthetic discipline directed at the analysis, interpretation, synthesis and transformation of the physical environment. Topics include concept, site, form, analysis, use of precedents, technique and the ability to communicate design ideas.

Components: STU.

Grading: GRD.

Typically Offered: Fall.

ARC 102. Architecture Design II. 6 Credit Hours.

Architectural response to shelter, space and setting requirements. Topics include design thinking skills, programming, site analysis, use of precedents and anthropometrics and human behavior.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ARC 109. Introduction to Architecture. 3 Credit Hours.

(Includes Design & History) Introduction to architectural ideas and principles including composition, space, form, function, history and methods of exploring architectural and urban design problems. Students will learn the relationship between two dimensional and 3 dimensional spaces through analytical drawing and model making. Course pedagogy includes weekly lectures in history and theory to better inform the design process. This course will encourage intuitive action, rapid visual analysis and interpretation.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

ARC 110. Visual Studies. 3 Credit Hours.

Concurrent with the ARC 109 course, the visual studies course explores Architectural drawing as a means of discovery, exploration, analysis and representation. Coursework begins with freehand drawing, in which students explore and refine their observation and representational skills, followed by an introduction to digital drawing and 3-d fabrication used in the profession today. The students will develop a portfolio in book format that illustrates the body of work produced during the three- week program.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

ARC 111. Visual Representation I. 3 Credit Hours.

An introduction to architectural representation as exploration, selection coordination and acquisition of visual knowledge including analog and digital techniques. Topics include: orthographic and oblique projections, geometric constructions, sketching, shade and shadow, and basic knowledge of digital tools.

Components: STU.

Grading: GRD.

Typically Offered: Fall.

ARC 112. Visual Representation II. 3 Credit Hours.

An intermediate course that continues methods integration introduced in Visual Representation I with an increased focus on three dimensional projections.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ARC 121. Architecture and Culture. 1 Credit Hour.

Architecture as an intellectual and aesthetic discipline. Focus on design theory, language, typology, image, form, context, and case studies.

Corequisite: ARC 101, 111.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ARC 122. Architecture and Behavior. 1 Credit Hour.

The course focuses on the study of human behavior and its relationship to the design process. Topics include: cultural diversity, social equity and the application of psychological factors in the design of buildings and their environment.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ARC 141. On-Site Survey of European Architecture and Urbanism. 3-6 Credit Hours.

On site introduction to architecture and the city with a historical review of European architecture and urban form from the classical to the contemporary. Students travel with faculty to survey selected European architectural and urbanistic precedents at specific locations. Elective course open to all majors; lecture and seminar format.

Components: LEC.

Grading: GRD.

Typically Offered: Spring & Summer.

ARC 203. Architecture Design III. 6 Credit Hours.

The course focuses on the design of urban form and its relationship to the natural environment. Topics include: site analysis and design, context, climate, access and circulation and landscape.

Components: STU.

Grading: GRD.

Typically Offered: Fall.

ARC 204. Architecture Design IV. 6 Credit Hours.

The design course focuses on building materials, techniques and structure as active constituents of architecture design. Focus on orientation, enclosure, low-energy responses, selection and assembly of construction materials, short and intermediate span structural systems.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ARC 213. Visual Representation III. 3 Credit Hours.

An advanced representation course that builds on the tools and methods of visual Representation I & II while introducing students to more advanced techniques of three dimensional modeling that integrates analog and digital techniques. Topics covered include; composition, diagramming, research and analytical drawing, perspective, and the integration of digital tools.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ARC 223. Architecture and the Environment. 1 Credit Hour.

Architectural response to natural environmental requirements. Focus on climate, control, natural energy use, ecosystems, energy flow, environmental intervention, case studies of vernacular building techniques.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ARC 230. Building Technology I: Materials and Methods. 3 Credit Hours.

Material characteristics of enclosure and structural systems, case studies in traditional and modern building construction. Topics include properties of building materials: wood, masonry concrete, steel and glass construction techniques; on-site and off-site processes; exterior finishes; assemblies, detailing and basic building code concepts.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ARC 231. Building Technology: Structural Systems. 3 Credit Hours.

Structural systems: the tectonics, patterns and behavior of the elements of building structures. Topics: Equilibrium, stability, vertical and lateral building envelope and financial considerations.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ARC 267. History of Architecture I: Ancient, Medieval and Renaissance. 3 Credit Hours.

Studies of the history of architecture and urban design. Focus on religious and secular monuments and their settings, domestic architecture and infrastructure, regional constructional and compositional traditions from prehistory to the end of the sixteenth century. Corequisite: ARC 203.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ARC 268. History of Architecture II: Baroque through Contemporary. 3 Credit Hours.

Studies of the history of architecture and urban design. Focus on religious and secular monuments and their settings, domestic architecture and infrastructure, regional constructional and compositional traditions from the end of the sixteenth century through to the present. Corequisite: ARC 204.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ARC 292. Introduction to Architecture Design I. 3 Credit Hours.

Survey of the architecture profession and introduction to architecture design for non-architecture majors. Role, opportunities, vocabulary, visual awareness, techniques and procedures of design.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ARC 293. Introduction to Architecture Design II. 3 Credit Hours.

Continuation of ARC 292 and an introduction to the interactions between architecture and the engineering disciplines for non-architecture majors. Theories of building and site design, technology as an integral component of design, program, site, climate and methodology.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ARC 294. Introduction to the Development of Architecture. 3 Credit Hours.

Introduction to architecture for non-architecture majors. Vocabulary, themes, principles and processes of design, cultural, social, economic and technological influences demonstrated through historic examples.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ARC 301. Architecture Design. 3 Credit Hours.

Comprehensive building and site design for students transferring into the architecture program at third year level. Topics include human, environmental, cultural and technological factors.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ARC 305. Architecture Design V. 6 Credit Hours.

The design course focuses on the analysis and design of housing typologies within the context of the city. Topics include: programming, research and the integrated evaluation and design making in the design process.

Components: STU.

Grading: GRD.

Typically Offered: Fall.

ARC 306. Architecture Design VI. 6 Credit Hours.

The design course focuses on the ability to demonstrate skills associated with making integrated architectural design decisions across multiple systems. Students must display an ability to make design decisions within a complex architectural project while demonstrating broad integration and consideration of environmental stewardship, technical documentation, accessibility, site conditions, life safety, environmental systems, structural systems, and building envelope systems and assemblies.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ARC 323. On Site Study of Selected Architecture and Urbanism. 3-6 Credit Hours.

On site study of specific architectural and/or urbanistic precedents at selected locations. Focus on specific period(s) and/or architect(s). Elective course open to all majors.

Components: LEC.

Grading: GRD.

Typically Offered: Spring & Summer.

ARC 324. On Site Graphic Analysis of Selected Architecture and Urbanism. 3 Credit Hours.

On site analysis and illustration of specific architectural and/or urbanistic precedents at selected locations. Diagrams, sketches, and drawings recording, analyzing and evaluating buildings and places. Focus on specific period(s) and/or architect(s). Elective course open to all majors.

Components: LEC.

Grading: GRD.

Typically Offered: Spring & Summer.

ARC 362. Environmental Building Systems I. 3 Credit Hours.

Environmental and Safety Systems. Topics include mechanical - HVAC and conveyors; building envelope and assemblies, plumbing - fixtures and pipes; safety systems - fire safety and emergency and signal systems.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ARC 363. Environmental Building Systems II. 3 Credit Hours.

Principles and applications of light and acoustics. Topics include natural and artificial light - planning for sunlight, problems and solutions for interior and exterior illumination; sound - properties, problems and solutions in new and existing spaces. Principles and applications of electrical equipment and wiring design.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ARC 371. Ancient Architecture. 3 Credit Hours.

History of architecture and human settlements. Western European prehistory, Egypt, Mesopotamia, Persia, Aegean and Mediterranean, Greece, Rome.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ARC 373. Early Christian, Byzantine, and Medieval Architecture. 3 Credit Hours.

History of architecture and human settlements. Early Christian and Byzantine architecture in Italy, the Near East, Greece, North Africa, Eastern Europe, Medieval architecture in Western Europe.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ARC 382. Architecture and Culture in Italy. 3 Credit Hours.

A cultural and historical framework in preparation for participation in the Rome program. A range of topics, including architecture, art, history, cinema, literature and politics presented by University faculty from a variety of disciplines. Required for participation in the Rome Program.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ARC 390. History of Cities. 3 Credit Hours.

Historical overview of the origin of cities and the development of cities in the East, West, and New World. Focus on the nature of the industrial revolution and the development of the industrial city and contemporary urban settlements.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ARC 407. Architecture Design VII. 3-6 Credit Hours.

Elective design studio course: student and faculty select areas of in-depth study. Topics are broadly defined and vary from semester to semester.

Components: STU.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ARC 408. Architecture Design VIII. 3-6 Credit Hours.

Elective component: student and faculty select areas of in-depth study. Topics are broadly defined and vary from semester to semester.

Components: STU.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ARC 452. Management of Professional Practice. 3 Credit Hours.

Overview of the practice and the profession, legal and ethical concerns, business types and management practices, traditional and non-traditional practices and services, contracts and contractual relationships.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ARC 475. Colonial Architecture. 3 Credit Hours.

History of architecture and human settlements. Colonial Architecture from the 16th through the 19th centuries in North and South America, the Caribbean, India and Africa.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ARC 476. 19th and 20th Century Architecture. 3 Credit Hours.

History of architecture and human settlements. America and Europe during the 19th and 20th centuries; cultural, technological and theoretical development.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ARC 481. Special Problems. 3 Credit Hours.

Group or individual investigations of significant architectural issues, offered by special arrangement only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ARC 482. Special Problems. 3 Credit Hours.

Group or individual investigations of significant architectural issues, offered by special arrangement only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ARC 483. Special Problems. 3 Credit Hours.

Group or individual investigations of significant architectural issues, offered by special arrangement only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ARC 500. Architecture Theory. 3 Credit Hours.

Architecture and Culture/Architecture and the Environment Survey of primary texts in theory of architecture. Part 1: Focus on design theory, language, identity, tectonics and context. Part 2: Focus on environmental theory, sustainability, and ecosystems.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ARC 501. Architecture Design and Theory I. 6 Credit Hours.

Cultural, human and environment component and architectural responses to these: Social and aesthetic concepts, architectural psychology, climatic principles, programming analysis and design.

Components: STU.

Grading: GRD.

Typically Offered: Fall.

ARC 502. Architecture Design and Theory II. 6 Credit Hours.

Technology component; materials, structure, and environmental control systems as a framework for architectural design. Construction materials and methods, structural systems, mechanical systems.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ARC 503. Architectural Design and Theory III. 6 Credit Hours.

Legal and economic component; government and finances as active constituents of architecture design. Zoning regulations, building codes, principles of public health, safety and welfare, market and feasibility studies.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ARC 504. Architecture Design and Theory I. 6 Credit Hours.

Cultural, human and environment component and architectural responses to these: Social and aesthetic concepts, architectural psychology, climatic principles, programming analysis and design.

Components: STU.

Grading: GRD.

Typically Offered: Fall.

ARC 507. Architecture Design. 6 Credit Hours.

Elective component: student and faculty select areas of in-depth study. Topics include building types, environment, energy, community design, etc.

Components: STU.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ARC 509. Architecture Design IX. 3-6 Credit Hours.

Elective component: student and faculty select areas of in-depth study. Topics include building types, environment, energy, community design, etc.

Components: STU.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ARC 510. Architecture Design X. 3-6 Credit Hours.

Elective component: student and faculty select areas of in-depth study. Topics include building types, environment, energy, community design, etc.

Components: STU.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ARC 511. Visual Representation I. 3 Credit Hours.

Issues covered in the course will deal with the illustration of ideas in architectural manner. Students are to use the skill of drawing and model-making, either by hand or on the computer, as their new language. Topics will include how to read, understand, and create design drawings, to draw from observations and analyze their subject matter, to be able to distinguish the relevance of a particular drawing and to structure how they present their information. Students will be instructed to properly craft their work in and outside of studio in an effort to see their work evolve and improve.

Components: STU.

Grading: GRD.

Typically Offered: Fall.

ARC 512. Advanced Visual Analysis. 3 Credit Hours.

Drawing as a means of analyzing and recording visual experience. Composition, form, light, color and drawing as a primary device in the mental registration of visual experience.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARC 513. Advanced Visual Representation. 3 Credit Hours.

Students will learn to carefully evaluate space, color, depth, hierarchy, balance and scale in all architectural visual representation. The assignments will explore different media as it is used in the profession including but not limited to: diagrams, renderings, plans, elevations, sections, and axonometric. Through lectures and workshops, the course will provide a combination of both theoretical and practical lessons encompassing the fundamentals of architectural visual representation. The course will also include parallel lectures on typography, architectural graphic design, and verbal presentation. The lectures will be given by highly regarded industry professionals who will address the way that students can be aware of and understand typography, verbal presentation, and graphic design fundamentals as it relates to architecture. The class will consist of three parts. Part I introduces students to the fundamentals of 3d modeling and drafting as part of a representation workflow. The exercise will include both urban and building scales. Part II concentrates on understanding and dissecting more complex geometries through advance use of digital parametric software such as Grasshopper. Part III focuses on visual representation based on a studio project with emphasis on graphic techniques for final presentations.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ARC 514. Michelangelo. 3 Credit Hours.

Drawing as a form of research across mediums to understand historical research and interpretation of Michelangelo's work.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ARC 515. Computer Modeling. 3 Credit Hours.

Three-dimensional, computer modeling, and rendering. Lecture, problem solving exercises and laboratory.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ARC 516. Architectural Watercolor Renderings. 3 Credit Hours.

This course will use freehand drawing and watercolor painting as a vehicle to study and record the urban and architectural conditions of Coral Gables and other South Florida sites. Particular emphasis will be placed on the analytical potential of sketches (recording space, light, surfaces and color).

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ARC 517. Construction Documents. 3 Credit Hours.

Working drawings and specifications. Form, content and role of constituent parts of working drawings and specifications by using case studies.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ARC 518. Documentation of Historic Architecture. 3 Credit Hours.

Principles of preservation and restoration, research methods, measured drawings, surveying methods, and case studies.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

ARC 519. Architecture and Color. 3 Credit Hours.

This course focuses on the theory and practice of color and its application to architectural design. Topics include color history from Newton through Albrecht, the relationship between color practice in science versus art, and the discipline of color in architecture from the Neoclassical movement through the Modern Movement.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

ARC 523. Interior Architecture Design. 3 Credit Hours.

Principles and technical components of interior design. Topics include activity, analysis, finishes, furniture, fixture, lighting, and acoustics.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ARC 524. Selected Topics in Interior Architecture Design. 3 Credit Hours.

Principles and technical components of interior design. Topics include interior volumetrics, finishes, furnishings and lighting.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ARC 525. Landscape Arch Design I. 3 Credit Hours.

Analysis and design of landscape spaces. Studies in historical precedent, gardens, parks, plazas, squares and response to architectural context.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ARC 526. Landscape Arch Design II. 3 Credit Hours.

Analysis and design of landscape spaces. Topics include ecological principles, landforms and plant materials.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARC 527. Architecture Photography. 3 Credit Hours.

Photography with emphasis on architectural subjects. Introduction to visual principles, photographic equipment, materials, and techniques.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARC 528. Historic Preservation. 3 Credit Hours.

Basic design principles for the rehabilitation of historic buildings. Evaluating character-defining details; significance analysis; context of setting issues within historic districts; applying the Secretary of the Interior's Standards for rehabilitation.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ARC 529. Research in Design-Methods and Procedures. 3 Credit Hours.

Application of research methods and procedures to design issues. Historical, descriptive, analytic, experimental research methods; tools for data manipulation and communication.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ARC 531. Building Technology II: Structural Systems. 3 Credit Hours.

Structural systems: The tectonics, patterns and behavior of the elements of building structures. Topics: Equilibrium, stability, vertical and lateral loads, building envelope and financial considerations.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ARC 532. Building Structures I. 3 Credit Hours.

The structural behavior of simple frame structures. Topics include techniques to determine basic system layout and preliminary dimensioning of key subsystems and members.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

ARC 533. Building Structures II. 3 Credit Hours.

The structural behavior of complex structures. Topics include prestressed systems, waffle and space trusses, curved structures and longspan buildings.

Prerequisite: ARC 532.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Summer.

ARC 534. The Palazzo in Italian Architecture. 3 Credit Hours.

Study of the development of the Renaissance and Baroque palazzo in Rome and other important centers of art and culture. Emphasis on the socio-political context.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ARC 535. Historic Italian Urbanism. 3 Credit Hours.

Study of Italian cities and towns from medieval to contemporary times, including a comparative analysis of history and form.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ARC 536. Italian Gardens. 3 Credit Hours.

Study of Italian garden design during the Renaissance, Baroque and Mannerist periods. Emphasis on historical and political context.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ARC 537. Research in Rome. 3 Credit Hours.

An exploration of Roman history, architecture and urban form through lectures, on site study and drawing assignments. Emphasis on chronological and spatial sequence of development.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ARC 538. Interior Architecture Design. 3 Credit Hours.

Principles and technical components of interior design. Topics include activity, analysis, finishes, furniture, fixture, lighting, and acoustics.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARC 539. Adaptation to Climate Change. 3 Credit Hours.

The course is an elective seminar that introduces students to the phenomena and the related discussion on the topic of climate change. With an emphasis on human response, the course reviews current scientific evidence, and the potential mitigation of emissions and other causal actions, followed by study of the adaptation required by changing conditions.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ARC 540. Tropical Architecture. 3 Credit Hours.

The course will comprise a discussion of tropical architecture and the theme of tropicalism. Course work will include research and documentation in drawings of selected case studies.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ARC 541. Seminar on Town Design. 3 Credit Hours.

Introduction to the lexicon of urbanism; analytical presentations of the concepts of: region, town, neighborhood, corridor, district, and building type; inter disciplinary presentations, review, and criticism of current town and urban design projects.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ARC 542. Seminar on Housing. 3 Credit Hours.

Introduction to domestic building typology; exploration of the concepts of low, medium, and high density housing with attention to social, environmental, and economic issues; presentations of current case studies.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARC 543. Seminar on Retrofit of Suburbia. 3 Credit Hours.

Introduction to the critical reconstitution of the city; theory and history of the concepts of revitalization and redevelopment; presentations, review, and criticism of current case studies.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARC 544. Architecture of Palladio. 3 Credit Hours.

On site study of the architecture and urbanism of Andrea Palladio. Emphasis on the artistic precedents of the Veneto Region.

Components: LEC.

Grading: GRD.

ARC 545. Urban Composition. 3 Credit Hours.

Survey and analytical review of urban rooms as the vessel of human activity in urban culture. Study of proportional and compositional aspects of urban rooms together with economic, social, and cultural factors. Readings and discussion format.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARC 546. Studies of Havana. 3 Credit Hours.

Analysis of the physical structure of a major city and its environments including an exploration of its history and iconographic themes, mapping and building studies.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ARC 547. Architecture and Urban Identity. 3 Credit Hours.

Study of the relationship between architecture and urbanism focusing on the ways by which architecture provides urban identity and image of place. Case studies relating monuments, fabric and urban plans to their culture, time and place. Lecture and seminar format.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARC 548. Seminar in Community Development. 3 Credit Hours.

Study of the contemporary context for the development of the physical environment. Examination of public, private and third sector implementation of building and community design. Format: guest speakers, readings, discussions, and seminars.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARC 549. Construction and Project Management. 3 Credit Hours.

Management of construction projects including legal considerations and techniques of management science applied to construction. Includes engineering methods of cost and time estimating, and exercises in applications of engineering economics, flow charts, tracking progress, construction contracts, indemnity agreements, and network planning techniques including CPM and PERT.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ARC 550. Professional Lecture Series. 3 Credit Hours.

Exposure to the various professional disciplines in South Florida that make contributions to the design process. Case study analysis and evaluation of current building project, from time of initial formulation through completion, including research, diagrammatic studies, site visits and lectures.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ARC 551. Contemporary Theories of Architecture. 3 Credit Hours.

Theoretical basis of modern architecture and different present currents and movements. Agrarianism, technism, orthodoxy, brutalism, scientism, revivalism, consumerism, rationalism, classicism.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARC 553. Structural Design Theory. 3 Credit Hours.

Relationship of structural systems to architectural design. Case studies in theories of structure, form and construction.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARC 554. Architecture of South Florida. 3 Credit Hours.

History of architecture and human settlements. Studies of significant architectural landmarks and urban design of the South Florida Region, chronological growth of Miami, Miami Beach, Coral Gables, Key West and Palm Beach.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARC 555. 18th and 19th Century American Architecture and Architects. 3 Credit Hours.

The course concentrates on the development of early American architecture, Architects and Urbanism, primarily but not exclusively to 17th, 18th and 19th centuries with particular emphasis on theoretical, technological and cultural developments in America.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ARC 556. Contemporary Latin American Architecture. 3 Credit Hours.

The course seeks to examine the ways in which architecture and the built environment are shaped by, and shape, globalization. It examines the meaning of contextual modernism in the sphere of architecture and urbanism. It will discuss how acquired influences, design culture and economic dependency become the defining elements of contemporary Latin American Architecture today.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ARC 557. Design and Fabrication Techniques: Carved Panels. 3 Credit Hours.

Design, construction and detailing of wood as applied to furnishings and interiors. Focus: low and high relief carved wood panels. Workshop based course including research, exercises, measuring, documentation and a final project.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

ARC 558. Theories of Landscape Architecture. 3 Credit Hours.

Leading theories of landscape architecture which have influenced current considerations of nature, landscape and design.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ARC 568. History of Architecture II: Baroque through Contemporary. 3 Credit Hours.

Studies of the history of architecture and urban design. Focus on religious and secular monuments and their settings, domestic architecture and infrastructure, regional constructional and compositional traditions from the end sixteenth century through to the present. Corequisite: ARC502.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ARC 569. Directed Readings. 3 Credit Hours.

A structured program of readings and essays organized by the student and his/her graduate supervisor constituting a preparation for graduate research in the student's chosen area of interest.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ARC 570. Modern Architecture. 3 Credit Hours.

History of architecture, landscape, and city design in the modern era.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ARC 572. Selected Topics in World Architecture. 3 Credit Hours.

History of architecture and human settlements. Islamic Near East, North Africa, Hindu and Buddhist India, Nepal, S. E. Asia, China, Japan, Pre-Columbian America.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ARC 574. Renaissance Architecture. 3 Credit Hours.

History of architecture and human settlements. Renaissance and Baroque architecture in Italy, France, Spain and Portugal, Great Britain, Austria, Germany, and neighboring countries.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ARC 577. The Architecture of Alvar Aalto. 3 Credit Hours.

An examination of the architecture of Alvar Aalto through the analysis of selected buildings.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ARC 578. Italian Rationalist Architecture. 3 Credit Hours.

History of Italian architecture and urban design between 1914 and 1950: cultural, technological, and theoretical developments; relationship between architecture, politics and propaganda; related survey of the period in other countries (France, Germany, Soviet Union).

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARC 579. Furniture Design and Fabrication. 6 Credit Hours.

The course is a hands-on introduction to furniture design and fabrication. The student's individual design process involves sketching modeling, mock-ups, reviews, and critiques. Students will learn the hand skills and machinery techniques involved in wood joinery while building a piece of furniture of their own design. Through lectures and demonstrations, the principles of design, material selection, construction methods, and finishing options will be explored.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

ARC 580. Professional Advancement, Internship + Research (PAIR). 1-3 Credit Hours.

Research Component of PAIR program. Student, host office and faculty collaboratively develop a focused, in-depth research project related to the tasks the student is completing as part of the Internship Component of the PAIR program. Application and PAIR committee acceptance required prior to enrollment.

Components: RSC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ARC 581. Special Problems. 1-3 Credit Hours.

Group or individual investigations of significant architectural issues, offered by special arrangement only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ARC 582. Special Problems. 3-6 Credit Hours.

Group or individual investigations of significant architectural issues, offered by special arrangement only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ARC 583. Special Problems. 3 Credit Hours.

Group or individual investigations of significant architectural issues, offered by special arrangement only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ARC 584. Special Problems. 3 Credit Hours.

Group or individual investigations of significant architectural issues, offered by special arrangement only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ARC 585. Special Problems. 3 Credit Hours.

Group or individual investigations of significant architectural issues, offered by special arrangement only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ARC 586. Special Problems. 3 Credit Hours.

Group or individual investigations of significant architectural issues, offered by special arrangement only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ARC 590. History of Cities. 3 Credit Hours.

Historical overview of the origin of cities and the development of cities in the East, West, and New World. Focus on the nature of the industrial revolution and the development of the industrial city and contemporary urban settlements.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ARC 592. Cinema and Architecture. 3 Credit Hours.

The class studies the relationship between architecture and cinema. Lectures, film screenings, and readings, explore the origin and development of filmic space with an emphasis on its relation to the real and poetic image of the city. The class analyzes selected films as they relate to, comment, criticize, and anticipate the development of contemporary concepts of space, urban space, interior space, etc.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ARC 593. Computer Animation. 3 Credit Hours.

Explores the use of computer animation and advanced visualization techniques in architecture with emphasis on texture and lighting, spatial choreography and story-boarding.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ARC 594. Geographic Information Systems in Urban Design. 3 Credit Hours.

Exploration of Geographic Information Systems (GIS) in urban design. Principles of GIS and their application to spatial analysis, data management and visualization.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ARC 596. Interactive Multimedia in Design. 3 Credit Hours.

Integration of text, video, sound, and computer graphics to create an interactive electronic information medium.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ARC 597. Designing for the Internet of Things. 3 Credit Hours.

This course examines how current research and development in embedded computation bears on architecture, landscape, and urbanism. Students will explore the implications and impact of ubiquitous computing in its potential to change the way we conceive, construct, inhabit and interact with our buildings, landscapes, and cities.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ARC 598. Introduction to Programming for Architects. 3 Credit Hours.

As digital tools continue to play an increasing role in the Architect's toolkit, it is becoming increasingly important that Architects not only understand how to use and navigate these tools but to customize and adapt them to their specific needs. Learning how to program allows Architects to start to fully utilize the potential in digital tools by maximizing the possibilities in not only 3D modeling and digital fabrication but in responsive architecture, embedded computation and animating spaces contributing to a more dynamic and potentially inter-connected built environment.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ARC 601. Urban Design Studio I. 6 Credit Hours.

Introduction to urban principles, documentation, lexicon of urbanism, urban codes, and architectural guidelines (Studio Format - Rome Program).

Components: STU.

Grading: GRD.

Typically Offered: Fall.

ARC 602. Urban Design Studio II. 6 Credit Hours.

Studio projects focusing on urban retrofit and the repair of suburbia. Design topics may include typo-morphological studies, sustainable development, down-town redevelopment, neighborhood retrofit, urban agriculture, etc.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ARC 603. Urban Design Studio III. 6 Credit Hours.

Studio projects focusing on regional design, everyday urbanism, informalities and other urbanisms. Design topics may include open space and rural design, informal communities, affordable and manufactured housing, etc.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

ARC 604. Architecture Design and Theory I. 6 Credit Hours.

The inaugural design studio focuses on the role of architectural design as an integrative discipline. Using Miami as a laboratory and drawing from natural specimens, the studio will examine the relationship between nature, landscape and the built environment. It will use research and analysis, design thinking skills, ordering systems, site design, materials, methods, structure, light, space, and tectonics as a means of developing a meaningful design process. **Components:** STU.

Components: STU.

Grading: GRD.

Typically Offered: Fall.

ARC 605. Architecture Design and Theory II. 6 Credit Hours.

This introductory design studio focuses on the role of architectural design as a responsive discipline. The studio will look at how architectural form is informed by thoughtful consideration of materials and methods of construction, as well as programming and context. Situated in an urban environment rich in material, stylistic and typological history, the studio will challenge students to develop a careful reading of place while responding to urban context, topography, and other site requirements. By considering issues of precedent, composition, display, and identity, it will examine the production of meaning in architecture.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ARC 606. Architectural Design and Theory III. 6 Credit Hours.

The Rome Design Studio operates as a form of design-based critical inquiry into issues of urban design, architecture, and the adaptive reuse and transformation of buildings and spaces. Drawing will be explored as a means of analysis, in order to observe and record the urban and architectural conditions of Rome. Students will discover the layers of Rome, combining archaeology with architecture and urban history. Coursework emphasizes a critical reassessment of the historic urban sites relative to questions of program, infrastructure, and cultural changes.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ARC 607. Architecture Design and Theory IV. 6 Credit Hours.

Advanced Design Studio based course addressing more complex and ambitious topics related with the built environment, the ability to prepare and solve a program through design, materials, technique, technology, social human centered aspects of architecture, structure, architecture as light and space, site and context and environmental issues.

Components: STU.

Grading: GRD.

Typically Offered: Fall.

ARC 608. Architecture Design. 3-6 Credit Hours.

Advanced Design Studio focusing on skills associated with making integrated architectural design decisions across multiple systems. Design decisions within a complex architectural project will focus on the consideration and broad integration of environmental stewardship, technical documentation, accessibility, site conditions, life safety, environmental systems, structural systems, and building envelope systems and assemblies.

Components: STU.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ARC 609. Architecture Design. 3-6 Credit Hours.

Specialization component: student and faculty select areas of in-depth study in housing, resiliency, healthcare, urban design, housing and hospitality, historic preservation etc.

Components: STU.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ARC 610. Architecture Design Degree Project. 6 Credit Hours.

The Architecture Design Degree Project studio offers two options: 1) an independent design research project (design thesis) on a topic selected and developed by the student, or 2) a graduate research studio. Design Thesis is an opportunity for each student, working with a faculty advisor, to define an individual position with regard to the discipline of Architecture. The graduate research studio, led by a faculty member, will investigate relevant or thematic issues of architecture. All graduating students will be required to present their Degree Project, comprising research, analysis and creative work, as a book.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ARC 611. Visual Representation. 3 Credit Hours.

Issues covered in the course will deal with the illustration of ideas in architectural manner. Students are to use the skill of drawing and model-making, either by hand or on the computer, as their new language. Topics will include how to read, understand, and create design drawings, to draw from observations and analyze their subject matter, to be able to distinguish the relevance of a particular drawing and to structure how they present their information. Students will be instructed to properly craft their work in and outside of studio in an effort to see their work evolve and improve.

Components: STU.

Grading: GRD.

Typically Offered: Fall.

ARC 612. Advanced Visual Analysis. 3 Credit Hours.

Drawing as a means of analyzing and recording visual experience. Composition, form, light, color and drawing as a primary device in the mental registration of visual experience.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARC 613. Advanced Visual Representation. 3 Credit Hours.

Students will learn to carefully evaluate space, color, depth, hierarchy, balance and scale in all architectural visual representation. The assignments will explore different media as it is used in the profession including but not limited to: diagrams, renderings, plans, elevations, sections, and axonometric. Through lectures and workshops, the course will provide a combination of both theoretical and practical lessons encompassing the fundamentals of architectural visual representation. The course will also include parallel lectures on typography, architectural graphic design, and verbal presentation. The lectures will be given by highly regarded industry professionals who will address the way that students can be aware of and understand typography, verbal presentation, and graphic design fundamentals as it relates to architecture. The class will consist of three parts. Part I introduces students to the fundamentals of 3d modeling and drafting as part of a representation workflow. The exercise will include both urban and building scales. Part II concentrates on understanding and dissecting more complex geometries through advance use of digital parametric software such as Grasshopper. Part III focuses on visual representation based on a studio project with emphasis on graphic techniques for final presentations.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ARC 614. Michelangelo. 3 Credit Hours.

Drawing as a form of research across mediums to understand historical research and interpretation of Michelangelo's work.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ARC 615. Advanced Visualization Techniques. 3 Credit Hours.

Beginning at the urban scale, students will engage with the concept of mapping and the graphical representation of an urban environment. This will be done through site analysis and investigation of existing conditions for the neighborhood of Miami Beach, Fl. After the urban analysis, students will transition into the building scale and analyze a "Lifeguard House" in Miami Beach. Students will be asked to rethink and redesign the lifeguard house using Rhino 30. Each student will produce drawings including elevations, plans, sections, and exploded axonometric of their new design. Lastly, students will create a physical model using the laser cutter.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ARC 616. Architectural Watercolor Renderings. 3 Credit Hours.

This course will use freehand drawing and watercolor painting as a vehicle to study and record the urban and architectural conditions of Coral Gables and other South Florida sites. Particular emphasis will be placed on the analytical potential of sketches (recording space, light, surfaces and color).

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ARC 617. Construction Documents. 3 Credit Hours.

Working drawings and specifications. Form, content and role of constituent parts of working drawings and specifications by using case studies.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ARC 618. Documentation of Historic Architecture. 3 Credit Hours.

Principles of preservation and restoration, research methods, measured drawings, surveying methods, and case studies.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

ARC 619. Architecture and Color. 3 Credit Hours.

This course focuses on the theory and practice of color and its application to architectural design. Topics include color history from Newton through Albrecht, the relationship between color practice in science versus art, and the discipline of color in architecture from the Neoclassical movement through the Modern Movement.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

ARC 620. Responsible Architecture. 3 Credit Hours.

A responsible architecture is one that takes into consideration aesthetics, ecology, sustainability, history, context (urban or otherwise), as well as the health, welfare, and joy of the people who occupy it. This course will address architecture from a distinctly humanist viewpoint, keeping in mind how man is inextricably connected to his environment, both architectural and natural. To focus on sustainability, typology, urbanism, or aesthetics alone would be to negate architecture's interconnectedness. The creation of a responsible architecture requires this multi-layered approach.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ARC 621. Urban Design History and Theory. 3 Credit Hours.

Part I: Survey of housing theories and projects with emphasis on morphological context, typology and composition - focus on topics of modernity. Part II: Introduction to thoroughfare design and walkability principles; description of urban, suburban, rural and regional infrastructure.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ARC 622. Housing and Infrastructure. 3 Credit Hours.

Advanced survey of urban design theories in print and practice - emphasis on issues of modernity. (Seminar format)

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ARC 623. Urban Design and Development Charrette. 3 Credit Hours.

Introduction to planning and public participation methods. Design workshop in collaboration with students in the master in Real Estate and Urbanism program. (Some travel may be required.)

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ARC 624. Select Topics in Interior Architecture Design. 3 Credit Hours.

Principles and technical components of interior design. Topics include interior volumetrics, finishes, furnishings and lighting.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ARC 625. Roman Architecture and Urbanism I. 3 Credit Hours.

Historical overview of architecture and town planning in ancient Rome, from the Etruscan period through the Imperial period.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ARC 626. Landscape Arch Design II. 3 Credit Hours.

Analysis and design of landscape spaces. Topics include ecological principles, landforms and plant materials.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARC 627. Architecture Photography. 3 Credit Hours.

Photography with emphasis on architectural subjects. Introduction to visual principles, photographic equipment, materials, and techniques.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARC 628. Historic Preservation. 3 Credit Hours.

Basic design principles for the rehabilitation of historic buildings. Evaluating character-defining details; significance analysis; context of setting issues within historic districts; applying the Secretary of the Interior's Standards for rehabilitation.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ARC 629. Research in Design-Methods and Procedures. 3 Credit Hours.

Application of research methods and procedures to design issues. Historical, descriptive, analytic, experimental research methods; tools for data manipulation and communication.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ARC 630. Building Technology I: Materials and Methods. 3 Credit Hours.

Material characteristics of enclosure and structural systems, case studies in traditional and modern building construction; Topics include properties of building materials: wood, masonry concrete, steel and glass construction techniques; on-site and off-site processes; exterior finishes, assemblies, detailing and basic building code concepts.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ARC 631. Building Technology II: Structural Systems. 3 Credit Hours.

Structural systems: The tectonics, patterns and behavior of the elements of building structures. Topics: Equilibrium, stability, vertical and lateral loads, building envelope and financial considerations.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ARC 632. Building Structures I. 3 Credit Hours.

The structural behavior of simple frame structures. Topics include techniques to determine basic system layout and preliminary dimensioning of key subsystems and members.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

ARC 633. Building Structures II. 3 Credit Hours.

The structural behavior of complex structures. Topics include prestressed systems, waffle and space trusses, curved structures and longspan buildings.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Summer.

ARC 634. The Palazzo in Italian Architecture. 3 Credit Hours.

Study of the development of the Renaissance and Baroque palazzo in Rome and other important centers of art and culture. Emphasis on the socio-political context.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ARC 635. Historic Italian Urbanism. 3 Credit Hours.

Study of Italian cities and towns from medieval to contemporary times, including a comparative analysis of history and form.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ARC 636. Italian Gardens. 3 Credit Hours.

Study of Italian garden design during the Renaissance, Baroque and Mannerist periods. Emphasis on historical and political context.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ARC 637. Research in Rome. 3 Credit Hours.

An exploration of Roman history, architecture and urban form through lectures, on site study and drawing assignments. Emphasis on chronological and spatial sequence of development.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ARC 638. Interior Architecture Design. 3 Credit Hours.

Principles and technical components of interior design. Topics include activity, analysis, finishes, furniture, fixture, lighting, and acoustics.

Components: LEC.

Grading: GRD.

ARC 639. Adaptation to Climate Change. 3 Credit Hours.

The course is an elective seminar that introduces students to the phenomena and the related discussion on the topic of climate change. With an emphasis on human response, the course reviews current scientific evidence, and the potential mitigation of emissions and other causal actions, followed by study of the adaptation required by changing conditions.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ARC 640. Tropical Architecture. 3 Credit Hours.

The course will comprise a discussion of tropical architecture and the theme of tropicalism. Course work will include research and documentation in drawings of selected case studies.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ARC 641. Seminar on Town Design. 3 Credit Hours.

Introduction to the lexicon of urbanism; analytical presentations of the concepts of: region, town, neighborhood, corridor, district, and building type; interdisciplinary presentations, review, and criticism of current town and urban design projects.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ARC 642. Seminar on Housing. 3 Credit Hours.

Introduction to domestic building typology; exploration of the concepts of low, medium, and high density housing with attention to social, environmental, and economic issues; presentations of current case studies.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARC 643. Seminar on Retrofit of Suburbia. 3 Credit Hours.

Introduction to the critical reconstitution of the city; theory and history of the concepts of revitalization and redevelopment; presentations, review, and criticism of current case studies.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARC 644. The Architecture of Palladio. 3 Credit Hours.

On site study of the architecture and urbanism of Andrea Palladio. Emphasis on the artistic precedents of the Veneto Region.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ARC 645. Urban Composition. 3 Credit Hours.

Survey and analytical review of urban rooms as the vessel of human activity in urban culture. Study of proportional and compositional aspects of urban rooms together with economic, social, and cultural factors. Readings and discussion format.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARC 646. Studies of Havana. 3 Credit Hours.

Analysis of the physical structure of a major city and its environments including an exploration of its history and iconographic themes, mapping and building studies.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ARC 647. Architecture and Urban Identity. 3 Credit Hours.

Study of the relationship between architecture and urbanism focusing on the ways by which architecture provides urban identity and image of place. Case studies relating monuments, fabric and urban plans to their culture, time and place. Lecture and seminar format.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARC 648. Seminar in Community Development. 3 Credit Hours.

Study of the contemporary context for the development of the physical environment. Examination of public, private and third sector implementation of building and community design. Format: guest speakers, readings, discussions, and seminar.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARC 649. Advanced Visual Analysis. 1-3 Credit Hours.

Survey of digital and analogue representation techniques for urban designers.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

ARC 650. Professional Lecture Series. 3 Credit Hours.

Real estate transactions and deal structuring from the development perspective. Using the case study method, the course explores the key components and the disciplines needed for successful real estate transactions and projects.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ARC 651. Contemporary Theories of Architecture. 3 Credit Hours.

Theoretical basis of modern architecture and different present currents and movements. Agrarianism, technism, orthodoxy, brutalism, scientism, revivalism, consumerism, rationalism, classicism.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARC 652. Management of Professional Practice. 3 Credit Hours.

Overview of the practice and the profession, legal and ethical concerns, business types and management practices, traditional and non-traditional practices and services, contracts and contractual relationships, disputes and risk management.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ARC 653. Structural Design Theory. 3 Credit Hours.

Relationship of structural systems to architectural design. Case studies in the ories of structure, form and construction.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARC 654. Architecture of South Florida. 3 Credit Hours.

History of architecture and human settlements. Studies of significant architectural landmarks and urban design of the South Florida Region, chronological growth of Miami, Miami Beach, Coral Gables, Key West and Palm Beach.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARC 655. 18th and 19th Century American Architecture and Architects. 3 Credit Hours.

The course concentrates on the development of early American architecture, Architects and Urbanism primarily but not exclusively to 17th, 18th and 19th centuries with particular emphasis on theoretical, technological and cultural developments in America.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ARC 656. Contemporary Latin American Architecture. 3 Credit Hours.

The course seeks to examine the ways in which architecture and the built environment are shaped by, and shape, globalization. It examines the meaning of contextual modernism in the sphere of architecture and urbanism. It will discuss how acquired influences, design culture and economic dependency become the defining elements of contemporary Latin American Architecture today.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ARC 657. Design and Fabrication Techniques: Carved Panels. 3 Credit Hours.

Design, construction and detailing of wood as applied to furnishings and interiors. Focus: low and high relief carved wood panels. Workshop based course including research, exercises, measuring, documentation and a final project.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

ARC 658. Theories of Landscape Architecture. 3 Credit Hours.

Leading theories of landscape architecture which have influenced current considerations of nature, landscape and design

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ARC 661. Building Technology I: Materials and Methods.. 3 Credit Hours.

Material characteristics of enclosure and structural systems, case studies in traditional and modern building construction. Topics include properties of building materials: wood, masonry concrete, steel and glass construction techniques; on-site and off-site processes; exterior finishes; assemblies, detailing and basic building code concepts.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ARC 662. Environmental Building Systems I. 3 Credit Hours.

Environmental and Safety Systems. Topics include mechanical - HVAC and conveyors; plumbing - fixtures and pipes; electrical - equipment and wiring design; safety systems - fire safety and emergency and signal systems.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

ARC 663. Environmental Building Systems II. 3 Credit Hours.

Principles and applications of light and acoustics. Topics include natural and artificial light - planning for sunlight, problems and solutions for interior and exterior illumination; sound - properties, problems and solutions in new and existing spaces electrical equipment and wiring design.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ARC 664. Landscape Arch Design I. 3 Credit Hours.

Analysis and design of landscape spaces. Studies in historical precedent, gardens, parks, plazas, squares and response to architectural context.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ARC 665. Computer Modeling. 3 Credit Hours.

Three-dimensional, computer modeling, and rendering. Lecture, problem solving exercises and laboratory.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ARC 667. History of Architecture I. 3 Credit Hours.

Studies of the history of architecture and urban design. Focus on religious and secular monuments and their settings, domestic architecture and infrastructure, regional constructional and compositional traditions from prehistory to the end of the sixteenth century.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ARC 668. History of Architecture II. 3 Credit Hours.

Studies of the history of architecture and urban design. Focus on religious and secular monuments and their settings, domestic architecture and infrastructure, regional constructional and compositional traditions from the end of the sixteenth century through to the present.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ARC 669. Directed Readings. 3 Credit Hours.

A structured program of readings and essays organized by the student and his/her graduate supervisor constituting a preparation for graduate research in the student's chosen area of interest.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ARC 670. Modern Architecture. 3 Credit Hours.

History of architecture, landscape, and city design in the modern era.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ARC 671. Ancient Architecture. 3 Credit Hours.

History of architecture and human settlements. Western European prehistory, Egypt, Mesopotamia, Persia, Aegean and Mediterranean, Greece, Rome.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ARC 672. Selected Topics in World Architecture. 3 Credit Hours.

History of architecture and human settlements. Islamic Near East, North Africa, Hindu and Buddhist India, Nepal, S. E. Asia, China, Japan, Pre-Columbian America.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ARC 673. Early Christian, Byzantine, and Medieval Architecture. 3 Credit Hours.

History of architecture and human settlements. Early Christian and Byzantine architecture in Italy, the Near East, Greece, North Africa, Eastern Europe, Medieval architecture in Western Europe.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ARC 674. Renaissance Architecture. 3 Credit Hours.

History of architecture and human settlements. Renaissance and Baroque architecture in Italy, France, Spain and Portugal, Great Britain, Austria, Germany, and neighboring countries.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ARC 675. Colonial Architecture. 3 Credit Hours.

History of architecture and human settlements. Iberian and British Colonies from the 16th through the 19th centuries: North and South America, Caribbean, India and Africa.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ARC 676. 19th and 20th Century Architecture. 3 Credit Hours.

History of architecture and human settlements. America and Europe during the 19th and 20th centuries; cultural, technological and theoretical development.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ARC 677. The Architecture of Alvar Aalto. 3 Credit Hours.

An examination of the architecture of Alvar Aalto through the analysis of selected buildings.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ARC 678. Italian Rationalist Architecture. 3 Credit Hours.

History of Italian architecture and urban design between 1914 and 1950: cultural, technological, and theoretical developments; relationship between architecture, politics and propaganda; related survey of the period in other countries (France, Germany, Soviet Union).

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARC 679. Furniture Design and Fabrication. 6 Credit Hours.

The course is a hands-on introduction to furniture design and fabrication. The student's individual design process involves sketching, modeling, mock-ups, reviews, and critiques. Students will learn the hand skills and machinery techniques involved in wood joinery while building a piece of furniture of their own design. Through lectures and demonstrations, the principles of design, material selection, construction methods, and finishing options will be explored.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

ARC 680. Professional Advancement, Internship + Research (PAIR). 1-3 Credit Hours.

Research Component of PAIR program. Student, host office and faculty collaboratively develop a focused, in-depth research project related to the tasks the student is completing as part of the Internship Component of the PAIR program. Application and PAIR committee acceptance required prior to enrollment.

Components: RSC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ARC 681. Special Problems. 1-3 Credit Hours.

Group or individual investigations of significant architectural issues, offered by special arrangement only.

Components: STU.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ARC 682. Special Problems. 3-6 Credit Hours.

Group or individual investigations of significant architectural issues, offered by special arrangement only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ARC 683. Special Problems. 3 Credit Hours.

Group or individual investigations of significant architectural issues, offered by special arrangement only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ARC 684. Special Problems. 3 Credit Hours.

Group or individual investigations of significant architectural issues, offered by special arrangement only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ARC 685. Special Problems. 3 Credit Hours.

Group or individual investigations of significant architectural issues, offered by special arrangement only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ARC 686. Special Problems. 3 Credit Hours.

Group or individual investigations of significant architectural issues, offered by special arrangement only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ARC 690. History of Cities. 3 Credit Hours.

Historical overview of the origin of cities and the development of cities in the East, West, and New World. Focus on the nature of the industrial revolution and the development of the industrial city and contemporary urban settlement

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ARC 692. Cinema and Architecture. 3 Credit Hours.

The class studies the relationship between architecture and cinema. Lectures, film screenings, and readings, explore the origin and development of filmic space with an emphasis on its relation to the real and poetic image of the city. The class analyzes selected films as they relate to, comment, criticize, and anticipate the development of contemporary concepts of space, urban space, interior space, etc.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ARC 693. Computer Animation. 3 Credit Hours.

Explores the use of computer animation and advanced visualization techniques in architecture with emphasis on texture and lighting, spatial choreography and story-boarding.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ARC 694. Geographic Information Systems in Urban Design. 3.00 Credit Hours.

Exploration of Geographic Information Systems (GIS) in urban design. Principles of GIS and their application to spatial analysis, data management and visualization.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ARC 695. Interactive Multimedia in Design. 3 Credit Hours.

Integration of text, video, sound, and computer graphics to create an interactive electronic information medium.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ARC 696. Advanced Topics. 3 Credit Hours.

Subject matter offerings based upon student demand and availability of faculty. Subtitles describing the topics will be shown in the printed class schedule, following the title "Advanced Topics".

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ARC 697. Designing for the Internet of Things. 3 Credit Hours.

This course examines how current research and development in embedded computation bears on architecture, landscape, and urbanism. Students will explore the implications and impact of ubiquitous computing in its potential to change the way we conceive, construct, inhabit and interact with our buildings, landscapes, and cities.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ARC 698. Introduction to Programming for Architects. 3 Credit Hours.

As digital tools continue to play an increasing role in the Architect's toolkit, it is becoming increasingly important that Architects not only understand how to use and navigate these tools but to customize and adapt them to their specific needs. Learning how to program allows Architects to start to fully utilize the potential in digital tools by maximizing the possibilities in not only 3D modeling and digital fabrication but in responsive architecture, embedded computation and animating spaces contributing to a more dynamic and potentially inter-connected built environment.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ARC 699. Directed Research. 1-6 Credit Hours.

The course addresses the issues of design as research and pre-design. Students will develop research, write a thesis statement, select a site, prepare a site documentation and site analysis, and develop an architectural program for the thesis project, select pertinent case studies and diagram them. This work will be collected and presented as both a presentation and in book form. In addition, the course prepares students for an independent design project through thoughtful development of a thesis question, site and program. The preparation of the thesis question will require the development of basic research strategies and methods, and understanding of how to find and evaluate sources, the analysis and synthesis of information, the development of a research plan and a design method, and the written and oral presentation of these skills to an outside audience.

Components: RSC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ARC 701. Masters Final Project. 6 Credit Hours.

Individually supervised projects. Required as a 6 credit course for all Master of Architecture in Computing students electing a final project.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ARC 720. Research in Residence. 1 Credit Hour.

Used to establish research in residence for the thesis or final project for the master's degree after the student has enrolled for the permissible cumulative total in ARC 699 or ARC 710 (usually six credits). Credit not granted. May be regarded as full-time residence.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ARC 810. Master's Thesis. 1-6 Credit Hours.

The student working on his/her master's thesis enrolls for credit, in most departments not to exceed six, as determined by his/her advisor. Credit is not awarded until the thesis has been accepted.

Components: LEC.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

Art (ART)

ART 101. Introduction to Drawing I. 3 Credit Hours.

Contour, cross-contour, perspective, proportion, chiaroscuro, and gesture in pictorial composition.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ART 102. Introduction to Drawing II. 3 Credit Hours.

Experimentation, chance, exaggeration, movement, texture, and color in pictorial composition.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 103. Two-Dimensional Design. 3 Credit Hours.

Line, rhythm, shape, pattern, value, and color in pictorial composition.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ART 104. Intro to 3D Design. 3 Credit Hours.

A background in the elements of three-dimensional aesthetics that will broaden students' understanding and creativity in making sculptural objects. This course is the foundation for further study in sculpture, glass, and ceramics courses.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 105. Figure Drawing. 3 Credit Hours.

Drawing the human figure: proportion, anatomy, perspective, gesture, and expressive line.

Prerequisite: ART 101.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 107. Introduction to Drawing III. 3 Credit Hours.

Continuation of ART 101 with emphasis on Renaissance perspective and alternative systems of spatial representation. Survey of materials and methods. Introduction of color.

Prerequisite: ART 101.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ART 109. Introduction to Electronic Media. 3 Credit Hours.

Computer skills for desktop publishing and digital imaging.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 180. Studies in Studio Art. 1-3 Credit Hours.

Studio studies taken at other institutions with no direct equivalents.

Components: LEC.

Grading: GRD.

ART 202. Introduction to Painting. 3 Credit Hours.

Materials and techniques of easel painting.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 206. Special Topics in Studio Art for Undergraduate Students. 3 Credit Hours.

Course devoted to exploring new topics in studio art practice and theory, including media specific and/or inter-disciplinary approaches. Course content to be determined by Instructor.

Components: STU.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ART 210. Introduction to Digital Photography. 3 Credit Hours.

DSLR Camera and Lens Techniques and Adobe LightRoom Processing In Digital Photography.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ART 217. Introduction to Sculpture. 3 Credit Hours.

Integrated approach to concept development, craftsmanship and appropriate use of materials.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 251. Introduction to Printmaking. 3 Credit Hours.

Drypoint, engraving, etching, aquatint, and softground; relief and intaglio printed collographs; relief printing from linoleum.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 253. Silkscreen I. 3 Credit Hours.

Beginning silkscreen: monotyping with screens, reduction printing, multiple run silkscreen printing and beginning photo silkscreen.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ART 254. Computer Applications for Printmaking. 3 Credit Hours.

Software programs used as printmaking manipulation tools to aid in the planning of prints.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ART 260. Special topics in Ceramics. 3 Credit Hours.

Rotating topics course with a focus on developing modeling skills with clay through various forming methods.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ART 261. Hand-Built Ceramics I. 3 Credit Hours.

Beginning hand-building techniques: pinching, coiling, slab construction; introduction to glazing and firing.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 262. Wheel Thrown Ceramics I. 3 Credit Hours.

Introduction to wheel throwing, glazing and firing.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 263. Introduction to Glass Blowing. 3 Credit Hours.

Forming shapes and vessels from molten glass by the use of a blow pipe and glass tools.

Prerequisite: ART 104.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 268. Figure in Clay I. 3 Credit Hours.

Introduction to modeling the human figure in clay with emphasis on form, volume, proportion, basic anatomy, and gesture.

Prerequisite: ART 104 or ART 261.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ART 291. Graphic Design I. 3 Credit Hours.

A comprehensive approach to understanding design fundamentals and the practice of graphic communications.

Prerequisite: ART 109.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 292. Multimedia I/ Web Design. 3 Credit Hours.

Introduction to web design using several current time-based media.

Prerequisite: ART 109.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 293. Typography. 3 Credit Hours.

Type and image compositions, history, arrangement, style, aesthetics of printed communications, type software and calligraphy.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 294. Multimedia II/ Animation. 3 Credit Hours.

Animation using time-based media.

Prerequisite: ART 109.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 301. Intermediate Painting I. 3 Credit Hours.

Painting in oil and acrylic. Emphasis on experimentation and creative expression.

Prerequisite: ART 202.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 302. Intermediate Painting II. 3 Credit Hours.

Continuation of ART 301.

Prerequisite: ART 202.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 305. Intermediate Figure Drawing. 3 Credit Hours.

Continuation of ART 105.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 306. Special Topics in Studio Art for Undergraduate Students. 3 Credit Hours.

Course devoted to exploring new topics in studio art practice and theory, including media specific and/or inter-disciplinary approaches. Course content to be determined by Instructor.

Components: STU.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ART 310. Intermediate Digital Photography. 3 Credit Hours.

Fine Art Digital Photography (DSLR). Continuation of Art 210, Emphasis on experimentation and creative expression. Adobe LightRoom.

Prerequisite: ART 210.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 311. Color Digital Photography. 3 Credit Hours.

Fine Art Digital Photography exploring Advanced Color Theory. Emphasis on craftsmanship and creative expression. Adobe Photoshop and Fine Art Digital Printing.

Prerequisite: ART 310.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 312. Alternative Processes Photography. 3 Credit Hours.

Nineteenth Century Photographic Processes. From the Cyanotype to the Collodion Print, all in the service of creative expression.

Prerequisite: ART 311.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ART 315. Socially Engaged Art. 3 Credit Hours.

Contemporary art practices and the role of visual arts in creating social change, through lectures, group discussions, Individual art projects and a collaborative, hands-on community-based art project. Note: This is a new course implemented as part of the Engaged Faculty Fellows program to provide students with the opportunity for civic engagement within the context of art-making.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ART 317. Intermediate Sculpture I. 3 Credit Hours.

Incorporation of symbol and metaphor to achieve meaning, use of additional materials and technical processes.

Prerequisite: ART 217.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 318. Intermediate Sculpture II. 3 Credit Hours.

Continuation of ART 317.

Prerequisite: ART 317.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 330. Art of Egypt and Mesopotamia. 3 Credit Hours.

Components: LEC.

Grading: GRD.

ART 339. Archaeology Survey. 6 Credit Hours.

Components: LEC.

Grading: GRD.

ART 351. Intaglio/Relief II. 3 Credit Hours.

Continuation of ART 251. Additional processes such as mezzotint, relief printing from woodblocks, multiple block printing, photographic xerox transfers and photo etching.

Prerequisite: ART 251.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ART 352. Lithography II. 3 Credit Hours.

Continuation of ART 252. Color printing from stones, aluminum plates and photo litho plates. Combination of lithography with other print media.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ART 353. Silkscreen II. 3 Credit Hours.

Continuation of ART 253, including silkscreening on canvas, larger format work, and advanced photo silkscreen techniques.

Prerequisite: ART 253.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ART 354. Computer Assisted Printmaking: Lithography and Silkscreen. 3 Credit Hours.

The use of inkjet and laser printers to make positives for black and white and process color work in photo lithography; custom color separations for multiple screen printing.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ART 355. History of Philosophy of Art. 3 Credit Hours.

An examination of the history of philosophical work on the arts (including literature, visual art, and music) from ancient times through the mid twentieth century.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ART 361. Hand-Built Ceramics II. 3 Credit Hours.

Continuation of ART 261.

Prerequisite: ART 261.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 362. Wheel Thrown Ceramics II. 3 Credit Hours.

Continuation of ART 262.

Prerequisite: ART 262.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 363. Cast Glass Processes. 3 Credit Hours.

The art of cast glass including sand casting and lost wax techniques.

Prerequisite: ART 263 or ART 104.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ART 364. Intermediate Glass Blowing. 3 Credit Hours.

Exploration of glass working techniques.

Prerequisite: ART 263.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 368. Figure in Clay II. 3 Credit Hours.

As continuation of ART 268, this intermediate course will focus on modeling The human figure in clay with emphasis on form, volume, proportion, anatomy, and gesture.

Prerequisite: ART 268.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ART 391. Graphic Design II. 3 Credit Hours.

Development of form and conceptual design. Contemporary visual rhetorical strategies such as metaphors, puns, irony and methonymy.

Prerequisite: ART 291.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 392. Multimedia III. 3 Credit Hours.

Video art, multimedia, installation art and interactive animation.

Prerequisite: ART 109.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 401. Advanced Painting I. 3 Credit Hours.

Development of a personal style in painting.

Prerequisite: ART 301 and ART 302.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 402. Advanced Painting II. 3 Credit Hours.

Continuation of ART 401.

Prerequisite: ART 401.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 405. Advanced Figure Drawing. 3 Credit Hours.

Continuation of ART 305.

Prerequisite: ART 305.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 406. Special Topics in Studio Art for Undergraduate Students. 3 Credit Hours.

Course devoted to exploring new topics in studio art practice and theory, including media specific and/or inter-disciplinary approaches. Course content to be determined by Instructor.

Components: STU.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ART 407. Special Topics: Renaissance and Baroque Art. 3 Credit Hours.

Seminar on changing topics in Renaissance and Baroque Art.

Prerequisite: ARH 132.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ART 410. Advanced Digital Photography I. 3 Credit Hours.

Development of a personal style in digital imaging. Course is designed for students to pursue a semester long thematic project.

Prerequisite: ART 311.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 411. Experimental Photography. 3 Credit Hours.

Course content determined by faculty member teaching it from studio lighting class to the Artist Book Project. May be repeated for credit.

Prerequisite: ART 311.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ART 417. Advanced Sculpture I. 3 Credit Hours.

Individual and collaborative installation and site-specific art.

Prerequisite: ART 317.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 418. Advanced Sculpture II. 3 Credit Hours.

Development of a personal visual vocabulary.

Prerequisite: ART 417.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 451. Intaglio/Relief III. 3 Credit Hours.

Continuation of ART 351.

Prerequisite: ART 351.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ART 452. Lithography III. 3 Credit Hours.

Continuation of ART 352.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ART 453. Silkscreen III. 3 Credit Hours.

Continuation of ART 353.

Prerequisite: ART 353.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ART 454. Computer Assisted Printmaking: Intaglio and Relief. 3 Credit Hours.

Continuation of ART 354, photo etching and relief processes.

Prerequisite: ART 354.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ART 462. Advanced Ceramics. 3 Credit Hours.

Development of expressive skills in either handbuilding or wheel throwing techniques.

Prerequisite: ART 361 or ART 362.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 468. Figure in Clay III. 3 Credit Hours.

As continuation of ART 368, this advanced course will focus on modeling The human figure in clay with emphasis on form, volume, proportion, anatomy, gesture and expressive handling of clay.

Prerequisite: ART 368.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ART 491. Graphic Design III. 3 Credit Hours.

Advanced page layout coupled with extensive use of typography with applications in page design for advertising and collateral projects.

Prerequisite: ART 391.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 493. Illustration. 3 Credit Hours.

Contemporary illustration for print, new media, portfolio and exhibition.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ART 499. Honors Thesis. 3-6 Credit Hours.

Formal thesis and project including an exhibition supervised by member of the department faculty.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 501. Advanced Painting III. 1-6 Credit Hours.

Course content decided between student and professor.

Prerequisite: ART 402.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 502. Advanced Painting IV. 1-6 Credit Hours.

Continuation of ART 501.

Prerequisite: ART 501.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 503. Advanced Painting V. 1-6 Credit Hours.

Course content decided between student and professor. An independent study course may be repeated.

Prerequisite: ART 502.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 504. Advanced Painting VI. 1-6 Credit Hours.

Course content decided between student and professor. An Independent Study course may be repeated.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ART 505. Advanced Painting VII. 1-6 Credit Hours.

Current readings and/or technical concerns not covered in the regular curriculum. Course content will vary each semester.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ART 506. Special Topics in Studio Art for Undergraduate Students. 3 Credit Hours.

Course devoted to exploring new topics in studio art practice and theory, including media specific and/or inter-disciplinary approaches. Course content to be determined by Instructor.

Components: STU.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ART 509. Independent Study in Other Media. 1-6 Credit Hours.

Course content decided between student and professor. Independent study course may be repeated.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 510. Advanced Digital Photography 2. 3 Credit Hours.

Course content decided between student and professor. May NOT be repeated for credit.

Prerequisite: ART 410.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 511. Advanced Digital Photography 3. 3 Credit Hours.

Continuation of ART 510. May NOT be repeated for credit.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 512. Independent Study in Photography. 1-6 Credit Hours.

Course content decided between student and professor. An independent study course may be repeated.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 517. Advanced Sculpture III. 3 Credit Hours.

Examination of ongoing work in relationship to historical and contemporary interpretations issues.

Prerequisite: ART 418.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 518. Advanced Sculpture IV. 3 Credit Hours.

Continuation of ART 517.

Prerequisite: ART 517.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 551. Intaglio/Relief IV. 3 Credit Hours.

Advanced work in intaglio/relief processes: course requirements decided between student and professor.

Prerequisite: ART 451.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ART 552. Lithography IV. 3 Credit Hours.

Advanced work in lithography: course requirements decided between student and professor.

Prerequisite: ART 452.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ART 553. Silkscreen IV. 3 Credit Hours.

Advanced work in silkscreen.

Prerequisite: ART 453.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ART 554. Computer Assisted Printmaking. 3 Credit Hours.

Advanced work in computer assisted printmaking; course requirements decided between student and professor.

Prerequisite: ART 454.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ART 555. Topics in Printmaking. 1-6 Credit Hours.

Current readings and/or technical concerns not covered in the regular curriculum. Course content will vary each semester.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ART 562. Contemporary Ceramic Art. 3 Credit Hours.

Development of artistic style and technical abilities in relation to contemporary trends in ceramic art.

Prerequisite: ART 462.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 563. Independent Study in Ceramics/Glass. 1-6 Credit Hours.

Course content decided between student and professor. An independent study course may be repeated.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 564. Directed Research and Projects in Ceramics/Glass. 3 Credit Hours.

Historical to contemporary approach to ceramics; furthering of the technical ability, and development of artistic style.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 591. Portfolio/Business of Design. 3 Credit Hours.

Individually supervised graphic design portfolio. Professional practices in design.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ART 592. Special Projects/Multimedia/Portfolio. 3 Credit Hours.

Video Art, print design, illustration or multimedia portfolio preparation.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ART 593. Seminar in Professional Practices. 1-6 Credit Hours.

Advanced course with a required placement in a professional design or multimedia setting. Classroom sessions on professional topics and issues. Portfolio required.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 599. Exhibition Preparation. 3 Credit Hours.

A seminar class devoted to the preparatory work needed to plan and promote a solo exhibition, including installation/lighting concerns. Preliminary written assignments will also be given in preparation for ART 710 Thesis.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 602. Advanced Painting ix. 1-6 Credit Hours.

Continuation of ART 601.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 603. Problems in Studio Art. 1-6 Credit Hours.

Course content will be decided in conference between candidate and instructor. This course may be repeated for credit.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 604. Seminar in Studio Art. 3 Credit Hours.

Special topics in selected area of studio art.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ART 606. Special Topics in Studio Art for Graduate Students. 3 Credit Hours.

Course devoted to exploring new topics in studio art practice and theory, including media specific and/or inter-disciplinary approaches. Course content to be determined by Instructor.

Components: STU.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ART 609. Independent Study in Other Media. 1-6 Credit Hours.

Course content decided between student and professor. Independent study course may be repeated.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 630. Graduate Digital Photography I. 1-6 Credit Hours.

Advance Digital Photography Course: Content decided between student and professor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 631. Graduate Digital Photography II. 1-6 Credit Hours.

Advance Digital Course: Content decided between student and professor-Lecture

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 632. Graduate Independent Study in Photography. 1-6 Credit Hours.

Independent Study in Photography: Content decided between student and professor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 633. Graduate Digital Photography III. 1-6 Credit Hours.

Content decided in conference between candidate and instructor.

Requisite: Graduate Standing.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 634. Graduate Digital Photography IV. 1-6 Credit Hours.

Continuation of ART 610.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 641. Graduate Painting I. 1-6 Credit Hours.

Self-directed study in consultation with instructor.

Requisite: Graduate Standing.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 642. Graduate Painting II. 1-6 Credit Hours.

Self-directed study in consultation with instructor.

Requisite: Graduate Standing.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 643. Graduate Painting III. 1-6 Credit Hours.

Self-directed study in consultation with instructor.

Requisite: Graduate Standing.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 644. Graduate Painting IV. 1-6 Credit Hours.

Self-directed study in consultation with instructor.

Requisite: Graduate Standing.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ART 645. Graduate Painting V. 1-6 Credit Hours.

Self-directed study in consultation with instructor.

Requisite: Graduate Standing.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 646. Advanced Painting VIII. 1-6 Credit Hours.

Professional and concentrated experiences in media and subject matter decided in conference between candidate and instructor.

Requisite: Graduate Standing.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 651. Intaglio/Relief. 1-6 Credit Hours.

Advanced intaglio/relief processes: course requirements decided between candidate and professor.

Requisite: Graduate Standing.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ART 652. Lithography. 1-6 Credit Hours.

Advanced lithography. Course requirements decided between candidate and professor.

Requisite: Graduate Standing.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ART 653. Silkscreen. 1-6 Credit Hours.

Advanced work in silkscreen.

Requisite: Graduate Standing.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ART 655. Topics in Printmaking. 1-6 Credit Hours.

Current readings and/or technical concerns not covered in the regular curriculum.

Requisite: Graduate Standing.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ART 663. Portfolio/Business of Design. 3 Credit Hours.

Individually supervised graphic design portfolio. Professional practices in design.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ART 664. Special Projects/Multimedia/Portfolio. 1-6 Credit Hours.

Video Art, print design, illustration or multimedia portfolio preparation.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ART 665. Graphic Design. 3 Credit Hours.

Advanced graduate projects in graphic design.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 666. Multimedia. 3 Credit Hours.

Advanced graduate projects in multimedia.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 667. Experimental Illustration for Print and Interactive Media. 3 Credit Hours.

Exploration and innovation of contemporary illustration and digital publishing. Research and practice of new styles of international illustration for print and interactive media.

Prerequisite: ART 663 or ART 665.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 671. Graduate Sculpture I. 1-6 Credit Hours.

Examination of ongoing work in relationship to historical and contemporary interpretations issues.

Requisite: Graduate Standing.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 672. Graduate Sculpture II. 1-6 Credit Hours.

Continuation of ART 517

Requisite: Graduate Standing.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 673. Graduate Sculpture III. 1-6 Credit Hours.

Content decided in conference between candidate and instructor.

Requisite: Graduate Standing.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 674. Graduate Sculpture IV. 1-6 Credit Hours.

Continuation of ART 673. Content decided in conference between candidate and instructor.

Requisite: Graduate Standing.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 675. Graduate Sculpture V. 1-6 Credit Hours.

Content decided in conference between candidate and instructor.

Requisite: Graduate Standing.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 676. Graduate Sculpture VI. 1-6 Credit Hours.

Content decided in conference between candidate and instructor.

Requisite: Graduate Standing.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 681. Writing About Art. 3 Credit Hours.

Writing about art on a professional level.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ART 682. Contemporary Ceramic Art I. 1-6 Credit Hours.

Development of artistic style and technical abilities in relation to contemporary trends in ceramic art.

Requisite: Graduate Standing.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 683. Contemporary Ceramic Art II. 1-6 Credit Hours.

Development of artistic style and technical abilities in relation to contemporary trends in ceramic art.

Requisite: Graduate Standing.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 684. Contemporary Ceramics Art III. 1-6 Credit Hours.

Content to be decided in conference between candidate and instructor.

Requisite: Graduate Standing.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 685. Contemporary Ceramics Art IV. 1-6 Credit Hours.

Continuation of ART 661.

Requisite: Graduate Standing.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 686. Contemporary Ceramic Art V. 1-6 Credit Hours.

Continuation of ART 685: Contemporary Ceramic ART IV
Prerequisite: ART 685.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 687. Contemporary Ceramic Art VI. 1-6 Credit Hours.

Continuation of ART 686: Contemporary Ceramic Art V
Prerequisite: ART 686.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 688. Independent Study in Ceramics/Glass. 1-6 Credit Hours.

Theory, history and practice of Video Art and contemporary documentary film and their various manifestations. Creation of conceptual videos for exhibition, web and interactive media.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 689. Directed Research and Projects in Ceramics/Glass. 3 Credit Hours.

Historical to contemporary approach to ceramics; furthering of the technical ability, and development of artistic style.
Requisite: Graduate Standing.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 693. Seminar in Professional Practices. 1-6 Credit Hours.

Advanced course with a required placement in a professional design or multimedia setting. Classroom sessions on professional topics and issues.
Portfolio required.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 699. Exhibition Preparation. 3 Credit Hours.

A seminar class devoted to the preparatory work needed to plan and promote a solo exhibition, including installation/lighting concerns. Preliminary written assignments will also be given in preparation for ART 710 Thesis.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 810. Master's Thesis. 1-6 Credit Hours.

The student working on his/her master's thesis enrolls for credit, in most departments not to exceed six, as determined by his/her advisor. Credit is not awarded until the thesis has been accepted.

Components: THI.

Grading: SUS.

Typically Offered: Fall & Spring.

ART 820. Research in Residence. 1 Credit Hour.

Used to establish research in residence for the thesis for the master's degree after the student has enrolled for the permissible cumulative total in ART 710 (usually six credits). Credit not granted. May be regarded as full time residence.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

Art History (ARH)

ARH 131. Survey of Western Art I. 3 Credit Hours.

The art of western cultures from pre-history through the Middle Ages.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ARH 132. Survey of Western Art II. 3 Credit Hours.

The art of western cultures from the Renaissance through the 20th century.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ARH 207. History of Photography. 3 Credit Hours.

A study of photography as a visual medium of expression and communication: a chronological examination of its origins, styles and uses.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ARH 220. Student Docent Practicum at the Lowe Art Museum. 1 Credit Hour.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ARH 225. Introduction to Museum Studies. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARH 250. Special Topics in Non-European Art. 3 Credit Hours.

Special topics in Non-European art.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARH 260. Islamic Art. 3 Credit Hours.

Islamic art from the 7th to the 17th century including architecture, manuscript illumination, textiles, ceramics, and small-scale luxury objects. Study of Islam as a religious and political entity showing how the Islamic world defined itself in cultural creation.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ARH 270. Spanish Art. 3 Credit Hours.

A chronological study from prehistory to the present, addressing significant periods in Spanish art history, and establishing the unique characteristics of this art. How the effects of historical conditions (Islamic presence on the peninsula, American colonies, Franco) have defined Spain as distinct from its European neighbors.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARH 321. Andean Art. 3 Credit Hours.

South American art from formative times through the Incan empire and the Spanish conquest (A.D. 1521).

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARH 325. Museum Studies Internship. 3 Credit Hours.

The Museum Studies internship is an independent study course in which the student works on educational projects or programs in a museum.

Components: FLD.

Grading: GRD.

Typically Offered: Fall & Spring.

ARH 326. Art of Japan. 3 Credit Hours.

The Arts of South Asia with selections from India and Thailand.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ARH 327. Art of China. 3 Credit Hours.

The Art of East Asia with selections from China, Korea, and Japan.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ARH 332. Greek Art. 3 Credit Hours.

The art of ancient Greek civilization.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARH 333. Roman Art. 3 Credit Hours.

Roman art from the 1st century B.C. through the 4th century A.D.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARH 335. Early Christian and Byzantine Art. 3 Credit Hours.

Christian art from the second through the fifteenth centuries in Rome and the Byzantine Empire.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARH 336. Medieval Art. 3 Credit Hours.

Western European art from the 4th through the 12th century.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARH 337. Italian Renaissance Art. 3 Credit Hours.

The painting, sculpture, and architecture of Florence in the 15th century.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARH 338. Sixteenth Century Italian Art. 3 Credit Hours.

The painting, sculpture, and architecture of Italy in the 16th century.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARH 339. Northern Renaissance Art. 3 Credit Hours.

The painting of France and the Netherlands in the 14th and 15th centuries.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARH 340. Baroque Art. 3 Credit Hours.

Art and architecture of the seventeenth century, focusing on major cultural centers in Europe and the Americas.

Prerequisite: ARH 132.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARH 341. Eighteenth-Century European Art. 3 Credit Hours.

European art from 1700-1820, including Rococo and Neoclassicism, ending with Goya in Spain.

Prerequisite: ARH 132.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARH 342. Nineteenth-Century European Art. 3 Credit Hours.

Neo-Classicism, Romanticism, Realism, Impressionism, 1760-1900.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ARH 343. Modern Art. 3 Credit Hours.

Cezanne to Surrealism. Primarily European Art c. 1880-1940 in the context of the development of Modernism and its aesthetic theories.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ARH 344. Contemporary Art. 3 Credit Hours.

American and European Art from the Second World War to the present in its social, political, and theoretical contexts.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ARH 345. Contemporary Art in American Culture. 3 Credit Hours.

A critical survey of visual art practices from the 1950s to the present within the United States. By analyzing the multiple legacies of the early avant-garde, the role of nationalism, and the development of the global art market, this course will consider the social, political, and philosophical questions raised by postmodernism and its formative influence on American art after WWII.

Prerequisite: ARH 131 or ARH 132.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ARH 346. History of Graphic Design. 3 Credit Hours.

Evolution of Graphic Design from the invention of writing through the twentieth century concentrating on contemporary themes and technical innovations.

Prerequisite: ARH 131 or ARH 132.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARH 347. Special Topics in Art History. 3 Credit Hours.

Prerequisite: ARH 131 or ARH 132.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARH 349. Special Topics in Art and the Law. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARH 357. Critical Issues in the History Photography. 3 Credit Hours.

The history and theory of photography in visual culture and an exploration of debates regarding how this medium of mass communication has transformed our perceptions and conceptions of art, society, and culture over the past two centuries.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARH 360. Art and Cinema. 3 Credit Hours.

Exploration of the relationship between art, art history, and cinema.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARH 365. Latin American Modernism. 3 Credit Hours.

The art and theories of Latin American Modernism.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARH 385. Studies in Art History. 1-3 Credit Hours.

Art History studies taken at other institutions with no direct equivalents.

Components: LEC.

Grading: GRD.

ARH 405. Special Topics in Medieval Art. 3 Credit Hours.

Changing topics in Medieval Art.

Prerequisite: ARH 131.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARH 408. Special Topics in Modern Art. 3 Credit Hours.

Seminar on changing topics in Modern Art.

Prerequisite: ARH 132.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARH 409. Special Topics in Contemporary Art. 3 Credit Hours.

Seminar on changing topics in contemporary art.

Prerequisite: ARH 132.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARH 411. Special Topics: Museum Studies. 3 Credit Hours.

Seminar on changing topics in Museum studies.

Prerequisite: ARH 225. Requisite: Two additional art history courses.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARH 505. Problems in Art History. 3 Credit Hours.

A means by which the student of advanced standing may investigate areas of a specialized nature, or those which are not offered as a regular part of the curriculum. Course content will be decided in joint conference between student and instructor.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

ARH 506. Problems in Art History. 3 Credit Hours.

A means by which the student of advanced standing may investigate areas of a specialized nature, or those which are not offered as a regular part of the curriculum. Course content will be decided in joint conference between student and instructor.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

ARH 507. Museum Studies Seminar. 3 Credit Hours.

The museum as an institution and as a site for the construction of knowledge. Students will also explore the relationship between museums and academia.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARH 508. Museum Exhibition. 3 Credit Hours.

Organizing an art museum exhibition, and participating in the installation. Writing and composing the catalogue.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARH 509. Museum Internship. 1-3 Credit Hours.

UM sponsored internship with Miami-area museum.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

ARH 510. Arts Administration Internship. 1-3 Credit Hours.

UM sponsored internship with Miami-area arts institution.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

ARH 511. Artlab @ the Lowe. 3 Credit Hours.

Organizing an art exhibition at the Lowe Art Museum. Taught by a different faculty member each year.

Prerequisite: ARH 131 and ARH 132.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ARH 530. Seminar in Art History. 3 Credit Hours.

Special topics in western and nonwestern art. Semester's topic will be announced.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARH 540. History of Museums and Collecting. 3 Credit Hours.

History of museums and collecting practices in western Europe and the United States from the sixteenth to the twentieth century.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARH 550. Seminar in Theory and Methodology in the History of Art. 3 Credit Hours.

Basic methodologies that inform the discipline of art history and an introduction to the key authors and ideas that have shaped and continue to shape how critics and art historians write about art.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARH 560. Seminar in Nineteenth and Twentieth Century Art. 3 Credit Hours.

Special topics including museum practices and theory, women's art and contemporary issues.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARH 570. Seminar in Non-European Art. 3 Credit Hours.

Special Topics in Non-European Art.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARH 598. Seminar in Contemporary American Art. 3 Credit Hours.

Issues in Art since 1960: Aesthetic theories and ideological issues generated in contemporary art as expressed in the writing of artists and art critics.

Components: SEM.

Grading: GRD.

Typically Offered: Fall.

ARH 605. Problems in Art History. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ARH 606. Problems in Art History. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ARH 607. Museum Studies Seminar. 3 Credit Hours.

The museum as an institution and as a site for the construction of knowledge. Students will also explore the relationship between museums and academia.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARH 608. Museum Exhibition. 3 Credit Hours.

Organizing an art museum exhibition, and participating in the installation. Writing and composing the catalogue.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARH 609. Museum Internship. 3 Credit Hours.

UM sponsored internship with Miami-area museum.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

ARH 610. Arts Administration Internship. 1-3 Credit Hours.

UM sponsored internship with Miami-area arts institution.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

ARH 611. Artlab @ the Lowe. 3 Credit Hours.

Organizing an art exhibition at the Lowe Art Museum. Taught by a different faculty member each year.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ARH 630. Seminar in Art History. 3 Credit Hours.

Special topics in western and nonwestern art. Semester's topic will be announced.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARH 640. History of Museums and Collecting. 3 Credit Hours.

History of museums and collecting practices in western Europe and the United States from the sixteenth to the twentieth century.

Components: SEM.

Grading: GRD.

ARH 650. Seminar in Theory and Methodology in the History of Art. 3 Credit Hours.

Basic methodologies that inform the discipline of art history and an introduction to the key authors and ideas that have shaped and continue to shape how critics and art historians write about art.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARH 660. Seminar in Nineteenth and Twentieth Century Art. 3 Credit Hours.

Special topics including museum practices and theory, women's art and contemporary issues.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARH 670. Seminar in Non-European Art. 3 Credit Hours.

Special Topics in Non-European Art.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARH 698. Seminar in Contemporary Art. 3 Credit Hours.

Issues in Art since 1960: Aesthetic theories and ideological issues generated in contemporary art as expressed in the writing of artists and art critics.

Components: SEM.

Grading: GRD.

Typically Offered: Fall.

ARH 810. Master's Thesis. 1-6 Credit Hours.

The student working on his/her master's thesis enrolls for credit, in most departments not to exceed six, as determined by his/her advisor. Credit is not awarded until the thesis has been accepted.

Components: THI.

Grading: SUS.

Typically Offered: Fall & Spring.

ARH 820. Research in Residence. 1 Credit Hour.

Used to establish research in residence for the thesis for the master's degree after the student has enrolled for the permissible cumulative total in ARH 710 (usually six credits). Credit not granted. May be regarded as full time residence.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

Atmospheric Science (ATM)

ATM 102. Introduction to Weather and Climate. 3 Credit Hours.

The structure, physics, dynamics and thermodynamics of the atmosphere. Weather, weather forecasting, climate and climate change.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ATM 103. Survey of Modern Meteorology. 3 Credit Hours.

Dynamics and thermodynamics of the atmosphere as they relate to contemporary issues in meteorology. Overview of numerical weather prediction techniques and new technologies for monitoring weather and climate. Open to majors or minors with permission of instructor.

Pre/Corequisite: MTH 108. Or MTH 113. Or MTH 140. Or MTH 141. Or MTH 161. Or MTH 171.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ATM 220. Climate and Global Change. 3 Credit Hours.

The Earth's climate system and the role of natural and anthropogenic processes in shaping climate change.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ATM 243. Weather Forecasting. 3 Credit Hours.

Application of physical principals to weather forecasting. Use interpretation of computer-generated forecast guidance products of the U.S. Weather Service.

Prerequisite: ATM 103 or MSC 103 and MTH 108 or higher.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ATM 244. Tropical Weather and Forecasting. 3 Credit Hours.

Introduction to tropical weather systems, with an emphasis on hurricanes, and syntheses of observational data and numerical model predictions to create forecasts

Prerequisite: ATM 103 and ATM 243.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ATM 265. Atmospheric Chemistry. 3 Credit Hours.

ATM 265 is focused on those aspects of environmental chemistry of most relevance to meteorology students. The class fulfills the American Meteorological Society (AMS) chemistry expectations for a Bachelor's Degree in Meteorology, and in addition, addresses further recommendations from the AMS. AMS expects knowledge of atomic structure and chemical bonding, and, of the properties of gases. Recommended 'beyond the basics' goals include air quality and environmental science applications. ATM 265 fulfills the chemistry requirement for the undergraduate meteorology program. Students interested in pursuing upper-level chemistry courses, including MSC 215 (Chemical Oceanography), and pre-med majors, are recommended to take CHM 111 to meet requirements for the Meteorology B.S. Degree.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ATM 303. Meteorological Instrumentation and Observation. 3 Credit Hours.

Techniques for measuring meteorological variables at the ground and in the free atmosphere.

Prerequisite: ATM 103, and PHY 101 or PHY 205 or PHY 201.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ATM 305. Atmospheric Thermodynamics. 3 Credit Hours.

Equation of state; water vapor and moist air thermodynamics; phase changes and latent heat; buoyancy and atmospheric convection; thermodynamic diagrams.

Prerequisite: PHY 201 or PHY 205.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ATM 306. Advanced Principles in Broadcasting Meteorology. 3 Credit Hours.

Broadcast meteorology including the production of professional weather briefings and weather news for on camera delivery. Emphasis on accurately communicating complex meteorological concepts, use of computer graphics, and on-camera delivery.

Prerequisite: ATM 103.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ATM 307. Introduction to the Physics of Climate. 3 Credit Hours.

The Physical mechanisms which govern the earth's climate and climate variability.

Prerequisite: ATM 305 or MSC 305.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ATM 321. Scientific Programming in the Atmospheric Sciences. 3 Credit Hours.

An introduction to scientific programming in a linux environment using the FORTRAN 90/95 language with specific applications to Meteorology.

Prerequisites: CSC 120.

Prerequisite: CSC 120.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ATM 371. Readings in Atmospheric Science. 1-2 Credit Hours.

Library research with faculty supervision. Bibliography to be submitted in preparation for laboratory and/or field research project.

Components: DIS.

Grading: GRD.

Typically Offered: Fall & Spring.

ATM 405. Atmospheric Dynamics I. 3 Credit Hours.

Derivation and scaling of the equations of atmospheric motion; hydrostatic and geostrophic balance; circulation and vorticity.

Prerequisite: MSC 305 Or ATM 305 and MTH 310 Or Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ATM 406. Atmospheric Dynamics II. 3 Credit Hours.

Baroclinic and barotropic instability; boundary layer dynamics; mathematical principles of numerical weather prediction; maintenance of the general circulation.

Prerequisite: MSC 405 or ATM 405.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ATM 407. Weather Analysis. 4 Credit Hours.

Three-dimensional analysis of synoptic-scale weather systems; application of the fundamental laws of atmospheric dynamics to observed weather patterns; practical questions of worldwide data exchange and display.

Prerequisite: ATM 305 or MSC 305.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ATM 409. Cloud Physics, Radiation, and Remote Sensing. 3 Credit Hours.

Atmospheric radiation; absorption and scattering principles of remote sensing of the atmosphere; cloud microphysics; nucleation, coalescence, ice crystal growth, atmospheric electricity and lightning.

Prerequisite: ATM 305.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ATM 411. Projects in Atmospheric Science. 1-3 Credit Hours.

Individual, independent research projects with faculty supervision. A formal written report is required that satisfies signed contract with faculty supervisor.

Requisite: Junior or Senior Standing.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

ATM 412. Undergraduate Thesis in Atmospheric Science. 1 Credit Hour.

Students will write a formal thesis summarizing the results of independent research carried out under faculty supervision.

ATM 411 AND Senior Standing.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ATM 511. Geophysical Fluid Dynamics I. 3 Credit Hours.

The basic equations of state, continuity, and motion. Topics include wave motions, group velocity, theory of stratified fluids and internal waves turbulence.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ATM 532. Broadcast Meteorology. 3 Credit Hours.

Students will learn the proper techniques involved in preparing and presenting a complete and professional weathercast with a heavy emphasis on communication skills, computer graphics, and on-camera delivery.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ATM 533. Atmospheric Boundary Layer. 3 Credit Hours.

The boundary layer is the lowest 1-2 km of the atmosphere, where we live. It is necessary to understand boundary layer processes to pursue research in clouds and radiation, weather and climate, air/sea/land interaction, and chemistry of the lower atmosphere. In this course, students will learn the basic physical concepts, from observational, theoretical and modeling perspectives.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ATM 534. Atmospheric Chemistry. 3 Credit Hours.

This course is an introduction to Atmospheric Chemistry for students in Atmospheric Science and Ocean Science. The course will discuss major topic areas of atmospheric chemistry with an emphasis on providing links between atmospheric chemistry, meteorology, ocean science, and climate. Background in General Chemistry and Mathematics (through Calculus) is recommended; or permission of instructor is required.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ATM 536. Hurricanes. 3 Credit Hours.

This course is intended to provide a broad overview of tropical cyclones, starting from the basic structure, dynamics and thermodynamics, then expanding through to observations, modeling, forecasting and impacts.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ATM 537. Natural Hazards: Atmosphere and Ocean. 3 Credit Hours.

This course is designed to provide students with an understanding of natural hazards in both the atmosphere and ocean. In the atmosphere, we will explore both weather events such as storms and hurricanes and tornadoes as well as longer term phenomena such as monsoons and excess rainfall in the tropics. Oceanographically, the course will address hazards such as storm surge and flooding, rogue waves, rip currents, and tsunamis that occur on short time scales as well as the longer term effects such as sea level rise and the impacts of El Niño and La Niña oceanographic conditions on weather conditions. Thus, the course focus is on hazards and their impacts around the globe.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ATM 551. Introduction to Atmospheric Science. 3 Credit Hours.

Thermodynamics of dry and moist processes; elementary dynamical meteorology; description of weather systems and phenomena on all scales; structure and mechanics of the general circulation.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ATM 553. Climate Change. 3 Credit Hours.

Overview of the physical processes which regulate the earth's climate and response to forcing.

1 year of Calculus 1 year Physics.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ATM 554. Climate Variability. 3 Credit Hours.

This class will cover the physical mechanisms that govern the earth's climate and climate variability. It is intended for beginning graduate students in marine and atmospheric science, and upper-level undergraduate physical science students.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ATM 560. Tropospheric Chemistry I. 3 Credit Hours.

Process-Oriented lower atmospheric chemistry. Topics include photochemical oxidant formation, nighttime chemistry, air-sea exchange, cloud droplet and aerosol reactions, physical properties of aerosols, and transport properties of the troposphere.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ATM 561. Tropical Atmosphere and Ocean. 3 Credit Hours.

Observed structure of large-scale tropical circulations, including the Trades, the intertropical Convergence Zone, the Walker circulation, and equatorial wave disturbances. An overview of tropical climate, including El Niño/Southern Oscillation, and tropical monsoons is included as well as the formation, structure, and dynamics of tropical cyclone interactions between tropical convection and large-scale circulations, equatorial waves, and flow instabilities.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ATM 562. Advanced Weather Forecasting. 3 Credit Hours.

Students will learn the skills needed in researching and preparing a professional weather forecast. There is a plethora of forecast resources available online. Students will learn about using these forecast resources and share resources of their own. Specifically, we will cover topics such as the basics of atmospheric meteorology, large and small scale weather forecasting, operational weather forecasting, tropical weather, severe weather, nor'easters, lake effect snow, oscillations and various other weather phenomena. During the course of the semester a couple of Guest speakers in various parts of the field will visit to discuss relevant topics.

Prerequisite: ATM 243 and ATM 305 and ATM 405.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ATM 563. Mesoscale Meteorology and Severe Storms. 3 Credit Hours.

Course topics include the structure and dynamics of clouds, thunderstorms, and mesoscale convective systems, radar and satellite observations of clouds and precipitation, severe storm forecasting, mesoscale disturbances, frontal and orographic clouds, and precipitation.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ATM 581. Special Topics. 1-4 Credit Hours.

Lectures, research projects or directed readings in special topics related to Atmospheric Sciences.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ATM 582. Special Topics. 3 Credit Hours.

Lectures, research projects or directed readings in special topics related to Atmospheric Sciences.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ATM 583. Special Topics. 1-4 Credit Hours.

Lectures, research projects or directed readings in special topics related to Atmospheric Sciences.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ATM 584. Special Topics. 1-4 Credit Hours.

Lectures, research projects or directed readings in special topics related to Atmospheric Sciences.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ATM 585. Special Topics. 1-4 Credit Hours.

Lectures, research projects or directed readings in special topics related to Atmospheric Sciences.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ATM 611. Geophysical Fluid Dynamics I. 3 Credit Hours.

The basic equations of state, continuity, and motion. Topics include wave motions, group velocity, theory of stratified fluids and internal waves turbulence.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ATM 614. Introduction to Weather and Climate. 3 Credit Hours.

This course will cover the structure, physics, dynamics and thermodynamics of the atmosphere; including weather analysis, weather forecasting, climate and climate change. Contemporary topics covered in this class will include global warming, the ozone hole, hurricanes, thunderstorms and other severe weather phenomena.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ATM 615. Numerical Weather Prediction. 3 Credit Hours.

Review of fundamental equations and principal wave solutions. Course topics include finite differences, the filtering problem, the equivalent-barotropic model, multi-level primitive equation models, model initialization and verification, and models currently used by the weather service.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ATM 624. Applied Data Analysis. 3 Credit Hours.

The course is intended to jump-start students in strategies for fruitful computer interaction practices for careers in MPO areas of science. Academic topics include key concepts in probability & statistics, issues of graphical evidence and inference, linear models and regression, spectral analysis, and matrix decomposition. Practical topics include hands-on exercises in data analysis and the sharing of code+results and interpretation. Students do projects on data from their research or interests.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ATM 633. Atmospheric Boundary Layer. 3 Credit Hours.

The boundary layer is the lowest 1-2 km of the atmosphere, where we live. It is necessary to understand boundary layer processes to pursue research in clouds and radiation, weather and climate, air/sea/land interaction, and chemistry of the lower atmosphere. In this course, students will learn the basic physical concepts, from observational, theoretical and modeling perspectives.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ATM 634. Atmospheric Chemistry. 3 Credit Hours.

This course is an introduction to Atmospheric Chemistry for students in Atmospheric Science and Ocean Science. The course will discuss major topic areas of atmospheric chemistry with an emphasis on providing links between atmospheric chemistry, meteorology, ocean science, and climate. Background in General Chemistry and Mathematics (through Calculus) is recommended;

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ATM 636. Hurricanes. 3 Credit Hours.

This course is intended to provide a broad overview of tropical cyclones, starting from the basic structure, dynamics and thermodynamics, then expanding through to observations, modeling, forecasting and impacts.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ATM 637. Natural Hazards: Atmosphere and Ocean. 3 Credit Hours.

This course is designed to provide students with an understanding of natural hazards in both the atmosphere and ocean. In the atmosphere, we will explore both weather events such as storms and hurricanes and tornadoes as well as longer term phenomena such as monsoons and excess rainfall in the tropics. Oceanographically, the course will address hazards such as storm surge and flooding, rogue waves, rip currents, and tsunamis that occur on short time scales as well as the longer term effects such as sea level rise and the impacts of El Niño and La Niña oceanographic conditions on weather conditions. Thus, the course focus is on hazards and their impacts around the globe.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ATM 651. Introduction to Atmospheric Science. 3 Credit Hours.

Thermodynamics of dry and moist processes; elementary dynamical meteorology; description of weather systems and phenomena on all scales; structure and mechanics of the general circulation.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ATM 653. Climate Change. 3 Credit Hours.

Overview of the physical processes which regulate the earth's climate and response to forcing.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ATM 654. Climate Variability. 3 Credit Hours.

This class will cover the physical mechanisms that govern the earth's climate and climate variability. It is intended for beginning graduate students in marine and atmospheric science, and upper-level undergraduate physical science students.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ATM 660. Tropospheric Chemistry I. 3 Credit Hours.

Process-Oriented lower atmospheric chemistry. Topics include photochemical oxidant formation, nighttime chemistry, air-sea exchange, cloud droplet and aerosol reactions, physical properties of aerosols, and transport properties of the troposphere.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ATM 661. Tropical Atmosphere and Ocean. 3 Credit Hours.

Observed structure of large-scale tropical circulations, including the Trades, the intertropical Convergence Zone, the Walker circulation, and equatorial wave disturbances. An overview of tropical climate, including El Niño/Southern Oscillation, and tropical monsoons is included as well as the formation, structure, and dynamics of tropical cyclone interactions between tropical convection and large-scale circulations, equatorial waves, and flow instabilities.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ATM 662. Advanced Weather Forecasting. 3 Credit Hours.

Students will learn the skills needed in researching and preparing a professional weather forecast. There is a plethora of forecast resources available online. Students will learn about using these forecast resources and share resources of their own. Specifically, we will cover topics such as the basics of atmospheric meteorology, large and small scale weather forecasting, operational weather forecasting, tropical weather, severe weather, nor'easters, lake effect snow, oscillations and various other weather phenomena. During the course of the semester a couple of Guest speakers in various parts of the field will visit to discuss relevant topics.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ATM 663. Mesoscale Meteorology and Severe Storms. 3 Credit Hours.

Course topics include the structure and dynamics of clouds, thunderstorms, and mesoscale convective systems, radar and satellite observations of clouds and precipitation, severe storm forecasting, mesoscale disturbances, frontal and orographic clouds, and precipitation.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ATM 681. Special Topics. 1-4 Credit Hours.

Lectures, research projects or directed readings in special topics related to Atmospheric Sciences.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ATM 682. Special Topics. 3 Credit Hours.

Lectures, research projects or directed readings in special topics related to Atmospheric Sciences.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ATM 683. Special Topics. 1-4 Credit Hours.

Lectures, special projects or directed readings in special topics related to Atmospheric Sciences.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ATM 684. Special Topics. 1-4 Credit Hours.

Lectures, special projects or directed readings in special topics related to Atmospheric Sciences.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ATM 685. Special Topics. 1-4 Credit Hours.

Lectures, research projects or directed readings in special topics related to Atmospheric Sciences.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ATM 701. Seminar in Atmospheric Sciences. 1 Credit Hour.

Oral presentation of research and special topics by students, faculty, and visiting scientists.

Components: SEM.

Grading: SUS.

Typically Offered: Fall & Spring.

ATM 711. Geophysical Fluid Dynamics II. 3 Credit Hours.

The focus of this course is on the effects of stratification, on time variable phenomena, and on the interaction between large-scale circulation and mesoscale eddies. Course topics include quasi-geostrophic scale analysis, Rossby waves, barotropic and baroclinic instability, wave-mean flow interaction and non-geostrophic waves.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ATM 713. Predictability. 3 Credit Hours.

Introduction to concepts of predictability and error growth, beginning from the seminal papers of Ed Lorenz, and expanding into state estimation, data assimilation, forecast sensitivity and ensemble prediction.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ATM 731. Air-Sea Interaction. 3 Credit Hours.

Oceanic and atmospheric mixed layers including fluxes of heat, momentum, moisture and salt between the ocean and atmosphere; vertical distribution of energy sources and sinks at the interface including the importance of surface currents; forced upper ocean dynamics, the role of surface waves on the air-sea exchange processes and ocean mixed layer processes.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ATM 732. Climate Dynamics. 3 Credit Hours.

Basic understanding of the Earth's Climate System and its variability on time scales ranging from weeks to millennia. Topics include internal atmospheric variability, coupled ocean-atmosphere interactions, and the theory, observations and modeling of climate change.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ATM 734. Cloud Physics and Radiative Transfer. 3 Credit Hours.

This class provides a modern update to what has traditionally been labeled as "Physical Meteorology": the fundamental physical processes that can occur in one day or less, and within one 1km or less. Such small-scale processes include aerosol, cloud and precipitation physics, and the radiative transfer through the atmosphere. We add to this a consideration of the interactions of aerosols and clouds with the larger meteorological field, as only through understanding the covariations between the aerosol and cloud physics and the larger-scale dynamical/thermodynamical fields can each influence be identified. Current issues pertinent to climate and to weather will be explored, and modeling approaches treated. The radiative transfer unit will develop a deeper appreciation of the concepts and mathematical tools, with exposure to radiative transfer codes. The course is split into 2 halves: the first half covers cloud physics, the 2nd half covers atmospheric radiation. Spring break provides a neat division of the two halves. The course assumes knowledge at the Wallace and Hobbs level. The course work will include computer programming, and some computer literacy is assumed.

Prerequisite: MPO 551.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ATM 750. Reaction Kinetics and Molecular Dynamics. 3 Credit Hours.

Theories and experimental techniques for studying kinetics in the gas-phase, association, unimolecular and bimolecular reactions, chain reactions, flames, statistical theories, potential energy surfaces, collision dynamics, kinetics in solution and the solid-state, experimental methods, diffusion-controlled processes, transition state theory, thermal decomposition, and nucleation are discussed.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ATM 752. Vortex Dynamics. 3 Credit Hours.

This course will cover fundamental to advanced topics in vortex dynamics. A review of fluid dynamics and vorticity in two dimensions will be followed by studies of vortex dynamics in three-dimensional, incompressible flow and in three-dimensional, stratified flow.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ATM 761. Atmospheric Chemistry II. 3 Credit Hours.

Advanced atmospheric chemistry.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ATM 762. Computer Models in Fluid Dynamics. 3 Credit Hours.

Course topics include numerical techniques of dealing with dynamic problems in meteorology and oceanography. Dynamic prediction models, initial data conditioning, computational stability, and error estimates are also included.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ATM 764. Atmospheric and Oceanic Turbulence. 3 Credit Hours.

Structure and dynamics of planetary boundary layers, turbulent transport processes, Fickian and statistical theories of turbulence, influence of stratification, and rotation on turbulent motion are discussed.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ATM 765. General Circulation of the Atmosphere. 3 Credit Hours.

Course topics include structure and behavior of planetary scale motions, energy, momentum, and moisture budgets of the general circulation, and models of the general circulation and climatic change.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ATM 767. Spectral and Finite Element Methods in Computational Fluid Dynamics. 3 Credit Hours.

The simulation of fluid flows in geometrically complex domains (like ocean basins) and/or with high fidelity requires the adoption of new discretization techniques that can simultaneously handle the complicated geometry and permit high accuracy solution. The finite element method has traditionally been used to tackle the geometric complexity while spectral methods have been developed to handle high accuracy in simple geometries. Here we present an approach to handle both complexity within a single framework, namely the spectral element method. The course starts by describing the weak formulation common to all finite element methods which, by design, are geometrically flexible. The second part of the course describe how high order polynomial can be implemented within the finite element framework to achieve high accuracy rates.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ATM 768. ENSO Dynamics, Prediction, and Predictability. 3 Credit Hours.

This course will provide students with a comprehensive observational and mechanistic understanding of the El Niño and the Southern Oscillation (ENSO) phenomenon and how ENSO impacts the natural variability of the global climate system. Topics will include: Observations and theories of the seasonal and interannual changes in the ocean circulation and temperature, and interactions with the atmosphere; equations of motion and theories of tropical ocean and atmosphere circulation; tropical wave dynamics; large scale air-sea coupling; mechanisms for ENSO: delayed oscillator theory, recharge oscillator theory, slow SST modes; ENSO prediction and predictability; ENSO-monsoon-Indian Ocean interactions; Global climate response to ENSO; decadal ENSO variability; ENSO in a changing climate. This course has a phenomenological focus, which complements current MPO course offerings. In particular, students who have taken dynamic and physical meteorology, ocean general circulation or geophysical fluid dynamics will be exposed to how general theory (e.g., wave dynamics) relates to particular phenomena and current research foci. In addition, student will have the opportunity to design and implement numerical hypothesis testing experiments.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ATM 774. Advanced Studies. 1-4 Credit Hours.

Supervised study of special interest to graduate students.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ATM 805. MPS Internship. 1-6 Credit Hours.

The MPS internship is an approved, supervised internship project with an organization engaged in activities associated with the student's degree track. The internship results in a collaborative project, written report, and oral presentation on a topic approved by the student's advisory committee. Up to 6 credits are necessary for graduation.

Components: PRA.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

ATM 810. Master Thesis. 1-6 Credit Hours.

The student working on his/her master's thesis enrolls for credit, in most departments not to exceed six, as determined by his/her advisor. Credit is not awarded until the thesis has been accepted.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

ATM 830. Doctoral Dissertation. 1-12 Credit Hours.

Required of all candidates for the Ph.D. The student will enroll for credit as determined by his/her advisor but not for less than a total of 12. Not more than 12 hours of ATM 830 may be taken in a regular semester, nor more than six in a summer session. Where a student has passed his/her (a) qualifying examinations, and (b) is engaged in an assistantship, he/she may still take the maximum allowable credit stated above.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

Biochemistry and Molecular Biology (BMB)

BMB 110. Scientific Basis of Forensic Analysis. 3 Credit Hours.

Basic science topics including mathematics, physics, chemistry, and biology are introduced and related to understanding specific topics in forensic analysis such as fingerprint and blood type analyses. Heavy emphasis is given to hands on, in class projects in which students learn to analyze and interpret experimental observations and outcomes.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BMB 145. Introduction to BMB Research. 2 Credit Hours.

Students will collaborate on a research project and learn valuable laboratory skills. The goal for this course is to make students "research-ready" through an active, inquiry-based, platform for developing core competencies in biology, genetics, BMB (biochemistry & molecular biology), bioinformatics, scientific discourse and ethics.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

BMB 245. Foundations in BMB Research. 2 Credit Hours.

Students shadow a research assistant in the lab of a BMB faculty member and learn about the research projects and techniques used by the group. Students will assist in preparing reagents, conducting experiments, analyzing data and generating brief reports. Attendance in lab group meetings is expected. Students maintain a weekly online journal and will write a paper describing the research in the lab and proposing a research problem and approach to solve in BMB545.

Components: LAB.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

BMB 251. Contemporary Topics in BMB. 1 Credit Hour.

Contemporary topics in Biochemistry and Molecular Biology (BMB). Using primary research articles that underlie scientific news in popular press, students participate in weekly discussions and give at least one group presentation. Students learn and develop practical skills in critical reading and presentation of primary research findings.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BMB 260. Introduction to Biochemistry and Nutrition. 3 Credit Hours.

The composition of food and the composition and functioning of a typical cell are described in chemical terms, leading to an understanding of how life processes such as digestion, and metabolism occur and are regulated at the level of individual molecule and reactions. Applications of biochemistry and nutrition are discussed.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

BMB 401. Biochemistry for the Biomedical Sciences. 4 Credit Hours.

The biochemical composition, structure, and cellular metabolism of proteins, carbohydrates, lipids, and nucleic acids are rigorously described, emphasizing problem solving strategies required of biomedical field applications.

Prerequisite: CHM 201 or CHM 222.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BMB 402. Principles of Experimental BMB. 2 Credit Hours.

An active, inquiry-based, platform for developing core competencies in biochemistry & molecular biology, making students "research ready".

Corequisite or Prerequisite: BMB 401.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

BMB 411. Readings in BMB. 1 Credit Hour.

Students read and discuss one BMB primary research article each week and answer a set of questions meant to provoke critical evaluation of the work. The course introduces students to critical reading of the primary literature in BMB and is open to students at any level. Peer-mentoring and informal student-led instruction is central to the course.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BMB 417. Nutrients, Enzymes, and Metabolic Flux. 3 Credit Hours.

How macronutrients (carbohydrates, protein, and lipids) and (ii) micronutrients (vitamins and minerals) are obtained in the diet, digested, absorbed, and processed. Then, students learn to "formulate" mechanisms of enzyme catalysis and inhibition, further applying to graphical analysis of authentic enzyme kinetic and binding data. Last, such analytical skills are used to more rigorously examine metabolic flux control points. Students finish this course with thorough mechanistic understanding of (i) macronutrient composition, intake, and energy production and (ii) requirements of micronutrients in controlling enzyme-catalyzed reactions that produce energy.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

BMB 501. Senior Seminars. 1 Credit Hour.

Students attend seminars of their own choice, presented by either visiting/residing faculty or graduate/postdoctoral students on recent research topics in BMB or any other discipline in the basic biomedical sciences. Students write short reports on these seminars and critically evaluate the presentations. This course can be taken more than once.

Prerequisite: BMB 401.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

BMB 506. Biomedical Case Studies. 1 Credit Hour.

Students explore topics in BMB in the context of solving problems presented in a clinical/biomedical framework. Students work in small groups and independently to acquire, critically evaluate, synthesize and present information.

Corequisite or Prerequisite: BMB 401.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BMB 507. Protein Structure, Function and Biology. 3 Credit Hours.

The physical characteristics and behavior of proteins are described, including structure, folding, dynamics, modifications, and interactions. In addition, experimental approaches to protein structure and function are addressed. Readings include both textbook assignments and current research articles, and a term paper is written and submitted for writing credit.

Prerequisite: BMB 401.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BMB 509. Molecular Biology of the Gene. 3 Credit Hours.

Biochemical processes involved in the flow of genetic information in both prokaryotes and eukaryotes are described, including DNA replication, repair, genetic recombination, RNA transcription and processing, protein synthesis, control of gene expression, cell differentiation, and recombinant DNA technology. Extensive classroom discussion is mandatory. Reading includes BMB primary research papers, course notes and a textbook.

Prerequisite: BMB 401.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

BMB 511. Topics in BMB. 3 Credit Hours.

Students independently explore the literature in BMB with guidance by a BMB Faculty mentor. BMB primary research literature in an area of mutual interest to the student and the Faculty mentor (usually a content expert in that area) is discussed. Students prepare a paper or other appropriate product (e.g. computer software, a structural model, a dynamic simulation) for evaluation. Writing credit is available for papers.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

BMB 514. Genetics and Genomics: Principles, Mechanisms, and Use. 3 Credit Hours.

The quantitative and analytical problem solving, as well as spatial reasoning in genetics. The course will propose genetic hypotheses, identify genetic predictions, create genetic systems for challenging these predictions, and analyze genetic data to solve practical problems.

Prerequisite: BMB 401.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BMB 519. Epigenetics and Nutrition. 3 Credit Hours.

How epigenetic mechanisms control gene expression and (ii) how epigenetic modifications are propagated. Then, students explore how such epigenetic control and inheritance can be modulated through diet and nutrition. Class participation and attendance are required, since in class discussion will be largely based on emerging and late-breaking topics from recent literature.

Prerequisite: BMB 401.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

BMB 545. Research Problems in BMB. 3-12 Credit Hours.

Participation in the research laboratory of a faculty mentor to work on an independent research project. Students develop abilities to formulate good questions and sound hypotheses, design practical experiments, collect and analyze useful data, and make justifiable conclusions. Students maintain a weekly online journal, write a paper, and present their research in the lab. Two semesters of BMB 545 are required to write a thesis (pre-requisite for graduating with honors in BMB).

Components: LAB.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

BMB 555. Cellular Structure, Function, and Biology. 3 Credit Hours.

Students learn composition and function of cellular organelles, and closely examine their biogenic and degradative pathways. Next, students learn cell signaling pathways and mechanisms controlling mitosis, meiosis, and cytokinesis that account for inherited traits. Studies of the molecular basis of cell-cell and cell-matrix interactions provide students with better understanding of tissue stability and function. Modern perspectives regarding stem and cancer cell biology are explored, along with new cell-based therapeutic strategies.

Prerequisite: BMB 401.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

BMB 617. Readings in Molecular Biology. 1 Credit Hour.

Discussion of classical papers in molecular biology beginning with the concept of the gene and continuing into modern studies. Format consists of student presentations and group discussions.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BMB 645. Research Problems in Biochemistry, Cell and Molecular Biology. 2-3 Credit Hours.

Laboratory research problems in various areas of biochemistry, cell biology, and molecular biology, including literature search, experimental design, data gathering, and evaluation of results. This course is the mechanism by which graduate laboratory rotations are done in preparation for selection of Ph.D. mentor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

BMB 680. Research Ethics. 0 Credit Hours.

The NIH Guide for Grants and Contracts stipulates that Institutions receiving support for National Research Service Award Training Grants are required to develop a program in the principles of Scientific Integrity. This program should be an integral part of the proposed training effort. The University of Miami School of Medicine has chosen to respond to this requirement with this course. This course must be taken during the first semester in the Department or Program. This is a six-hour course and will be given in two sessions of three hours each.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BMB 701. Research Journal Club.. 1 Credit Hour.

All registered BMB students must participate in the Journal Club/Seminar. Students are required to critically review published paper(s) of their choice and describe in detail the findings described therein. Senior students will present their own research.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BMB 702. Biochemical Science Seminar. 1 Credit Hour.

The Biochemistry and Molecular Biology (BMB) department has an active seminar program that meets on every Friday at noon. In this program seminars are presented by the BMB faculty (primary and secondary), invited speakers within the University of Miami and from other universities, government agencies, and industry. All BMB Graduate Students enrolled in this course will be required to attend this seminar and will have informal interactions with speaker, and exchange ideas at lunch on the seminar day.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BMB 705. Principles of Biochemistry and Molecular Biology. 3 Credit Hours.

This course is divided into three parts. In Part 1, you will examine the biochemical composition and structure of the four basic types of biological macromolecules: (i) carbohydrates, (ii) nucleic acids, (iii) proteins, and (iv) lipids. In addition, you will learn the composition and function of dietary nutrients and vitamins. Most important, you will be introduced to nature's catalytic substances termed "enzymes", paying special attention to their mechanisms of action and regulation. In Part 2, you will study how genetic information flows from its storage as DNA sequence to its expression as functional RNA and protein molecules. Here, you will give particular emphasis towards understanding control of gene expression by various epigenetic and signaling mechanisms. In Part 3, you will learn how metabolic pathways are used to convert food molecules into energy and chemical intermediates used for biosynthesis of our own cellular materials. You are expected to finish this course with rigorous understanding of the biochemical composition, structure, and cellular metabolism of proteins, carbohydrates, lipids, and nucleic acids. This will enable you to read and understand advancing topics and applications in a vast array of biomedical specialties.

Components: DIL.

Grading: GRD.

Typically Offered: Fall & Spring.

BMB 709. Advanced Biochemistry and Molecular Biology. 3 Credit Hours.

This course is a continuation course for BMB 616. It covers essentially the same topics as BMB 616 but at a more advanced level. It brings the student to the forefront of research in Molecular Biology. The course material is discussed exclusively in the form of original research papers. Based on this experience, students are required to propose experimental approaches to biological problems and defend them.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BMB 710. Advanced Topics in Biochemistry and Molecular Biology. 1-5 Credit Hours.

This course is offered by various faculty members in the department on a rotating basis depending upon their expertise. For example, an advanced topic course in Nanomedicine offered by Dr. Deo and Dr. Dhar covers these topics through lectures.

Components: DIL.

Grading: GRD.

Typically Offered: Fall.

BMB 711. Best Practices in BMB Instruction. 1-3 Credit Hours.

Graduate students in the basic sciences will explore different approaches to science course development, implementation and assessment. This includes identifying gaps in the curriculum, creating classroom structure that reflects the content and execution of classroom activities, identifying and gathering appropriate material from the primary research literature, instructing undergraduates in how to become highly interactive self-directed learners, providing formative feedback to improve student achievement throughout a course, proper design and implementation of assessment tools, student communication, classroom management and ethics.

Components: DIS.

Grading: GRD.

Typically Offered: Fall & Spring.

BMB 714. Molecular Genetics. 4 Credit Hours.

This course deals with mechanisms and fundamental concepts of genetic inheritance. The first part of the course is devoted to the genetics of bacteria and bacteriophages. Topics include genetic implementation, recombination, suppression, transposition, conjugation, transformation, transaction, and regulation of prokaryotic gene expression. The second part of the course covers selected topics in eukaryotic genetics (including molecular genetics of yeast, mitochondria, *Drosophila*, mice and humans). Problem solving is emphasized in homework and exams. The objective of the course is to provide students with an appreciation of the value of molecular genetics as a tool they can use to solve a wide variety of problems in bio-medical research.

Components: DIL.

Grading: GRD.

Typically Offered: Spring.

BMB 715. Structural Biology and Applications to Drug Discovery. 2 Credit Hours.

This course focuses on the relationships between structure and function in biological macromolecules, and how this knowledge has led to the discoveries of new drugs.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

BMB 716. Bioinformatics of Gene Regulation and Protein Function. 3 Credit Hours.

Among the skills required to become a successful interdisciplinary life scientist is the ability to navigate biological databases to better understand gene and protein function. Genome sequences contain the signals that guide differential gene expression and encode structural RNAs, regulatory RNAs and proteins. This course will introduce the tools, databases and evolutionary considerations that help us understand the regulation of gene expression and predict protein function. The biochemical and regulatory functions encoded in genomic DNA sequences will be explored using bioinformatics techniques including gene finding, BLAST searches, PubMed searches, high-throughput dataset mining, multiple alignments, phylogenetic analysis, identification of conserved functional domains and motifs, assessment of protein-protein and protein-ligand interactions, gene context and co-occurrence analysis. Secondary and tertiary structural analysis, metabolic and cellular modeling, and phenotypic analysis. The databases, tools and tutorials available at websites developed by the National Center for Biotechnology Information, EMBL-EBI, the Protein Data Bank, and others will be used as supporting course materials. Each week will have a set of online videos and instructions to complete before the weekly live lecture. The live lecture consist of a one hour slide presentation and one half-hour of Q&A discussions. Competency in bioinformatics will be assessed by a midterm and a final exam.

Components: DIL.

Grading: GRD.

Typically Offered: Fall.

BMB 717. Nutrients, Enzymes, and Metabolic Flux. 3 Credit Hours.

Students learn how macronutrients (carbohydrates, protein, and lipids) and (ii) micronutrients (vitamins and minerals) are obtained in the diet, digested, absorbed, and assimilated. Then, students learn to formulate mechanisms of enzyme catalysis and inhibition. Such analytical skills are then used to more rigorously examine enzymes that control specific points of metabolic flux. Students finish this course with thorough mechanistic understanding of (i) macronutrient composition, intake, and energy production and (ii) requirements of micronutrients and hormones in controlling metabolic balance.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BMB 719. Fundamentals of Epigenetics. 3 Credit Hours.

The influence of nutrition on gene expression through modification of DNA and proteins in chromatin is described (i.e., epigenetics). Also, genetic variations, as well as the influence of bacterial flora of the digestive tract, are considered with respect to abilities to metabolize various dietary components. Students learn how to gather information about course topics and present their findings

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BMB 720. Research in Residence. 0 Credit Hours.

Used to establish research in residence for the thesis for the master's degree after the student has enrolled for the permissible cumulative total in BMB 710 (usually six credits). Credit not granted. May be regarded as full time residence.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

BMB 731. Special Work. 1-3 Credit Hours.

Special work, lecture, or laboratory or a combination of these, as determined by advisor in accord with student's individual interest.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

BMB 810. Master's Thesis. 1-6 Credit Hours.

The student working on his/her master's thesis enrolls for this credit. In most departments not to exceed six credits, as determined by his/her advisor.

Components: THI.

Grading: SUS.

Typically Offered: Fall & Spring.

BMB 830. Doctoral Dissertation. 1-12 Credit Hours.

Required of all candidates for the Ph.D. The student will enroll for credit as determined by his/her advisor but not for less than a total of 24. Not more than 12 hours of BMB 730 may be taken in a regular semester, nor more than six in a summer session. Where a student has passed his/her (a) qualifying examinations, and (b) is engaged in an assistantship, he/she may still take the maximum allowable credit stated above.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

BMB 840. Doctoral Dissertation- Post Candidacy. 1-12 Credit Hours.

Required for all PhD candidates. The student will enroll for credits as determined by the Office of Graduate and Postdoctoral Studies.

Components: DIL.

Grading: SUS.

Typically Offered: Fall & Summer.

BMB 850. Research in Residence. 1 Credit Hour.

Used to establish research in residence for the Ph.D., after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Credit not granted. May be regarded as full-time residence as determined by the Dean of the Graduate School.

Components: THE.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

Biology (BIL)

BIL 101. Introductory Biological Science. 3 Credit Hours.

An introduction to life sciences for the non-major. Students with credit in BIL 150 may NOT take this course to fulfill the natural science requirement. Not for credit in the biology major or minor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

BIL 102. Elementary Biotechnology. 3 Credit Hours.

Major aspects of the biotechnology field for the non-science major. Food biotechnology, enzymes, environmental biotechnology, transgenic animals and plants, analytical biotechnology and more. Not for credit in the biology major or minor.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 103. Introduction to Ecology. 3 Credit Hours.

Overview of ecological and evolutionary principles; relationships of organisms to living and non-living aspects of the environment; human impact on ecosystems. Not for credit in the biology major or minor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BIL 104. Genetics and Society. 3 Credit Hours.

Genetics for non-science majors. The basics of DNA, genes, gene function, genomes and inheritance. Application of genetics to real-world issues, both personal and societal, from the history of life to challenges and opportunities we face in the modern times at the molecular level.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BIL 105. Biology of Plants. 3 Credit Hours.

Evolution and diversity of the plant kingdom; economic and cultural importance of plants to humans. Not for credit in the biology major or minor.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 106. Biology of Animals. 3 Credit Hours.

Evolution and diversity of the animal kingdom and the relationship between humans and other animals. Not for credit in the biology major or minor.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 107. Introduction to Evolution. 3 Credit Hours.

Processes and mechanisms of evolution. A scientific approach to the study of evolution by natural selection, concepts of fitness and adaptation, genetic and developmental bases of evolutionary change, how new species arise, major trends in evolution, extinction and human evolution. Not for credit in the biology major or minor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BIL 108. Molecular Journey to Being Human. 3 Credit Hours.

With a focus on the human species, students will explore the nature of DNA and proteins, the origin of life, RNA World hypothesis, the origins of human ancestors and modern humans, the recently-completed Human Genome Project, the genetic basis human diversity, and the ethics of using genetic knowledge to improve the quality of human life.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 109. Human Biology. 3 Credit Hours.

Structure and function of the human body, and the relationship of our species to its environment and other species. Not for credit in the biology major or minor.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

BIL 112. Human Hereditary Disease. 3 Credit Hours.

An overview of genetics, emphasizing human traits and disorders and their effects on individuals, families, and society. Discover the beauty of human nature, and our knowledge of it, as you develop an understanding of human genetics.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 113. General Biology Honors Seminar. 1 Credit Hour.

Special topics in biology correlated with BIL 150.

Corequisite: BIL 150.

Components: SEM.

Grading: GRD.

Typically Offered: Fall.

BIL 114. General Biology Honors Seminar. 1 Credit Hour.

Special topics in biology correlated with BIL 160.

Components: DIS.

Grading: GRD.

Typically Offered: Spring.

BIL 149. First Year Information. 1.00 Credit Hour.

First year seminar for incoming Biology majors. Facilitation and encouragement of development of critical thinking skills, proficiency in oral and written expression, and an ability to solve problems by integrating knowledge from different disciplines in Biology.

Components: SEM.

Grading: GRD.

Typically Offered: Fall.

BIL 150. General Biology. 4 Credit Hours.

Principles of biology at the cellular, genetic, and organismal levels of organization. Cell structure and function, energy transduction, biological information transfer, genetics, physiology.

Pre/Corequisite: ENG 105 or ENG 106 or ENG 107 Or AP ENG COMP =>5 Or SAT 700 or higher Evidence Base Read and Write Or 32 or higher ACT ENG And ALEKS MTH =>55 Or AP Cal AB score =>3 Or AP Cal BC score =>3 Or SAT Math Section Score 600 or higher.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

BIL 151. General Biology Laboratory. 1 Credit Hour.

A laboratory approach to applying the scientific method. Experimental design and hypothesis testing at the cellular and molecular level.

Corequisite: BIL 150.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Summer.

BIL 152. HHMI General Biology Laboratory.. 1 Credit Hour.

Laboratory exercises to accompany BIL 150. Students teams engage in two inquiry -based laboratory research projects, each lasting six weeks, per semester.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

BIL 153. Introductory Biology/Chemistry Laboratory I. 1 Credit Hour.

Integrated biology and chemistry laboratory exercises for first year students.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

BIL 160. Evolution and Biodiversity. 4 Credit Hours.

Evolution and ecology of life on Earth. Systematics, biodiversity, evolutionary theory and mechanisms, with emphasis on the morphological, ecological, and behavioral adaptations of the diversity of life.

Prerequisite: BIL 150.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

BIL 161. Evolution and Biodiversity Laboratory. 1 Credit Hour.

A laboratory approach to applying the scientific method. Experimental design and hypothesis testing at the organismal and ecological level.

Corequisite: BIL 160.

Components: LAB.

Grading: GRD.

Typically Offered: Spring & Summer.

BIL 162. HHMI Evolution and Biodiversity Laboratory.. 1 Credit Hour.

Laboratory exercises to accompany BIL 160. Student teams engage in two inquiry -based laboratory research projects, each lasting six weeks, per semester.

Components: LAB.

Grading: GRD.

Typically Offered: Spring.

BIL 163. Introductory Biology/Chemistry Laboratory II. 1 Credit Hour.

Integrated biology and chemistry laboratory exercises for first year students.

Corequisite: BIL 160 and CHM 112 or CHM 221.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

BIL 190. Studies in Biology. 1-5 Credit Hours.

Special topics taken at other institutions with no direct equivalents.

Components: LEC.

Grading: GRD.

BIL 194. Studies in Biology. 1-5 Credit Hours.

Special topics taken at other institutions with no direct equivalents.

Components: LEC.

Grading: GRD.

BIL 195. Studies in Biology. 1-5 Credit Hours.

Special topics taken at other institutions with no direct equivalents.

Components: LEC.

Grading: GRD.

BIL 213. HIV and Emerging Diseases: Sex, Science, and Society. 3 Credit Hours.

The importance and value of science in ameliorating human suffering. Students will hear from virologists, immunologists, cell biologistst behavioral scientists, primary care physicians, health care providers, drug discoverers) policy makers, vaccinologists, and HIV-infected individuals aiming to inspire and encourage students to be enthusiastic about science and scientific research on emerging diseases.

Prerequisite: BIL 150 and BIL 151 or BIL 101.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BIL 220. Evolution and Disease. 3 Credit Hours.

Evolutionary perspectives on genetic disorders, cancer, virulence, drug resistance and diet. The role of biodiversity in understanding pathogens and parasites, emerging disease, natural products and drug discovery. How diseases have shaped human evolution.

Prerequisite: BIL 150 and BIL 160.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

BIL 223. Plants and People. 3 Credit Hours.

A multi-disciplinary survey of ethnobotany and economic botany, emphasizing the ecosystem services that plants provide to humans.

(BIL150/151) OR (BIL160/161) OR (BIL101 or BIL105).

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BIL 226. General Botany. 3 Credit Hours.

Survey of the plant kingdom, including evolution, plant diversity, reproduction, structure, function and ecology.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BIL 227. General Botany Laboratory. 1 Credit Hour.

Laboratory exercises to accompany BIL 226.

Pre/Corequisite: BIL 226.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 228. Medical Botany. 3 Credit Hours.

History of medical botany, approaches to health by different cultures, separation and identification of secondary compounds and mechanisms of action. Molecular and physiological action of different secondary compounds in the treatment of common western ailments. In vivo identification of local medicinal plants.

Prerequisite: BIL150 and BIL151 AND BIL160 and BIL161 for Biology Majors or Minors.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 230. Introduction to Marine Biology. 3 Credit Hours.

The sea as an environment. Marine life, its special problems and adaptations. Emphasis on Caribbean organisms. Lecture, 3 hours. Identical to Marine Science 230.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BIL 231. Introduction to Marine Biology Laboratory. 1 Credit Hour.

Experimental laboratory exploring ecology, physiology and behavior of marine organisms in southern Florida marine habitats. Exercises cover laboratory techniques in behavior, functional morphology, productivity, fisheries research, osmoregulation and community ecology.

Pre/Corequisite: BIL 230.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

BIL 244. Hormones and Behavior. 3 Credit Hours.

A comparative approach to the relationship between hormonal mechanisms and behavior in both animal model systems and humans. An introduction to the endocrine system, sex differences in behavior, parental behavior, hormones and social behavior, learning and memory, stress and affective disorders, interactions between brain, hormones and behavior from a historical perspective viewing the emergence of key theories.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 250. Genetics. 3 Credit Hours.

The nature, organization, replication, expression, and evolution of the genetic materials.

Prerequisite: BIL 150 and BIL 160. BIL 151 or BIL 152 or BIL 153. BIL 161 or BIL 162 or BIL 163.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

BIL 251. Genetics Laboratory. 2 Credit Hours.

Laboratory exercises in genetics.

Pre/Corequisite: BIL 250.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

BIL 255. Cellular and Molecular Biology. 3 Credit Hours.

Structure, molecules, and functions of cells.

Prerequisite: BIL 150 and BIL 160. BIL 151 or BIL 152 or BIL 153. BIL 161 or BIL 162 or BIL 163.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

BIL 256. Cellular and Molecular Biology Laboratory. 2 Credit Hours.

Laboratory exercises in cellular and organismal biology involving current research techniques and applications.

Prerequisite: BIL 255 Or BIL 559.

Components: LAB.

Grading: GRD.

Typically Offered: Spring.

BIL 258. Core Laboratory Techniques. 2 Credit Hours.

Conceptual and applied "methods" course in modern analytical techniques. It will expose students to the Department of Biology's three best-developed core laboratory facilities for imaging, molecular biology, and element analysis.

Components: LAB.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 261. High Altitude Biology and Medicine. 3 Credit Hours.

Mechanisms of hypoxia resistance influencing the requirement to match oxygen supply and demand throughout the oxygen cascade. Topics drawn from genomics, integrated physiology, population genetics, biochemistry, gene expression, evolution, and alpine medicine. Taxonomic examples from the literature will include humans, other mammals, birds, reptiles, amphibians, and fish.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 267. Science Documentary: Autism. 3 Credit Hours.

This course brings together students in both science and communication to collaborate on content intended to reach audiences on multiple platforms. Students will be exposed to both history and cutting edge research surrounding Autism Spectrum Disorders. Students will connect with people in the local community, and collaborate on short documentary films as well as audio exercises.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BIL 268. Neurobiology. 3 Credit Hours.

Neurons, organization of the nervous system, electrical properties of neurons, neurotransmitters, receptors, synaptic transmission, sensory and motor system, and complex brain functions.

Prerequisite: BIL 150 and BIL 160 and BIL 151 or BIL 152 or BIL 153 and BIL 161 or BIL 162.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BIL 280. Writing in Biology. 0 Credit Hours.

Writing instruction by faculty using biological topics in BIL courses offered at the 200 level.

Components: IND.

Grading: SUS.

Typically Offered: Fall & Spring.

BIL 281. Undergraduate Learning Internship in Biology. 1 Credit Hour.

Undergraduate Learning Intern in Biology Students serve as peer mentors in a laboratory setting, assisting a graduate laboratory instructor in teaching basic biological concepts to first year undergraduates in BIL 151 and BIL 161.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BIL 284. Special Laboratory Topics in Biology. 1-4 Credit Hours.

Topics relevant to the biological sciences, listed as subtitle. May be combined/co-listed with other departments or programs.

Prerequisite: BIL 150 and BIL 151 and BIL 160.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 285. Special Topics in Biology. 3 Credit Hours.

Topics relevant to the biological sciences, co-listed with other departments or programs.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 286. Clinical Medicine I. 3 Credit Hours.

Bi-weekly clinical rotations with physicians at Miller School of Medicine and simulation labs at the Gordon Center.

BIL 150 and BIL 160 AND CHM 111 or 121 AND CHM 113 and CHM 112 or CHM 221 AND CHM 114.

Components: PRA.

Grading: SUS.

BIL 287. Clinical Medicine II. 3 Credit Hours.

A continuation of Clinical Medicine I; bi-weekly clinical rotations with physicians at Miller School of Medicine and simulation labs at the Gordon Center.

Prerequisite: BIL 286.

Components: PRA.

Grading: SUS.

Typically Offered: Spring.

BIL 299. Seminar in Research Problems. 1 Credit Hour.

Discussion of current research of the Biology Faculty.

Prerequisite: BIL 150 and BIL 151 or BIL 152 or BIL 153 and BIL 160 and BIL 161 or BIL 161 or BIL 162 or BIL 163.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

BIL 315. Marine Biota and Biogeochemical Cycles. 3 Credit Hours.

The diverse sources, transformations, and sinks of chemical constituents in the sea; distribution of dissolved and particulate materials in the sea. Role of marine organisms in marine biogeochemical cycling and the marine carbon cycle and its interaction with the terrestrial biosphere and atmosphere.

Prerequisite: MSC 320.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

BIL 316. Global Primary Production. 3 Credit Hours.

Photosynthesis supports the vast majority of life on planet earth. Although terrestrial and aquatic photoautotrophs share the same basic photosynthetic mechanisms, the physical environment and the fate of primary product on differ on land versus in the sea. This course reviews the magnitude and processes that shape primary production in terrestrial, oceanic, and freshwater habitats. It includes the fate of primary production in the earth's biomes, and the role of terrestrial and aquatic productivity in regulating, and responding to, variable climate.

Prerequisite: BIL 160.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 321. Invertebrate Zoology. 4 Credit Hours.

Biology of invertebrates, with emphasis on tropical and subtropical marine forms. Field work and combined lecture-laboratory sessions.

Prerequisite: BIL 250 or BIL 255.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 324. The Biology of Fishes. 3 Credit Hours.

Selected topics on the ecology and physiology of fishes. Lectures on reproduction, respiration, osmoregulation, sense systems, hormonal control.

Prerequisite: BIL 255 and BIL 360.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 328. Biology of Birds. 4 Credit Hours.

General biology of birds. Lectures emphasizing avian behavior, evolution, ecology, and conservation. Field trips and laboratory emphasizing identification and systematics of South Florida birds. Lecture 3 hours, Laboratory one hour. Six weekend field trips, 6 hours each.

Prerequisite: At least one BIL course at the 200 - level.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

BIL 329. Marine Vertebrate Zoology. 3 Credit Hours.

The form and function of the vertebrate lineage of marine animals from early chordates to the evolution of cartilaginous and bony fish and the emergence of tetrapods, those that evolved from marine ancestors and have since returned to the seas. A comparative point of view will be used to assess the anatomy and physiology of each taxonomic group as well as behavioral and ecological adaptations related to their life history. Topics will include the emergence of the vertebrate body plan and the evolution of fish from agnathans through modern teleosts, as well as the tetrapod lineage of marine reptiles, marine birds, and marine mammals. Discussion of critical points in vertebrate evolution where genome-wide duplication events occurred as well as instances of convergent evolution in various lineages.

Prerequisite: MSC 230.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

BIL 330. Ecology. 3 Credit Hours.

The interactions of living organisms with each other and with their abiotic environment.

Prerequisite: BIL 250. or BIL 255. Calculus strongly recommended.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BIL 331. Ecology Laboratory. 2 Credit Hours.

Lab and field exercises in ecology. Some Saturday field trips required.

Pre/Corequisite: BIL 330.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

BIL 332. Tropical Ecology. 3 Credit Hours.

Tropical ecosystem including world distribution of tropical climate biogeographical regions, deserts and environmental factors, grassland and primary production, savannah population dynamics, energy flow, biogeochemical cycling, succession, and biodiversity of tropical ecosystem.

Prerequisite: BIL 250 or BIL 255.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 333. Conservation Biology. 3 Credit Hours.

The challenges facing conservation practitioners and the toolkit that has been developed to face these threats. Examination of important conservation cases and how endangered species and ecosystems are distributed across the globe; common threats to biodiversity and methods that have been developed to face these threats at both species and landscape scales; government implementation of conservation strategies. Students will read papers from the primary literature on a weekly basis that provide examples of how conservation tools are developed and implemented. Biology 330 (Ecology) is recommended.

Prerequisite: BIL 150 and BIL 151 and BIL 160 and BIL 161. BIL 330 recommended.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

BIL 334. Biogeography and Conservation. 3 Credit Hours.

The modern science of biogeography and its implications for the design of spatial strategies to conserve biodiversity and ecosystem services. Examination of the history of biogeography and its geographical and ecological foundations. Study of the fundamental biogeographic processes and uses them to investigate the evolution of biotas and explain the current biogeographic patterns. Exploration of the emerging field of conservation biogeography and its applications.

Pre/Corequisite: BIL 330.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BIL 335. Tropical Field Biology. 3 Credit Hours.

Intensive field study in the Costa Rican rainforest conducted during semester recesses with additional pre-trip lectures. Requires payment of trip costs.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 337. Coastal Ecology. 3 Credit Hours.

Unprecedented pressure from population growth, tourism, and resource exploitation of coastal ecosystems provides a theme for an overview of current coastal ecology, especially within a conservation and management framework. Hands-on learning in ecohydrology, coastal oceanography, integration of biological communities, and coastal wetland classification for tropical Florida and the insular Caribbean. Students will review and actively participate in water quality and environmental monitoring.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 343. Animal Communication. 3 Credit Hours.

How communication evolves and functions across species, from invertebrates to humans, through a range of acoustic, visual, and chemical signals. How physical constraints shape animal signals, how animals convey information through signaling, and how honesty is maintained in communication systems. Signaling in a variety of contexts, including mate attraction, competition, and predation.

Prerequisite: At Least 3 Credits of BIL 200 Level or Higher.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BIL 348. Climate Change and Public Health. 3 Credit Hours.

The mechanisms by which climate change adversely affects human health, and the policy options for mitigating our exposure.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 350. Survey of Marine Mammals. 3 Credit Hours.

The evolution and ecology of the cetaceans, pinnipeds, manatees, and allies: Natural history, zoo geography, physiology, husbandry, and biomedical aspects.

Prerequisite: BIL 150 and MSC 230.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 352. Techniques in Scanning Electron Microscopy. 3 Credit Hours.

Tissue preparation, use of the scanning electron microscope, photography, and analysis and manipulation of digital images. Lecture 1 hour; laboratory 5 hours.

Components: LAB.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 353. Projects in Scanning Electron Microscopy. 2 Credit Hours.

Individual research projects in scanning electron microscopy. Six hours of laboratory.

Prerequisite: BIL 352.

Components: PRA.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 360. Comparative Physiology. 3 Credit Hours.

How animals work and the physiological processes that allow for animal life. Fundamental aspects of physiology, such as homeostasis, metabolism, function of the nervous system, endocrine function, movement, gas and water transport. The relationship between structure and function through comparisons across diverse animal taxa. Emphasis on critical thinking and application of the scientific method.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BIL 365. Endocrinology. 3 Credit Hours.

The endocrine glands and the chemistry, mechanisms of action, and physiological effects of hormones. Emphasis on vertebrate hormones, including clinical aspects of human endocrinology.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 367. Biology of Cancer. 3 Credit Hours.

A multifaceted exploration of human cancer biology from molecular, cellular, genetic, and histological perspectives, highlighting cellular homeostasis as a precarious life-and-death balancing act.

Prerequisite: BIL 250 or BIL 255.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 369. Fundamentals of the Biology of Aging. 3 Credit Hours.

How and why we age. The biology of aging at the molecular, cellular, and organismal levels in a comparative and evolutionary context.

Prerequisite: BIL 250 or BIL 255.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 371. Readings in Biology. 1 Credit Hour.

Independent readings on selected topics in biology under the supervision of individual faculty.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

BIL 372. Readings in Biology. 1 Credit Hour.

Independent readings on selected topics in biology under the supervision of individual faculty.

Components: IND.

Grading: GRD.

Typically Offered: Fall & Spring.

BIL 374. Seminar in Biology. 1 Credit Hour.

Seminar in selected topics in biology.

Prerequisite: BIL150 and BIL160 and BIL151 or BIL152, or BIL153 and BIL161 or BIL162 or BIL163.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

BIL 375. Seminar in Biology. 1 Credit Hour.

Seminar on selected topics in biology.

Prerequisite: BIL150 and BIL160 and BIL151 or BIL152, or BIL153 and BIL161 or BIL162 or BIL163.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

BIL 376. Complementary and Integrative Medicine. 2 Credit Hours.

Almost 40% of Americans use health care approaches outside of mainstream Western medicine. These non-traditional approaches include acupuncture, meditation, massage therapy, reiki, yoga, hypnotherapy, chiropractic manipulation, and herbal medicine. Some of these approaches seem to hold promise in the healing process, while others have had little research to date. In this course, we will examine scientific evidence for the efficacy of these different approaches.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 380. Writing in Biology. 0 Credit Hours.

Writing instruction by faculty using biological topics in BIL courses offered at the 300 level.

Components: IND.

Grading: SUS.

Typically Offered: Fall & Spring.

BIL 381. Workshop Leaders in Biology I. 1.00 Credit Hour.

Peer-led Team Teaching of workshops for groups of BIL 150 students. May be taken once only for credit in the BIL major, but may be taken additional times for a general education credit. Students may serve as workshop leaders for a second time for a stipend if they (1) have taken the course once before and (2) are graduating seniors.

Components: DIS.

Grading: GRD.

Typically Offered: Fall & Spring.

BIL 382. Workshop Leaders in Biology II. 1.00 Credit Hour.

Peer-led Team Teaching of workshops for groups of BIL 160 students. May be taken once only for credit in the biology major, but may be taken additional times for general education credit. Students may serve as workshop leaders for a second time for a stipend if they (1) have taken the course once before and (2) are graduating seniors.

Components: DIS.

Grading: GRD.

Typically Offered: Fall & Spring.

BIL 384. Special Laboratory/Field Topics in Biology. 1-4 Credit Hours.

Topics relevant to the biological sciences, listed as subtitle. Maybe combined/co-listed with other departments or programs.

Prerequisite: BIL 150 and BIL 151 and BIL 160 and BIL 161.

Components: LAB.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 385. Special Topics in Biology. 2-6 Credit Hours.

Topics relevant to the biological sciences, listed as subtitle. May be co-listed with other departments or programs.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 386. Science Made Sensible Teaching Internship. 3 Credit Hours.

A teaching internship in which students spend at least 60 hours in Miami Dade County Public Schools assisting teachers with science education.

Contributions to bimonthly workshops and group meetings, creation of lesson plans following Sunshine State Guidelines.

One BIL course at the 200 level or higher.

Components: PRA.

Grading: GRD.

Typically Offered: Fall & Spring.

BIL 389. Nonacademic Career in Biology. 2 Credit Hours.

Speakers recruited from local biotech companies, conservation organizations, science museums, the National Park Service, and Customs as well as invasive species specialists, medical dosimetrists, principals of schools seeking biology teachers, and others will give weekly seminars about their practice of science in their occupations. Following each seminar, students will meet with speakers in an informal setting to discuss the particulars and or prospects of the career in question. The express purpose of this course is to provide students with an idea of the utility of their biology degree in the workplace. Papers or writings that pertain to a particular career will be assigned prior to the seminar so that students will be ready with questions for the speaker.

Prerequisite: 1 Course in BIL 200 or Higher.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 390. Studies in Biology. 1-5 Credit Hours.

Special topics taken at other institutions with no direct equivalents.

Components: SEM.

Grading: GRD.

BIL 395. Studies in Biology. 1-5 Credit Hours.

Special topics taken at other institutions with no direct equivalents.

Components: LEC.

Grading: GRD.

BIL 399. DNA and the Changing World. 1 Credit Hour.

This is an online course, not intended for biology majors. It covers in-depth knowledge of DNA, gene, gene function, genome and inheritance with the focus on applying the knowledge to real-world issues; both personal and societal, from the history of life to challenges and opportunities in the modern times at the molecular level. Does not count towards a Biology major or minor.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 402. Seminar in Biology. 1 Credit Hour.

Seminar on selected topics in Biology.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 403. Neuroscience Laboratory. 4 Credit Hours.

Research methods and laboratory experiments in contemporary neuroscience from individual cells to behavior. Scientific writing and computer applications in experimental design and analysis. Combined lecture and laboratory.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

BIL 415. Coral Reef Science and Management. 3 Credit Hours.

Coral reefs as biophysical and socioeconomic systems. Coral reef typology, geomorphology; biotic and abiotic components of coral reef ecosystems. Prerequisite: BIL 250 or BIL 255.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 426. Native and Introduced Plants of the Galapagos. 3 Credit Hours.

The unique vegetation and introduced flora of the Galapagos Islands in Ecuador. Current conservation measures used to control the threats affecting native flora, and future prospects for conserving indigenous plants and for ensuring their rational utilization. Taught in the Galapagos as part of the UGalapagos semester.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 432. Ecology in the Galapagos. 3 Credit Hours.

Organisms in relation to their environment, with focus on interactive, hands-on learning that connects empirical nature with abstract thinking.

Lectures, discussion and fieldwork on ecosystem ecology, plant dispersal and colonization; organisms' responses to spatial and temporal variability in their environments, plant/animal interactions. Origins and effects of invasive species and actions of bio-control agents. Taught in the Galapagos as part of the UGalapagos semester.

Prerequisite: BIL 332.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BIL 433. Conservation in Practice. 3 Credit Hours.

Intersection between economic development, science and conservation in one of the world's most pristine and fragile ecosystems, the Galapagos Islands. Exploration of how tourism offers an alternative to unsustainable fisheries that once drove the local economy, yet has created a new set of pressures on the people and the environment. Mitigation efforts, science, and international conservation mesh with an understanding of local politics, customs and cultures. Taught in the Galapagos as part of the UGalapagos semester.

Prerequisite: BIL 432.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BIL 434. Behavioral Ecology of the Galapagos. 3 Credit Hours.

Functional aspects of animal behavior, including topics such as animal communication, optimal foraging, mating systems, sexual selection, and the evolution of cooperation. Studies of the behavior of Galapagos organisms are emphasized.

Prerequisite: BIL 150 and BIL 151 or BIL 152 or BIL 153 and BIL 160 and BIL 161 or BIL 161 or BIL 162 or BIL 163.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BIL 435. Origins, Ecology and Conservation of Insular Diversity. 1-3 Credit Hours.

Three-week field course in the Solomon Islands. Ecological and evolutionary processes that maintain and create biological diversity in tropical islands. Natural selection, island biogeography, phylogenetics, community assembly, predator-prey interactions, sexual reproduction, mating systems, and social behavior. On-site field surveys and experiments. Combined lecture and laboratory/field course.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Summer.

BIL 436. Stable Isotope Ecology. 3 Credit Hours.

Stable isotopes of essential elements (Oxygen, Carbon, Nitrogen, Hydrogen and Sulfur) as natural tracers of ecological processes. Principles of Chemistry, Physics and Biology will be integrated to allow interpretation, via these tracers, of how fundamental elements are cycled through the biosphere.

Prerequisite: BIL 330.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 441. Animal Behavior. 3 Credit Hours.

Mechanistic and evolutionary aspects of animal behavior. A survey of systems that illustrate the control, development and function of behavior in a variety of animals.

Prerequisite: BIL 150 and BIL 160.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 442. Animal Behavior Laboratory. 2 Credit Hours.

An exploration of the amazing behaviors of animals from an explicitly evolutionary perspective. The study of the diversity of behavior in nature as shaped by natural and sexual selection. Topics will include: resource acquisition and defense, predator avoidance, mate choice and competition for mates, and cooperative behavior. Labs are inquiry based, with students designing, conducting and analyzing experiments to test hypotheses. Students will develop their scientific communication skills throughout the semester by gaining experience in oral presentations and writing manuscripts. Note that this course will involve two required field trips off campus.

Prerequisite: BIL 150 and BIL 160.

Components: LAB.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 452. Evolution and Conservation Genetics. 3 Credit Hours.

Integration of evolutionary theory and genetics to address conservation problems and their solutions. Theory and empirical information pertaining to evolution on islands and the impact of humans on endemic species. Natural selection, sexual selection, population genetics, niches, diversity, and conservation in the context of the Galapagos Islands.

Prerequisite: BIL 150 and BIL 151 or BIL 152 or BIL 153 and BIL 160 and BIL 161 or BIL 161 or BIL 162 or BIL 163.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BIL 454. Biological Core Concepts Through Medical Case Studies. 3 Credit Hours.

A capstone course in which students will complete a series of medically-oriented case studies. Knowledge of biology, chemistry, math, and physics will be applied to real-world issues. Critical thinking will be used to solve basic medical problems, and facilitate understanding of the interdisciplinary nature of medicine.

Requisite: BIL 150 And BIL 151 And BIL 160 And BIL 161 Or equivalent And one BIL 200 level or higher course.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 455. Developmental Biology. 3 Credit Hours.

Principles of differentiation, morphogenesis and development. Critical analysis of the methods used to study these problems.

Prerequisite: BIL 250 or BIL 255.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BIL 456. Developmental Biology Laboratory. 2 Credit Hours.

Exploration of developmental genetics by exposing students to a variety of developmental biology experiments using microscopy, molecular biology, genetics and immunohistochemical techniques in three distinct model animals. Following a short series of introductory labs and lectures, students will develop a research proposal with the instructors and spend the remaining weeks of the semester working to complete their proposal under the guidance of the instructors. This class is restricted to students that have taken cell and molecular biology, developmental biology AND genetics.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 468. Developmental Neuroscience. 3 Credit Hours.

Molecular, cellular, and physiological mechanisms controlling the proper development and function of neurons and neural circuits. Signaling mechanisms that regulate cell determination, proliferation, and differentiation. Neural migration and outgrowth, synaptic connectivity and plasticity, and neural basis of animal behavior.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BIL 480. Writing in Biology. 0 Credit Hours.

Writing instruction by faculty using biological topics in BIL courses offered at the 400 level.

Components: IND.

Grading: SUS.

Typically Offered: Fall & Spring.

BIL 481. Undergraduate Teaching Assistant Training in Biology. 1-3 Credit Hours.

Training and teaching assistance for undergraduate workshops or laboratories, under the direct supervision of faculty. Specific topic is indicated by course subtitle. This course may be taken no more than twice for credit in the Biology major or minor, and if taken twice, teaching assistance must be for two different BIL courses. May be taken multiple times for general elective credit only.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

BIL 482. PRISM Teaching Fellow. 2 Credit Hours.

Undergraduate mentors to PRISM students, and teaching fellows to PRISM course instructors in biology.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

BIL 484. Special Laboratory Topics in Biology. 1-4 Credit Hours.

Topics relevant to the biological sciences, listed as subtitle. May be combined/co-listed with other departments or programs.

Prerequisite: BIL 200 or Higher.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 485. Special Topics in Biology. 2-6 Credit Hours.

Topics relevant to the biological sciences, co-listed with other departments or programs.

Components: DIS.

Grading: GRD.

Typically Offered: Fall & Spring.

BIL 486. Advanced Science Made Sensible Teaching Internship. 3 Credit Hours.

A teaching internship in which students spend at least 60 hours in Miami Dade County Public Schools assisting teachers with science education.

Contributions to bimonthly workshops and group meetings, development of problem-based lesson plans to promote critical thinking.

Prerequisite: BIL 386.

Components: PRA.

Grading: GRD.

Typically Offered: Fall & Spring.

BIL 491. Departmental Seminar in Biology. 1 Credit Hour.

Research seminars by distinguished biologists.

Components: SEM.

Grading: GRD.

Typically Offered: Fall.

BIL 492. Departmental Seminar in Biology. 1 Credit Hour.

Research seminars by distinguished biologists.

Components: LAB.

Grading: GRD.

Typically Offered: Spring.

BIL 495. Projects in Biology. 2 Credit Hours.

Individual, original laboratory or field research supervised by a member of the department faculty and concluded by a formal written report.

Components: PRA.

Grading: GRD.

Typically Offered: Fall & Spring.

BIL 496. Projects in Biology. 2 Credit Hours.

Individual, original laboratory or field research supervised by a member of the department faculty and concluded by a formal written report.

Components: PRA.

Grading: GRD.

Typically Offered: Fall & Spring.

BIL 497. Projects in Biology. 2 Credit Hours.

Individual, original laboratory or field research supervised by a member of the department faculty and concluded by a formal written report.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

BIL 498. Senior Thesis. 2 Credit Hours.

Formal thesis preparation supervised by a member of the departmental faculty including a public oral defense and submission of the written document to the department.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

BIL 499. Research Colloquium. 1 Credit Hour.

Discussion of current research done by undergraduate students.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

BIL 511. Advanced Biostatistics. 4 Credit Hours.

Statistical analyses needed to understand, present, and publish biological research. Examples will primarily be drawn from the biomedical and ecological fields. The course will begin with a review of descriptive statistics, probability theory, and univariate distributions, followed by an overview of experimental design and analysis of categorical data using contingency tables. This will be followed by a unit on parametric analysis of univariate data including both simple and multiple linear regression, model selection, and analysis of variance. The final unit will cover non-parametric versions of these analyses and more advanced multivariate statistical methods. Lectures will be accompanied by a computer lab in which students learn hands-on statistical analysis in SAS JMP.

Prerequisite: At least one BIL course at the 300 level.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BIL 515. Object-Oriented Programming and Agent-Based Modelling. 3 Credit Hours.

Hands-on training in object-oriented programming using Java, including Java statistical packages, and in the development of agent-based and individual-based simulation models for ecological, physiological, social, economic and physical sciences. Introductions to cellular automata and modes based on social and behavioral networks. No prior programming experience required.

Prerequisite: At least one BIL course at the 200 level.

Components: LEC.

Grading: GRD.

BIL 520. Evolution. 3 Credit Hours.

Evidence for evolution; microevolution including natural selection, kin selection, genetic drift, gene flow, mutation, and evolutionary game theory; macroevolution including speciation, adaptation, phylogenetics, origin of life, and extinction.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 521. Phylogenetics. 3 Credit Hours.

Concepts and methods in phylogenetic systematics. The importance of phylogenetic trees in biology. Use of phylogenies in taxonomy, trait evolution (including homology, adaptations and key innovations), biogeography, speciation, diversification rates, molecular evolution, molecular clocks, and gene duplication.

Prerequisite: BIL 250.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 523. Advanced Biology of Marine Invertebrates. 4 Credit Hours.

Detailed study of major phyla of marine invertebrates. Special emphasis on taxa found in waters off southern Florida. Field course. Lectures, laboratory, special projects, and seminars.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 525. Herpetology. 3 Credit Hours.

Systematics, biogeography, and evolutionary biology of amphibians and reptiles, with emphasis on modern families. Combined lecture and laboratory.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 531. Advanced Field Ecology. 5 Credit Hours.

Principles of and practical experience in quantitative sampling of community structure, plant and animal populations, and animal activities. Emphasis on individual projects. Lecture, 3 hours; laboratory/field, 10 hours on alternate Saturdays, plus research projects.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 535. Molecular Ecology. 3 Credit Hours.

Molecular markers and analyses, and their applications to different problems in biology. Appropriate sampling, methods for assessing genetic diversity and differentiation. Approaches to studying gene flow, tools for behavioral ecology, remote sampling, tracking individuals, and paternity analysis, hybridization and speciation, DNA bar codes, and gene expression from a population biological perspective.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 536. Molecular Ecology Laboratory. 1 Credit Hour.

Laboratory techniques, molecular tools, applications, and analysis methods commonly used by researchers in the areas of molecular ecology and population genetics.

Components: LAB.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 537. Ecosystem Ecology. 3 Credit Hours.

Concepts and models of energy and nutrient flow, food webs, successional processes, human influences and effects of spatial heterogeneity.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 539. Conservation and Protected Areas. 3 Credit Hours.

The science and policy of park planning and management will be explored through four case studies. The case studies will explore key concepts in ecology and population biology relating to loss of habitat, habitat fragmentation, invasive species, pollution and declines in population size.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 551. Population Genetics and Genomics. 3 Credit Hours.

Introduction to population genetics, which examines the evolutionary processes that affect the genetic composition of natural populations: mutation, genetic drift, natural selection, and gene flow. Theoretical and empirical aspects will be examined via mathematical models, methods of measuring genetic variation, and readings of published case studies. Taxonomic focus will be broad and will include both model organisms (e.g., *Drosophila*), and non-model organisms.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 552. Bioinformatics Tools. 3 Credit Hours.

Databases and tools of bioinformatics as relevant to research in genomics and molecular biology. Bioinformatics applications. Information retrieval, analytical tools, BLAST searches, promoter analysis, protein structure- function analysis and various applications.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 553. Biomedical Data Science. 3 Credit Hours.

Computational skills for analysis of genomic data sets. Basics of using a command line interface (text editor, Unix/Linux/iOSX), and logging into and getting started on Pegasus2. Python will be used to write scripts for downloading, manipulating, and analyzing data. File sharing and version control using github will be introduced at this stage, which will include RCR training. Analysis, interpretation, and presentation of Next Generation Sequencing data set (RNAseq, exome, or whole genome; public or their own. Interpreting and presenting results, to enable students to extract information from the data rather than just statistically analyze it.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 554. Electron Microscopy. 4 Credit Hours.

Techniques in transmission electron microscopy (TEM) including tissue preparation, use of the electron microscope, photography, and interpretation of micrographs. Lecture, 1 hour; laboratory, 6 hours.

Components: LAB.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 555. Projects in Electron Microscopy. 2 Credit Hours.

Individual research projects in transmission electron microscopy, 6 hours.

Components: PRA.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 556. Ecological and Evolutionary Genomics. 3 Credit Hours.

The evolution of genomes, and the ecological interactions that drive their evolution.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 559. Life in the Cell. 3 Credit Hours.

A comprehensive, advanced overview of the molecular biology of the cell, cells, and genomes.

Prerequisite: BIL 255.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BIL 565. Evolution and Development. 3 Credit Hours.

Exploration of the relationship between common descent and biological diversity, principally changes in organismal development through time.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 568. Evolution and development of Nervous Systems. 3 Credit Hours.

Mechanisms/pathways/modules underlying formation of the nervous system during embryo development. How some properties of nervous systems have resisted change while others have diverged dramatically during evolution.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 575. Advanced Special Studies in Biology. 1-6 Credit Hours.

Content of course will vary by semester. Content in any semester will be indicated via subtitle in the class schedule.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 580. Writing in Biology. 0 Credit Hours.

Writing instruction by faculty using biological topics in BIL courses offered at the 500 level.

Components: IND.

Grading: SUS.

Typically Offered: Fall & Spring.

BIL 591. Studies in Biology. 1-5 Credit Hours.

Special topics taken at other institutions with no direct equivalents.

Components: LEC.

Grading: GRD.

BIL 592. Studies in Biology. 1-5 Credit Hours.

Special topics taken at other institutions with no direct equivalents.

Components: LEC.

Grading: GRD.

BIL 610. Lab Group Meeting. 1 Credit Hour.

Weekly seminar meeting for discussion of research projects and other academic issues in graduate faculty research laboratories. (Fall semesters)

Components: DIS.

Grading: GRD.

Typically Offered: Fall.

BIL 611. Lab Group Meeting. 1 Credit Hour.

Weekly seminar meeting for discussion of research projects and other academic issues in graduate faculty research laboratories. (Spring semesters)

Components: DIS.

Grading: SUS.

Typically Offered: Spring.

BIL 612. Graduate Core I. 3 Credit Hours.

Foundations of genome structure and how the information encoded in genomes is regulated by intrinsic and extrinsic factors during development and evolution. Major topics include genome structure, gene regulation, cells, development, physiology and EvoDevo.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BIL 613. Graduate Core II. 3 Credit Hours.

Foundations of key ecological and evolutionary theory. Major topics in Ecology include population, community, physiological and ecosystem ecology. Major topics in Evolution include principles of natural selection, speciation, biodiversity, population genetics, neutral theory, molecular evolution, phylogenetics, and systematics.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

BIL 614. Professional Writing and Grantsmanship. 3 Credit Hours.

Elements of argumentative writing, reader-oriented writing strategies, fundability of submitted grants, and techniques for mastering presentation venues such as posters and talks.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 615. Object-Oriented Programming and Agent-Based Modelling. 3 Credit Hours.

Hands-on training in object-oriented programming using Java, including Java statistical packages, and in the development of agent-based and individual-based simulation models for ecological, physiological, social, economic and physical sciences. Course includes introductions to cellular automata and models based on social and behavioral networks. No prior programming experience required.

Prerequisite: At least one BIL course at the 200 level.

Components: LEC.

Grading: GRD.

BIL 618. Advanced Biostatistics. 4 Credit Hours.

This course will provide an overview of statistical analyses needed to understand, present, and publish biological research. Examples will primarily be drawn from the biomedical and ecological fields. The course will begin with a review of descriptive statistics, probability theory, and univariate distributions, followed by an overview of experimental design and analysis of categorical data using contingency tables. This will be followed by a unit on parametric analysis of univariate data including both simple and multiple linear regression, model selection, and analysis of variance. The final unit will cover non-parametric versions of these analyses and more advanced multivariate statistical methods. Lectures will be accompanied by a computer lab in which students learn hands-on statistical analysis in SAS JMP.

Requisite: Graduate Standing.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 620. Evolution. 3 Credit Hours.

Evidence for evolution; microevolution including natural selection, kin selection, genetic drift, gene flow, mutation, and evolutionary game theory; macroevolution including speciation, adaptation, phylogenetics, origin of life, and extinction.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BIL 621. Phylogenetics. 3 Credit Hours.

Concepts and methods in phylogenetic systematics. The importance of phylogenetic trees in biology. Use of phylogenies in taxonomy, trait evolution (including homology, adaptations and key innovations), biogeography, speciation, diversification rates, molecular evolution, molecular clocks, and gene duplication.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 622. Plant Identification in an Evolutionary Context. 3 Credit Hours.

An exploration of the plants in the on-campus Gifford Arboretum as well as other plants that students interact with in their daily environment (foods, beauty products, fibers, medicines, poisons, etc.)

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 623. Advanced Biology of Marine Invertebrates. 4 Credit Hours.

Detailed study of major phyla of marine invertebrates. Special emphasis on taxa found in waters off southern Florida. Field course. Lectures, laboratory, special projects, and seminars.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 625. Advanced Herpetology. 3 Credit Hours.

Systematics, biogeography, and evolutionary biology of amphibians and reptiles, with emphasis on modern families. Combined lecture and laboratory.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 630. Population and Community Ecology: Theory. 3 Credit Hours.

Classical and contemporary theory in population and community ecology including population dynamics, matrix models, life tables, predator-prey models and food webs.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 631. Advanced Field Ecology. 5 Credit Hours.

Principles of and practical experience in quantitative sampling of community structure, plant and animal populations, and animal activities. Emphasis on individual projects. Lecture, 3 hours; laboratory/field, 10 hours on alternate Saturdays, plus research projects.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 632. Population and Community Ecology: Theory II. 3 Credit Hours.

Classical and contemporary theory in population and community ecology including population dynamics, matrix models, life tables, predator-prey models and food webs.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 633. Conservation Biology. 3 Credit Hours.

Challenges facing conservation practitioners and the toolkit that has been developed to face them. Distribution and value of biodiversity, threats to biodiversity, and methods that have been developed to face these threats at both species and landscape levels. Government implementation of conservation strategies.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 634. Stable Isotope Ecology. 3 Credit Hours.

Stable isotope analysis applied to ecological questions such as nutrient cycling, photosynthesis and trophic level studies.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 635. Molecular Ecology. 3 Credit Hours.

Molecular markers and analyses, and their applications to different problems in biology. Appropriate sampling, methods for assessing genetic diversity and differentiation. Approaches to studying gene flow, tools for behavioral ecology, remote sampling, tracking individuals, and paternity analysis, hybridization and speciation, DNA bar codes, and gene expression from a population biological perspective.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 636. Tropical Biology: An Ecological Approach. 8 Credit Hours.

The tropical environment and biota; ecologic relations, communities and evolution in the tropics. Conducted in Costa Rica under the Organization for Tropical Studies. Lecture, laboratory, and fieldwork.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 637. Ecologia de Poblaciones. 7 Credit Hours.

Theory and practice in field study of plant and animal populations in tropical ecosystems. Given in Spanish in Costa Rica under the Organization for Tropical Studies.

Components: DIS.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 638. Tropical Managed Ecosystems. 8 Credit Hours.

Application of ecological principles to problems in agriculture, forestry, conservation and natural resource management in the tropics. Conducted in Costa Rica under the Organization for Tropical Studies.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 639. Ecosystem Ecology. 3 Credit Hours.

Concepts and models of energy and nutrient flow, food webs, successional processes, human influences and effects of spatial heterogeneity.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 641. Animal Behavior. 3 Credit Hours.

Amazing behaviors of animals from an evolutionary perspective, including how the diversity of behavior in nature is shaped by natural and sexual selection.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BIL 649. Seminar in Behavior. 1 Credit Hour.

Discussion of current literature in animal behavior. This course may be repeated for credit.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

BIL 651. Population Genetics and Genomics. 3 Credit Hours.

Population genetics, which examines the evolutionary processes that affect the genetic composition of natural populations: mutation, genetic drift, natural selection, and gene flow. Theoretical and empirical aspects will be examined via mathematical models, methods of measuring genetic variation, and readings of published case studies. Taxonomic focus will be broad and will include both model organisms (e.g., *Drosophila*), and non-model organisms.

Prerequisite: BIL 250 and BIL 255.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 652. Bioinformatics Tools. 3 Credit Hours.

Databases and tools of bioinformatics as relevant to research in genomics and molecular biology. Bioinformatics applications. Information retrieval, analytical tools, BLAST searches, promoter analysis, protein structure- function analysis and various applications.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 653. Bioinformatics Algorithms. 3 Credit Hours.

The complexity of bioinformatics computations. Introduction to Perl and Bioperl. Pattern matching and sequence homology. Genome assembly. Transcription factor binding site recognition and motif finding, gene prediction, phylogeny, micro array analysis, RNA folding, gene design and synthesis.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 654. Electron Microscopy. 4 Credit Hours.

Techniques in transmission electron microscopy (TEM) including tissue preparation, use of the electron microscope, photography, and interpretation of micrographs. Lecture, 1 hour; laboratory, 6 hours.

Components: LAB.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 655. Techniques in Scanning Electron Microscopy. 3 Credit Hours.

Tissue preparation, use of the scanning electron microscope (SEM), photography, and analysis and manipulation of digital images. Lecture 1 hour; laboratory 5 hours.

Components: LAB.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 656. Ecological and Evolutionary Genomics. 3 Credit Hours.

The evolution of genomes, and the ecological interactions that drive their evolution.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 661. High Altitude Biology and Medicine. 3 Credit Hours.

High altitude biology and medicine: Mechanisms of hypoxia resistance influencing the requirement to match oxygen supply and demand throughout the oxygen cascade. Topics draw from genomics, integrated physiology, population genetics, biochemistry, gene expression, evolution, and alpine medicine. Taxonomic examples from the literature will include humans, other mammals, birds, reptiles, amphibians, and fish.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 665. Evolution and Development. 3 Credit Hours.

Exploration of the relationship between common descent and biological diversity, principally changes in organismal development through time.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 668. Evolution and development of Nervous Systems. 3 Credit Hours.

Mechanisms/pathways/modules underlying formation of the nervous system during embryo development. How some properties of nervous systems have resisted change while others have diverged dramatically during evolution.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 675. Advanced Study in Plant or Animal Sciences. 1-6 Credit Hours.

Content of course will vary by semester. Content in any semester will be expressed as course subtitle.

Components: SEM.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

BIL 678. Current Topics in Biological Research - DVP. 1 Credit Hour.

Content will vary by semester. Readings and discussions with eminent scholars temporarily resident in the department's Distinguished Visiting Professor program.

Components: SEM.

Grading: SUS.

Typically Offered: Offered by Announcement Only.

BIL 680. Research Ethics. 0 Credit Hours.

An interdisciplinary graduate course in compliance with The NIH Guide for Grants and Contracts, Vol. 18. No. 45, Dec. 22, 1989. A program in the principles of scientific integrity that forms an integral part of the proposed research training effort.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 689. Nonacademic Careers in Biology. 2 Credit Hours.

Speakers recruited from local biotech companies, conservation organizations, science museums, the National Park Service and Customs as well as invasive species specialists, medical dosimetrists, principals of schools seeking biology teachers, and others will give weekly seminars about their practice of science in their occupations. Following each seminar, students will meet with speakers in an informal setting to discuss the particulars and or prospects of the career in question. The express purpose of this course is to provide students with an idea of the utility of their biology degree in the workplace. Papers or writings that pertain to a particular career will be assigned prior to the seminar so that students will be ready with questions for the speaker.

Prerequisite: BIL 200 or Higher.

Components: DIS.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 711. Advanced Biostatistics. 4 Credit Hours.

Statistical analyses needed to understand, present, and publish biological research. Examples will primarily be drawn from the biomedical and ecological fields. The course will begin with a review of descriptive statistics, probability theory, and univariate distributions, followed by an overview of experimental design and analysis of categorical data using contingency tables. This will be followed by a unit on parametric analysis of univariate data including both simple and multiple linear regression, model selection, and analysis of variance. The final unit will cover nonparametric versions of these analyses and more advanced multivariate statistical methods. Lectures will be accompanied by a computer lab in which students learn hands-on statistical analysis in SAS JMP.

Requisite: Graduate Standing.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BIL 810. Master's Thesis. 1-6 Credit Hours.

The student working on their Master's thesis enrolls for credit, in most departments not to exceed six, as determined by the student's advisor. May be regarded as full time residence.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

BIL 820. Research in Residence - Master's Thesis. 1 Credit Hour.

Used to establish research in residence for the thesis for the Master's degree after the student has enrolled for the permissible cumulative total in BIL810 (usually six credits). Credit not granted. May be regarded as full time residence.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

BIL 830. Doctoral Dissertation. 1-12 Credit Hours.

Required of all candidates for the Ph.D. The student will enroll for credit as determined by their advisor. Not more than 12 credits of BIL830 may be taken in a regular semester, nor more than six credits in a summer session. May be regarded as full time residence.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

BIL 840. Post-Candidacy Doctoral Dissertation. 1-12 Credit Hours.

Required of all candidates for the Ph.D. who have advanced to candidacy. The student will enroll for credit as determined by their advisor. Not more than 12 credits of BIL840 may be taken in a regular semester, nor more than six credits in a summer session. May be regarded as full time residence.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

BIL 850. Research in Residence. 1 Credit Hour.

Used to establish research in residence for the Ph.D., after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. May be regarded as full time residence.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

Biomedical Engineering (BME)

BME 100. Introduction to Biomedical Engineering for Summer Scholars. 3 Credit Hours.

This introductory course is designed to expose high school students to biomedical engineering. The program is designed for the exemplary high school student interested in applied mathematics and science. The students will be provided with an understanding and some hands-on experience on topics relative to the discipline of Biomedical Engineering. The course content changes throughout the 3-week duration and includes topics on lasers, medical imaging, biomaterials, bioelectricity and biomechanics. The students will be able to understand the challenges associated with the design, testing and FDA clearance of biomedical devices and the importance of the scientific methods in engineering. The laboratory and field trip experiences will deal with the design and testing of a bioelectric device. Summer Scholar Students only.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

BME 111. Introduction to Engineering I. 3 Credit Hours.

Use of engineering tools for problem solving are discussed. Topics include the use of computer techniques for data acquisition, analysis, presentation, software design, computer aided drafting, and development of design skills through several design and building competitions. Introduction to professional ethics and intellectual property rights, the use of MATLAB, AutoCAD, and programming in C++.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BME 112. Introduction to Biomedical Engineering. 2 Credit Hours.

Introduction to Engineering II provides an introduction to biomedical engineering analysis, design, and manufacturing processes. Ethics, Regulatory Factors, and Biomedical Design Tools (mechanical, electrical, and computer tools) are introduced. Students will also be given lectures from both Biomedical Engineering researchers and industrial professionals concerning their experiences and the current trends within the field. Hands on experience is provided.

Prerequisite: BME 111.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

BME 211. Introduction to Programming for Biomedical Engineers. 3 Credit Hours.

This course will provide a comprehensive introduction to programming using MATLAB. The students will learn MATLAB functions for importing, analyzing, visualizing and exporting data, numerical computation, modeling and solving biomedical engineering problems.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BME 265. Medical Systems Physiology. 3 Credit Hours.

Human physiological processes from a bioengineering and medical point of view. Pertinent aspects of anatomy, biophysics, biochemistry, and disease mechanisms are also included.

Prerequisite: BIL 150. And CHM 111.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

BME 266. Human Physiology Laboratory. 1 Credit Hour.

This course provides a series of laboratory experiments to assist students to learn human physiology through noninvasive measurements by using the Powerlab Physiology Data Acquisition station. Following introductory lectures in the lab, students will assemble measurement probes, connect different devices, collect data under normal and stimulating conditions, and perform data analysis. Lab report is required for each experiment.

Prerequisite: Or Corequisite: BME 265.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BME 302. Cellular Engineering. 3 Credit Hours.

Cellular engineering addresses issues related to understanding and manipulating cell structure-function relationships. This course is intended to bridge between cell biologists and engineers, to understand quantitatively cell biological aspects. Central to biomaterial and tissue engineering is our use of cells and our understanding of their interactions with their environment. It is important to understand how cells respond to external signals from their substrata or their milieu, how they move, and what they need in order to perform their desired function. Students are provided with an introduction to engineering principles and modeling at the cellular level. Of particular interest are cytomechanics, receptor/ligand binding, genetic engineering, enzyme kinetics, and metabolic pathway engineering.

Prerequisite: BIL 150. And CHM 111.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BME 303. Cell Engineering Lab. 1 Credit Hour.

The principles of cell engineering will be presented in a hands-on laboratory experience. General techniques learned will include sterile methods, cell culture techniques, cell imaging, DNA cloning and cell transfection, microcontact printing. Cell engineering topics include cell cycle/metabolism, adhesion, signal transduction, and assessment and fabrication of 2D culture substrates.

Prerequisite: BIL 150 and BIL 151.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

BME 305. Biomedical Technology. 3 Credit Hours.

Non-mathematical introduction to technical and clinical aspects of biomedical engineering. Biomedical signals and instrumentation, sensors, transducers, physiological measurements, laboratory instrumentation, implants, cardiac assist devices, radiology, ultrasound, CT, MRI, transmission, and scanning electron microscopy. Field trips to clinical and research laboratories are included. Open only to non-BME students.

Prerequisite: BIL 150 and CHM 111.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

BME 310. Mathematical Analysis in Biomedical Engineering. 3 Credit Hours.

Mathematical modeling of physiological and other biomedical engineering systems and devices. Basic engineering principles and mathematical tools are covered for rigorous understanding of physiological regulation and control in biosystems.

Prerequisite: MTH 311.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BME 311. MATLAB for Biomedical Engineers. 1 Credit Hour.

Laboratory course for applications of Matlab in biomedical engineering. Upon the completion of this course, students will be able to write Matlab scripts to solve engineering problems and perform basic analysis and processing of biomedical signals. The course includes Matlab programming environment; Matlab variables; FOR, IF and WHILE statements, plotting and advance graphics, user defined functions, symbolic computation, data file management and graphical user interfaces. The course concludes with a final project focused in biomedical applications.

Prerequisites: ECE 118 and BME 310. Or Corequisite: BME 310.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

BME 312. Biomedical Statistics and Data Analysis. 3 Credit Hours.

The course will provide a comprehensive introduction to biostatistical models and methods, with applications in clinical trials research, observational studies, physiology, genomics and public health. Various examples will be solved using MATLAB and the results will be compared and discussed. A brief introduction to R will be provided.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BME 320. The Evolution of Technology. 3 Credit Hours.

Organized and taught by an interdisciplinary team, this innovative course is designed for juniors and seniors. An experimental elective, the course uses multimedia to explore the ways in which innovation is driven by the needs of society and individuals, and nurtured by improvements in tools and production. Five broad subject areas will receive special attention: survival, communication, transportation, entertainment and medicine.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

BME 330. Foundations of Medical Imaging. 3 Credit Hours.

Physical and biological principles of medical imaging, including ultrasound, X-ray, nuclear, magnetic resonance, electrical impedance and optical imaging. Propagation and interaction of ultrasonic waves, light waves, X-ray photons, and nuclear radiation in hard and soft biological tissue.

Corequisite: BME 310.

Prerequisite: PHY 206. And PHY 207. Or Pre/Corequisite: BME 310.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BME 335. Biomaterials. 3 Credit Hours.

Introduction to the field of Biomaterials. Review of materials science for four main types of biomaterials: ceramics, metals, polymers, and composites. Lectures on special topics given by guest lecturers who are active in their specific areas, under supervision of the instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BME 375. Fundamentals of Biomechanics. 3 Credit Hours.

Application of solid and fluid mechanics to describe the mechanical behavior of human motion, mechanical behavior of soft and hard biological tissues, cells and biofluids. Review of fundamental concepts and techniques of mechanics (stress, strain, constitutive relations). Focus on mechanical properties of specific tissues, including tendon, skin, smooth muscle, heart muscle, cartilage, and bone. Cellular and biofluid mechanics will be presented.

Prerequisite: MTH 311. And PHY 205.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BME 395. Undergraduate Research in Biomedical Engineering. 1-3 Credit Hours.

Research and/or design projects consisting of an individual investigation of current problems. Offered by special arrangement only.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

BME 399. Cooperative Education. 1 Credit Hour.

Practical application of classroom theory through alternating semester or summer employment with firms offering positions consistent with the student's field of study. May be repeated.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

BME 401. Biomedical Design. 3 Credit Hours.

Introduction to the clinical problem-based design for undergraduate biomedical engineering students. Focus will be on need identification, concept generation, prototype development and testing.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BME 402. Senior Design I. 2 Credit Hours.

This course deals with the introduction phase of an individual or group project for seniors. Need identification, screening, technical and economic feasibility, proof of concept development and killer experiment will be performed by students working on teams. Scheduled individual or group report presentations are required.

Prerequisite: BME 401.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BME 403. Senior Design II. 1 Credit Hour.

This course deals with the completion phase of an individual or group project for seniors. Concepts on projects related to the hypotheses/testing protocols, design limitations (constraints), and validation of the design in Biomedical Engineering will be discussed. Scheduled individual or group report presentations are required.

Prerequisite: BME 402.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BME 440. Biomedical Measurements. 4.00 Credit Hours.

Introduction to the principles of measurements in physiological and biological systems, as well as a discussion of measurable parameters, transducers, sensors, signal conditioning, and processing. Laboratory experiments are conducted in parallel with the course.

Prerequisite: ECE 201. And ECE 204.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BME 450. Biomedical Transport Phenomena. 3 Credit Hours.

Fundamentals of transport phenomena in biological systems including diffusion, osmosis, convection, electrophoresis, and transport with binding. Applications to cell electrophysiology and drug delivery. Introduction to physiological fluid flow in tissues.

Prerequisite: BME 310.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BME 460. Introduction to Physiological Fluid Mechanics. 3 Credit Hours.

The role of transport processes in biological systems, mathematical modeling of physiological fluid transport, conservation of mass and momentum rheology of blood flow in large and small vessels, approximation methods for the analysis of complex physiological flow, fluid flow in the circulation and tissue. Basic engineering principles and mathematical tools are covered for rigorous understanding of physiological fluid flow.

Prerequisite: BME 310 and PHY 206.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

BME 470. Biomedical Signal Analysis. 3 Credit Hours.

Time and frequency description, analysis and processing of biophysical and physiological signals. This course covers analytical and computational tools for measuring, manipulating and interpreting signals fundamental to biomedical engineering. Fourier analysis, Fourier transform, data acquisition, averaging, digital filter design, discrete Fourier transform, correlation, convolution, coherence are discussed.

Prerequisite: BME 211.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BME 480. Biomedical Instrumentation. 3 Credit Hours.

Analysis and design of systems and electronic circuits in biomedical instrumentation including modeling and simulation of dynamic measurement systems and implementation of analog signal processing. The functional principles, operation, clinical context and technological trends of medical instrumentation systems used in clinical and research applications will be discussed.

Prerequisite Or Corequisite: BME 440.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BME 506. Computer Aided Design in Biomedical Engineering. 1 Credit Hour.

Laboratory course for computer based two and three dimensional drawing and design based on ProEngineer. Parametric design, parts, features, assemblies for complex modeling. Applications in biomedical engineering design.

Prerequisite: BME 112. And BME 211.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

BME 507. LabView Applications for Biomedical Engineering. 1 Credit Hour.

Laboratory course for computer based instrumentation and design based on Labview. Virtual instrumentation, data acquisition and display, GPIB instrument control, biomedical applications in biosignal recording, and monitoring are discussed.

Prerequisite: BME 112. And BME 211.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

BME 510. Introduction to Medical Robotics. 3 Credit Hours.

This course will discuss the basic principles of robotics and focus on its medical applications. The course integrates previously learned math, programming and imaging knowledge into an application platform to enable students to understand fundamentals of robotics methods in biology and medicine and to train students to build a robotics prototype through hands-on projects.

Prerequisite: BME 211. And BME 310. And BME 330.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BME 512. Regulatory Control of Biomedical Devices. 3 Credit Hours.

Regulatory agencies and requirements, Food and Drug Administration, 510(k) and premarket approval (PMA), international regulatory requirements, ISO 9000 series, CE, UL, product and process validation, quality engineering, quality improvement programs, rapid prototyping, packaging and sterilization, and project management are discussed.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

BME 513. Biomedical Systems Engineering. 3 Credit Hours.

This course provides students with an understanding and appreciation of Biomedical Systems Engineering with emphasis on current day industrial project management and product development processes. The components of Systems Engineering to be presented include: functional system analysis, requirements analysis, translation of functions and requirements into a system and product architecture, and, finally, testing methods to verify the biomedical product meets all design requirements. Decision methodology, alternative concept analysis, trade-off studies, integration of human factors, manufacturability, reliability, maintainability, feasibility demonstration, and safety are all addressed as part of the product design system. The entire product development life cycle will be analyzed with relevant concepts from initial market evaluation, to requirement development, through final product manufacturing and product launch. The regulatory environment for biomedical devices will also be presented for both US FDA and international compliance. The lectures will provide detailed notes on the subjects; other articles as handouts or additional readings will also be assigned.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BME 520. Medical Imaging System. 3 Credit Hours.

Engineering and scientific principles of medical imaging systems. The concepts of instrumentation and diagnostic applications of different techniques and systems are presented. Demonstrations or exhibitions of medical systems are given in the visits to clinic and research laboratories. Topics include digital image and image processing fundamentals, radiographic (X-ray, CT), magnetic resonance (MRI) and radio-isotopic (PET) systems, and associated image reconstruction techniques. Basic concepts and simulation of imaging systems are emphasized.

Prerequisite: ECE 201. And BME 211. And BME 330. Or Corequisite: BME 470.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BME 521. Medical Imaging Applications. 3 Credit Hours.

Medical applications of imaging systems and image processing techniques. Topics include image fundamentals (resolution, format, and storage), image processing fundamentals (transformation, compression, enhancement, segmentation, registration, and reconstruction), and image analysis fundamentals (calibration, quantification, correlation, linearity and depiction). Course includes dedicated computer laboratory projects and demonstrations given in clinical and research laboratories at the medical campus. Corequisite: BME 570 or equivalent.

Prerequisite: BME 211. And BME 330. Or Corequisite: BME 470.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BME 522. Scanning Electron Microscopy for Engineers. 3 Credit Hours.

Physics of transmission and scanning electron microscopy including x-ray spectroscopic analysis. Students will learn to independently operate and use the SEM for imaging in its role in research and engineering. Each student will be responsible for several imaging assignments and an independent research project related to their field of interest.

Components: LAB.

Grading: GRD.

Typically Offered: Spring.

BME 525. Special Problems. 1-3 Credit Hours.

Research and/or design projects consisting of an individual investigation of current problems. Offered by special arrangement only.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

BME 526. Special Problems. 1-3 Credit Hours.

Research and/or design projects consisting of an individual investigation of current problems. Offered by special arrangement only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BME 535. Advanced Biomaterials. 3 Credit Hours.

Applications of biomaterials in different tissue and organ systems. Relationship between physical and chemical structure of materials and biological system response are discussed as well as choosing, fabricating, and modifying materials for specific biomedical applications.

Prerequisite: BME 335.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

BME 540. Microcomputer-Based Medical Instrumentation. 3 Credit Hours.

Principles and design of microcomputer-based biomedical instruments, analog and digital signal conversion, microcomputer hardware and software design, algorithm development for medical applications, medical signal processing with microcomputers, software safety in life support systems, and current applications are discussed.

Prerequisite: ECE 315. And ECE 304. Or ECE 211.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BME 541. Medical Electronic Systems Laboratory. 2 Credit Hours.

Laboratory course for BME 540/640. Design of medical instruments integrated with microcomputers and telemetry devices.

Pre/Corequisite: BME 540. Or BME 640.

Components: LAB.

Grading: GRD.

Typically Offered: Spring.

BME 545. Biomedical Optical Instruments. 3 Credit Hours.

Introduction to geometrical optics, light sources, detectors, and fiber optics with an emphasis on engineering aspects and medical applications. Fiber-optic delivery systems for medical applications, optics of the eye and visual instruments, and optical instruments used in medicine (microscopes, endoscopes, ophthalmic instruments) are discussed. Hands-on sessions in the laboratory are included.

Prerequisite: PHY 206. And PHY 207. And MTH 311.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BME 546. Medical Applications of Lasers. 3 Credit Hours.

Review of geometrical optics, fiber optics, wave optics, laser physics, and technology. Medical laser systems, optical properties of tissue, light propagation in tissue, laser-tissue interactions, and surgical applications of lasers are also covered. Hands-on sessions in the laboratory are included.

Prerequisite: PHY 206. And PHY 207. And MTH 311.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

BME 555. Fundamentals of Computational Neuroscience. 3 Credit Hours.

Major concepts include neural signaling and communication from the single neuron to system of neural ensembles and the role of neural computation in engineering applications. Theory and principles of information processing in the brain are presented. Experimental data and computer simulations are used to provide real examples for students experimentation.

Prerequisite: BME 265 and Corequisite: BME 470.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

BME 565. Principles of Cellular and Tissue Engineering. 3 Credit Hours.

Introduction to cellular and tissue engineering. Current therapeutic approaches for lost/damaged tissue or organ function, tissue engineering strategies to replace/repair tissue or function: infusion of cells, production and delivery of tissue-inducing substances, cells placed on or within biomaterial scaffolds, examples of tissue engineering applications: skin, heart muscle, blood vessels, and blood.

Prerequisite: BME 302. And BME 335.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BME 566. Cell and Tissue Engineering Laboratory. 1 Credit Hour.

The principles of cell and tissue engineering will be presented in a hands-on laboratory experience. General techniques learned will include sterile methods, cell culture techniques and integration of cells within biomaterials. Cell engineering topics include cell cycle/metabolism, adhesion, signal transduction, and assessment. Tissue engineering topics include fabrication, biomaterials/scaffolds and cell integration, and functional assessment. Pre/Corequisite: BME 565 Or BME 302.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

BME 567. Tissue Engineering Lab. 1 Credit Hour.

The principles of tissue engineering will be presented in a hands-on laboratory experience. General techniques learned will include hydrogel spectroscopy analysis, swelling tests, permeability tests, rheological tests, cell culture techniques, cell imaging, cell culture in hydrogels. Cell & Tissue engineering topics include cell cycle/metabolism, adhesion, biomaterials synthesis and characterization, biocompatibility.

Prerequisite: BME 302 and BME 303. And Corequisite: BME 335 or BME 565.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

BME 570. Advanced Biomedical Signal Processing. 3 Credit Hours.

This course provides an overview of advanced topics in biomedical signal processing with an emphasis on practical applications. Topics include quantitative description, analysis, on-line and real-time processing of biophysical and physiological signals (cardiovascular, neural, sensory, muscular, respiratory and other) using adaptive, learning, pattern recognition and data dimension reduction methods.

Prerequisite: BME 470.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

BME 571. Introduction to Biosignal Processing Lab. 1 Credit Hour.

Laboratory course in conjunction with BME 570 course. Corequisite: BME 570.

Prerequisite: BME 570. Or Corequisite: BME 570.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

BME 575. Biomechanics II. 3 Credit Hours.

Applications of linear and nonlinear viscoelastic concepts to the biomedical characteristics of biological tissues and structures at small and large deformations of blood flow, experimental methods of analysis, artificial organs, and life-support systems.

Prerequisite: BME 375. And BME 310.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BME 581. Radiation Biology and Physics. 3 Credit Hours.

The principles, methods, and results of radiation biology with physics applications in radiation therapy will be introduced in the course. The course will focus on mechanisms of radiation and biological system interaction, biological aspects of the foundation of radiation therapy, and mathematical models for radiobiological analysis.

Prerequisite: BME 265.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BME 582. Radiation Therapy Physics. 3 Credit Hours.

The principles and instrumentation of radiation dosimetry with focus on the applications in radiation therapy will be introduced in this course. The course will emphasize radiation dose computation algorithms and applications in treatment dose planning. The course will also cover a categorized dosimetric analysis of radiation therapy to different clinical conditions.

Prerequisite: BME 310. Or Pre/Corequisite: BME 581.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

BME 583. Radiation Protection. 3 Credit Hours.

This course covers radiation safety principles for all areas of clinical medical physics, including regulatory requirements for personnel, equipment and facilities and detailed structural shielding design requirements for medical facilities. The student will become proficient in practical aspects of radiation safety objectives and regulatory requirements in clinical practice, including those for patients, members of the general public and staff. Students will learn the principles for designing and installing structural shielding in clinical facilities that satisfies both regulatory requirements and clinical needs.

Prerequisite: BME 581. Or Pre/Corequisite: BME 582.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BME 587. Finite Element Analysis for Engineers. 3 Credit Hours.

Introduction to the finite-element method. Hands-on applications of FEMLAB software to the analysis of structural, thermal, chemical, electromagnetic, optical, and fluid flow problems.

Prerequisite: MTH 311.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BME 599. Cooperative Education.. 1 Credit Hour.

Practical application of classroom theory through alternating semester or summer employment with firms offering positions consistent with the student's field of study. Course may be repeated. Periodic reports and conferences are required.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BME 601. Unified Medical Sciences I. 3 Credit Hours.

Treatment of the basic biological and medical elements in physiological systems. The anatomy, physiology, biophysics, biochemistry and certain aspects of clinical medicine are unified with an emphasis on cellular and subcellular systems. Not open to BME undergraduates.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BME 602. Unified Medical Sciences II. 3 Credit Hours.

Treatment of the basic biological and medical elements in physiological systems. The anatomy, physiology, biophysics, biochemistry, and certain aspects of clinical medicine are unified with an emphasis on cardiovascular, renal, digestive, endocrine, and reproductive systems. Not open to BME undergraduates.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BME 603. Unified Medical Science III. 3 Credit Hours.

Treatment of the basic biological and medical elements in physiological systems. The anatomy, physiology, biophysics, biochemistry, and certain aspects of clinical medicine are unified with an emphasis on neural, sensory, and muscular systems. Not open to BME undergraduates.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

BME 606. Computer Aided Design in Biomedical Engineering. 1 Credit Hour.

Laboratory course for computer based two and three dimensional drawing and design based on ProEngineer. Parametric design, parts, features, assemblies for complex modeling. Applications in biomedical engineering design.

Prerequisite: BME 112. And BME 211.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

BME 607. LabView Applications for Biomedical Engineering. 1 Credit Hour.

Laboratory course for computer based instrumentation and design based on Labview. Virtual instrumentation, data acquisition and display, GPIB instrument control, biomedical applications in biosignal recording, and monitoring are discussed.

Prerequisite: BME 112. And BME 211.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

BME 610. Introduction to Medical Robotics. 3 Credit Hours.

This course will discuss the basic principles of robotics and focus on its medical applications. The course integrates previously learned math, programming and imaging knowledge into an application platform to enable students to understand fundamentals of robotics methods in biology and medicine and to train students to build a robotics prototype through hands-on projects.

Prerequisite: BME 211. And BME 310. And BME 330.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BME 612. Regulatory Control of Biomedical Devices. 3 Credit Hours.

Regulatory agencies and requirements, Food and Drug Administration, 510(k) and premarket approval (PMA), international regulatory requirements, ISO 9000 series, CE, UL, product and process validation, quality engineering, quality improvement programs, rapid prototyping, packaging and sterilization, and project management are discussed.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

BME 613. Biomedical Systems Engineering. 3 Credit Hours.

This course provides students with an understanding and appreciation of Biomedical Systems Engineering with emphasis on current day industrial project management and product development processes. The components of Systems Engineering to be presented include: functional system analysis, requirements analysis, translation of functions and requirements into a system and product architecture, and, finally, testing methods to verify the biomedical product meets all design requirements. Decision methodology, alternative concept analysis, trade-off studies, integration of human factors, manufacturability, reliability, maintainability, feasibility demonstration, and safety are all addressed as part of the product design system. The entire product development life cycle will be analyzed with relevant concepts from initial market evaluation, to requirement development, through final product manufacturing and product launch. The regulatory environment for biomedical devices will also be presented for both US FDA and international compliance. The lectures will provide detailed notes on the subjects; other articles as handouts or additional readings will also be assigned.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BME 620. Medical Imaging System. 3 Credit Hours.

Engineering and scientific principles of medical imaging systems. The concepts of instrumentation and diagnostic applications of different techniques and systems are presented. Demonstrations or exhibitions of medical systems are given in the visits to clinic and research laboratories. Topics include digital image and image processing fundamentals, radiographic (X-ray, CT), magnetic resonance (MRI) and radio-isotopic (PET) systems, and associated image reconstruction techniques. Basic concepts and simulation of imaging systems are emphasized.

Prerequisite: ECE 201. And BME 211. And BME 330. Or Corequisite: BME 470.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BME 621. Medical Imaging Applications. 3 Credit Hours.

Medical applications of imaging systems and image processing techniques. Topics include image fundamentals (resolution, format, and storage), image processing fundamentals (transformation, compression, enhancement, segmentation, registration, and reconstruction), and image analysis fundamentals (calibration, quantification, correlation, linearity and depiction). Course includes dedicated computer laboratory projects and demonstrations given in clinical and research laboratories at the medical campus. Corequisite: BME 570 or equivalent.

Prerequisite: BME 211. And BME 330. Or Corequisite: BME 470.

Components: LEC.

Grading: GRD.

BME 622. Scanning Electron Microscopy for Engineers. 3 Credit Hours.

Physics and operating principles of scanning electron microscope (SEM), transmission electron microscope (TEM), and optical light microscope. Biological tissue preparation, storage, fixation and digital image storage. Each student will learn to use the SEM in the design and/or analysis of a biomedical device.

Components: LAB.

Grading: GRD.

Typically Offered: Spring.

BME 625. Special Problems. 1-3 Credit Hours.

Research and/or design projects consisting of an individual investigation of current problems. Offered by special arrangement only.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

BME 626. Special Problems. 1-3 Credit Hours.

Research and/or design projects consisting of an individual investigation of current problems. Offered by special arrangement only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BME 635. Advanced Biomaterials. 3 Credit Hours.

Applications of biomaterials in different tissue and organ systems. Relationship between physical and chemical structure of materials and biological system response are discussed as well as choosing, fabricating, and modifying materials for specific biomedical applications.

Prerequisite: BME 335.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

BME 640. Microcomputer-Based Medical Instrumentation. 3 Credit Hours.

Principles and design of microcomputer-based biomedical instruments, analog and digital signal conversion, microcomputer hardware and software design, algorithm development for medical applications, medical signal processing with microcomputers, software safety in life support systems, and current applications are discussed.

Prerequisite: ECE 315. And ECE 304. Or ECE 211.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BME 641. Medical Electronic Systems Laboratory. 2 Credit Hours.

Laboratory course for BME 540. Design of medical instruments integrated with microcomputers and telemetry devices.

Pre/Corequisite: BME 540. Or BME 640.

Components: LAB.

Grading: GRD.

Typically Offered: Spring.

BME 645. Biomedical Optical Instruments. 3 Credit Hours.

Introduction to geometrical optics, light sources, detectors, and fiber optics with an emphasis on engineering aspects and medical applications. Fiber-optic delivery systems for medical applications, optics of the eye and visual instruments, and optical instruments used in medicine (microscopes, endoscopes, ophthalmic instruments) are discussed. Hands-on sessions in the laboratory are included.

Prerequisite: PHY 206. And PHY 207. And MTH 311.

Components: LEC.

Grading: GRD.

BME 646. Medical Applications of Lasers. 3 Credit Hours.

Review of geometrical optics, fiber optics, wave optics, laser physics, and technology. Medical laser systems, optical properties of tissue, light propagation in tissue, laser-tissue interactions, and surgical applications of lasers are also covered. Hands-on sessions in the laboratory are included.

Prerequisite: PHY 206. And PHY 207. And MTH 311.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

BME 655. Fundamentals of Computational Neuroscience. 3 Credit Hours.

Major concepts include neural signaling and communication from the single neuron to system of neural ensembles and the role of neural computation in engineering applications. Theory and principles of information processing in the brain are presented. Experimental data and computer simulations are used to provide real examples for students experimentation.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

BME 665. Principles of Cellular and Tissue Engineering. 3 Credit Hours.

Introduction to cellular and tissue engineering. Current therapeutic approaches for lost/damaged tissue or organ function, tissue engineering strategies to replace/repair tissue or function: infusion of cells, production and delivery of tissue-inducing substances, cells placed on or within biomaterial scaffolds, examples of tissue engineering applications: skin, heart muscle, blood vessels, and blood.

Prerequisite: BME 302. And BME 335.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BME 666. Cell and Tissue Engineering Laboratory. 1 Credit Hour.

The principles of cell and tissue engineering will be presented in a hands-on laboratory experience. General techniques learned will include sterile methods, cell culture techniques and integration of cells within biomaterials. Cell engineering topics include cell cycle/metabolism, adhesion, signal transduction, and assessment. Tissue engineering topics include fabrication, biomaterials/scaffolds and cell integration, and functional assessment. Pre/Corequisite: BME 565. Or BME 665. Or BME 302.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BME 667. Tissue Engineering Lab. 1 Credit Hour.

The principles of tissue engineering will be presented in a hands-on laboratory experience. General techniques learned will include hydrogel spectroscopy analysis, swelling tests, permeability tests, rheological tests, cell culture techniques, cell imaging, cell culture in hydrogels. Cell & Tissue engineering topics include cell cycle/metabolism, adhesion, biomaterials synthesis and characterization, biocompatibility.

Co-requisite: BME 635 or BME 665.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

BME 670. Advanced Biomedical Signal Processing. 3 Credit Hours.

This course provides an overview of advanced topics in biomedical signal processing with an emphasis on practical applications. Topics include quantitative description, analysis, on-line and real-time processing of biophysical and physiological signals (cardiovascular, neural, sensory, muscular, respiratory and other) using adaptive, learning, pattern recognition and data dimension reduction methods.

Prerequisite: BME 470.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

BME 671. Introduction to Biosignal Processing Lab. 1 Credit Hour.

Laboratory course in conjunction with BME 570 course. Corequisite: BME 570.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BME 675. Biomechanics II. 3 Credit Hours.

Applications of linear and nonlinear viscoelastic concepts to the biomedical characteristics of biological tissues and structures at small and large deformations of blood flow, experimental methods of analysis, artificial organs, and life-support systems.

Prerequisite: BME 375. And BME 310.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BME 681. Radiation Biology and Physics. 3 Credit Hours.

The principles, methods, and results of radiation biology with physics applications in radiation therapy will be introduced in the course. The course will focus on mechanisms of radiation and biological system interaction, biological aspects of the foundation of radiation therapy, and mathematical models for radiobiological analysis. Corequisite or prerequisite: BME 502 or permission of instructor.

Corequisite: BME 602.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BME 682. Radiation Therapy Physics. 3 Credit Hours.

The principles and instrumentation of radiation dosimetry with focus on the applications in radiation therapy will be introduced in this course. The course will emphasize radiation dose computation algorithms and applications in treatment dose planning. The course will also cover a categorized dosimetric analysis of radiation therapy to different clinical conditions.

Prerequisite: BME 310. Or Pre/Corequisite: BME 681.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BME 683. Radiation Protection. 3 Credit Hours.

This course covers radiation safety principles for all areas of clinical medical physics, including regulatory requirements for personnel, equipment and facilities and detailed structural shielding design requirements for medical facilities. The student will become proficient in practical aspects of radiation safety objectives and regulatory requirements in clinical practice, including those for patients, members of the general public and staff. Students will learn the principles for designing and installing structural shielding in clinical facilities that satisfies both regulatory requirements and clinical needs.

Prerequisite: BME 681. Or Pre/Corequisite: BME 682.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BME 687. Finite Element Analysis for Engineers. 3 Credit Hours.

Introduction to the finite-element method. Hands-on applications of FEMLAB software to the analysis of structural, thermal, chemical, electromagnetic, optical, and fluid flow problems.

Prerequisite: MTH 311.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BME 699. Cooperative Education.. 1 Credit Hour.

Practical application of classroom theory through alternating semester or summer employment with firms offering positions consistent with the student's field of study. Course may be repeated. Periodic reports and conferences are required.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BME 702. Organs on Chips. 3 Credit Hours.

This course provides a comprehensive introduction to engineering the living and non-living components of cellular systems in a dish. The first part of the course will focus on cell source, with an emphasis on human stem cell acquisition and differentiation. The second part of the course will focus on biomaterials and methods for engineering tissues. The final portion of the course will be a survey of tissue engineering in the clinic today and existing "Organ on Chip" platforms. Throughout the course, laboratory principles will be discussed, including cell culture and gene editing. Most of the assigned reading will be recent primary literature articles.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

BME 705. Master's Design Project I. 3 Credit Hours.

Comprehensive M.S. design project in biomedical engineering. Open to students in the BS/MS and MS programs.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

BME 706. Master's Design Project II. 3 Credit Hours.

Comprehensive M.S. design project in biomedical engineering. Open to students in the BS/MS.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

BME 711. Accelerated Basic Science Curriculum. 1-9 Credit Hours.

Beginning in the latter part of June each year, extending to the middle of February of the ensuing year, the following accelerated and intensive complete basic science medical curriculum is offered: Embryology, Gross Anatomy, Histology, Biochemistry, Neuroanatomy, Biophysics and Neurophysiology, Systematic Physiology, Pathology, Medical Microbiology, and Pharmacology. A single grade will be entered on the graduate transcript for this course. MD-PhD Students Only

Components: LEC.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

BME 713. Application of Computers in Medicine. 3 Credit Hours.

Applications in the clinical and medical research laboratories for physiological data acquisition, analysis, and management of patient records. Differences among computer systems and languages for clinical and research activities are also covered.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BME 722. Scanning Electron Microscopy Special Projects. 3 Credit Hours.

An advanced course for graduate students with basic skills in SEM. Course is open only to masters or Ph.D. students. Students will have an opportunity to do independent research under supervision of the instructor on special projects of interest that may be related to their field of study as long as it is not part of their thesis or dissertation.

Prerequisite: BME 522 Or BME 622.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BME 723. Neurosensory Engineering. 3 Credit Hours.

Biophysics of neural communication, quantitative electroencephalography and evoked potentials, sleep, seizure, anesthesia and intraoperative monitoring, neural stimulation, artificial and biological neural networks, cochlear and visual implants, brain and muscle stimulation.

Prerequisite: BME 603. And BME 570. Or BME 670.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BME 724. Neuromotor Engineering. 3 Credit Hours.

Advances in Neural Engineering have led to improved medical-device designs with novel functions. This course focuses on the engineering approaches, R&D advances, and the technical principles of NeuroMotor medical implants. Neural Engineering theory and applications from the perspectives of electronics design, neural signal analysis, and neurophysiology will be covered.

Prerequisite: BME 603.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BME 725. Special Problems. 1-3 Credit Hours.

Research and/or design projects through an individual investigation of current problems. Offered by special arrangement only.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

BME 726. Special Problems. 1-3 Credit Hours.

Research and/or design projects through an individual investigation of current problems. Offered by special arrangement only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BME 728. Advanced Topics. 1-3 Credit Hours.

Subject matter offerings based upon student demand and availability of faculty. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title "Advanced Topics".

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BME 729. Advanced Medical Imaging. 3 Credit Hours.

Analysis of contemporary medical imaging systems and the associated technologies. The course focuses on principles of advanced medical imaging systems. Topics include multimodality imaging, three-dimensional image reconstruction and visualization, clinical and research applications, and derivation and comparison of algorithms.

Prerequisite: BME 620.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

BME 731. Advanced Topics. 1-3 Credit Hours.

Subject matter offerings based upon student demand and availability of faculty. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title "Advanced Topics."

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BME 732. Advanced Topics. 1-3 Credit Hours.

Subject matter offerings based upon student demand and availability of faculty. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title "Advanced Topics."

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BME 735. Auditory and Visual Neural Systems. 3 Credit Hours.

Design and application of auditory and visual neural systems and devices for medical purposes. Methodologies and instrumentation using electrophysiological, psychophysical and other measurements are explored focusing on diagnostic and therapeutic applications.

Prerequisite: BME 603.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BME 740. Implantable Biomedical Devices. 3 Credit Hours.

Development and advances in implantable materials and devices especially those used as electrically driven prostheses. Topics include pacemakers, defibrillators, catheters, neurological stimulators, heart assist, bone repair, and other diagnostic and therapeutic devices. The historical, medical significance, business, economic, and technical aspects of these devices and the associated instruments for monitoring are discussed. Fundamentals of electrochemical corrosion and stimulation as well the technology of implantable power sources are reviewed.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BME 745. Biomedical Optical Imaging and Diagnostics. 3 Credit Hours.

Review of geometrical optics, fiber optics, and tissue optics. Introduction to physical optics: interference, diffraction, and polarization; optical imaging resolution limits, super-resolution imaging, advanced optical microscopy, and optical coherence tomography (OCT). Imaging through scattering tissue, imaging and diagnostics with polarized light, fluorescence, infrared, and Raman spectroscopy and applications are also discussed. Optical diagnostics using scattered light: laser Doppler flowmetry, and dynamic light scattering; and opto-chemical and evanescent wave sensors are also covered.

Prerequisite: BME 310.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BME 760. Stem Cell-Based Tissue Engineering. 3 Credit Hours.

Principles and advanced topics on cellular and tissue engineering. Topics include biodegradable and non-biodegradable biomaterials, cytokines, the traditional and stem cell-based tissue engineering approaches, bioreactors and special topics such as bone, cartilage and other tissues.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

BME 761. Stem Cell Design. 3 Credit Hours.

Stem cell engineering is a relatively new field of research that focuses on using stem cells and tissue derived products to repair damaged or diseased tissues. This course will examine through the most recent publications the role of stem cells and tissue derived donors for tissue repair, wound healing, and as well as regeneration/repair. In addition, we will highlight the use of engineered products developed from tissue banks associated with the different type of cells for clinical application. The course will use a mix of lectures/article presentations and discussion format to effectively present relevant information.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

BME 779. Biomedical Engineering Seminar Series. 1 Credit Hour.

A course for Biomedical Engineering doctoral students. Students will attend lectures and roundtable discussions with leading experts from both academia and industry.

Components: SEM.

Grading: SUS.

Typically Offered: Fall & Spring.

BME 780. Graduate Scholarship in Biomedical Engineering. 3 Credit Hours.

A course for Biomedical Engineering doctoral students. Students will learn to critically review scientific journal articles as well as NIH research proposals (i.e. R01, R03, F30/31 and R21). Students will also learn how to read federal grant application guidelines and determine what is required for a highly competitive written application. The students will have the opportunity to prepare their own research proposal in the form of an F31 NIH application on a biomedical engineering topic of interest. Students will also learn how to prepare and present their research findings at conferences.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BME 781. Radiation Dosimetry and Physics. 3 Credit Hours.

Application of radiation physics in the field of radiation therapy. The course will cover the relevant subjects of modern physics, the basic modalities and basic instrumentations of radiation therapy, the principles of particle transport and radiation dose computation and quality assurance of radiation therapy instruments. The subject of radiation protection will also be discussed.

Prerequisite: BME 582. Or BME 682.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BME 783. Radiation Therapy Physics Clinical Rotation. 3 Credit Hours.

Students will observe clinical activities at a designated radiation therapy center for ten hours per week. Rotation includes observation of daily treatment, simulation, dose planning, physics quality assurance and routine physics support activities (special physics consultation, weekly physics chart check, monitoring radiation safety activities, support of brachytherapy procedures). Students will meet with the course instructor one and a half hours/week to discuss the schedule and the progress of the rotation activities. Students need to submit reports on each radiation therapy category.

Prerequisite: BME 682. And BME 781.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BME 784. Medical Physics Journal Club. 1 Credit Hour.

The course aims to keep track of recent developments in the field of Medical Physics for therapeutic and diagnostic purposes in oncology through reading, discussion and presentation of identified scientific papers from the major journals of Medical Physics among enrolled students.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BME 810. Master's Thesis. 1-6 Credit Hours.

The student working on his/her master's thesis enrolls for credit, in most departments not to exceed six, as determined by his/her advisor. Credit is not awarded until the thesis has been accepted.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

BME 820. Research in Residence. 1 Credit Hour.

Used to establish research in residence for the thesis for the master's degree after the student has enrolled for the permissible cumulative total in BME 710 (usually six credits). Credit not granted. May be regarded as full time residence.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

BME 825. Continuous Registration--Master's Study. 1 Credit Hour.

To establish residence for non-thesis master's students who are preparing for major examinations. Credit not granted. Regarded as full time residence.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

BME 830. Pre-candidacy Doctoral Dissertation. 1-12 Credit Hours.

Doctoral dissertation credits taken prior to Ph.D. student's candidacy. The student will enroll for credit as determined by his/her advisor. Not more than 12 hours of BME 730 may be taken in a regular semester, nor more than six in a summer session.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

BME 840. Post-Candidacy Doctoral Dissertation. 1-13 Credit Hours.

Doctoral dissertation credits taken after Ph.D. student has been admitted to candidacy. The student will enroll for credit as determined by his/her advisor. Not more than 12 credits in BME 740 may be taken in a regular semester, nor more than six credits in a summer session.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

BME 850. Research in Residence. 1 Credit Hour.

Used to establish research in residence for the Ph.D., after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Credit not granted. May be regarded as full-time residence as determined by the Dean of the Graduate School.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

Biostatistics (BST)

BST 605. Statistical Principles of Clinical Trials. 3 Credit Hours.

This course is designed for individuals interested in the statistical aspects of clinical trials. Topics include types of clinical research, study design, treatment allocation, randomization and stratification, quality control, sample size requirements, patient consent, and interpretation of results. This course will additionally cover strengths and limitations of alternative study designs such as quasi-experiments and observational studies. Common sources of bias in these alternative study designs will be described along with design approaches to minimize bias.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

BST 610. Introduction to Statistical Collaboration. 3 Credit Hours.

This course gives students exposure to issues arising in biostatistics consulting and collaboration. Students will learn how to identify the scientific objectives of a study and to develop a statistical strategy appropriate for those objectives. The student will become familiar with problems arising in consulting situations, specifically relating to identification of study objectives and framing of research questions, study design, power and sample size determination and choice of analytical approach. The student will learn to communicate through presentation of oral and written reports, and through student and faculty critiques of these reports.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

BST 625. Survey of Statistical Computing. 3 Credit Hours.

This three credit course aims to familiarize students with the basic use of SAS and R for routine statistical analysis and prepare them for more advanced courses and/or thesis research. Statistical computation will be illustrated with examples in medical research, biological study and business. The focus of the course is on the computing environment, therefore a thorough discussion of statistical theories will not be provided. It is expected that students will already be prepared statistically.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BST 630. Longitudinal and Multilevel Data. 3 Credit Hours.

This course offers students an introduction to linear and generalized linear models for the analysis of multi-level and longitudinal biomedical data. The course will also provide students with the opportunity to develop the skills necessary to perform analysis of these types of data using statistical software packages.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

BST 640. Modern Numerical Multivariate Methods. 3 Credit Hours.

This course covers multivariate topics from both a classical as well as modern perspective. Topics to include: Multivariate Normal Distribution; Spectral Decomposition; Principal Component Analysis; Canonical Correlation Analysis; Newton's Method; Steepest Descent; Gradient Boosting; Coordinate Descent Algorithms; Trees; Forests; Discriminant Analysis. The R programming language (<http://www.r-project.org>) will be used extensively throughout the course for computation and statistical analysis.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BST 649. Advanced Individual Study. 1-3 Credit Hours.

Individual work on a special project under faculty guidance.

Components: IND.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

BST 650. Topics in Biostatistical Research. 1 Credit Hour.

The course consists of a series of research level presentations in contemporary biostatistics research (broadly defined) by diverse outside speakers as well as faculty in the Division of Statistics or in other units on campus who are hosting presentations in biostatistics research. The emphasis will be on new methodologies and new developments in existing methodologies. However, recent developments on the implementation and comparison of methodology and on data types may also be included.

Components: LEC.

Grading: SUS.

Typically Offered: Fall & Spring.

BST 660. Spatial Statistics. 3 Credit Hours.

Spatial data commonly arise from many fields including business, ecological, and health studies. This course will cover advanced techniques to tackle the spatial correlation. Topics include variogram estimation, spatial prediction, spatial point pattern analysis, estimating function based methods and others. Real data examples will be used to motivate and illustrate the use of the methods.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BST 665. Design and Analysis of Clinical Trials. 3 Credit Hours.

This first part of this course is an advanced treatment of the key ideas undergirding the design and analysis of contemporary clinical trials. By the end of the course, students will have learned the statistical foundations of Phase I, II, and III trials from the standpoint of classical Frequentist, Bayesian, and adaptive designs. In addition, students will learn the usual mechanisms for preparing a clinical trial protocol, data safety and monitoring, interim analysis, and proper close out of a trial.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BST 670. Bayes Data Analysis: Theory and Computing. 3 Credit Hours.

This first part of this course is an advanced and comprehensive treatment of the foundations of Bayesian theory. Beginning with the Bayesian alternative to sampling theory, the course covers Savage's axioms, the standard Bayesian inference procedure, subjective Bayes interpretation and prior selection, the minimax and complete class theorems, a variety of Bayesian principles (likelihood, stopping time etc.), and a selection of standard parametric and non-parametric examples. The second part focuses on the computational implementation of Bayesian inference, namely Gibbs sampling, Metropolis-Hastings, and other Markov-Chain-Monte Carlo techniques for obtaining the posterior and posterior quantities. Computational examples will be illustrated using R and WinBUGS. Special topics will include approximate Bayes computing (ABC) and particle methods.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

BST 675. Intermediate Probability. 3 Credit Hours.

This course covers the basic foundations of probability to limit theorems at an intermediate level. Topics to include are events, random variables and their distributions, discrete and continuous random variables, generating functions, markov chains and convergence.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BST 676. Introduction to Generalized Linear Models. 3 Credit Hours.

This course provides a unifying framework for formulation, estimation and inference using generalized linear models and towards the end examines some modern day extensions. Throughout the course, real data applications from medicine will be used and extensive use will be made of the R programming language.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

BST 680. Advanced Statistical Theory. 3 Credit Hours.

The first part of this course is a searching treatment of many of the key ideas undergirding hypothesis testing and estimation. In particular, several of the main theorems in mathematical statistics will be stated and proved in full detail. By the end of the course, students will have acquired enough background material for the treatment of a special topic, through a mix of lectures and assignments. Topics will include asymptotic expansions, information theory and non-parametrics.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

BST 690. Theory of Survival Analysis. 3 Credit Hours.

Survival analysis is an important tool of statistic with many applications. In this course, without losing sight of such applications, we will give special emphasis to the probabilistic foundations, in terms of counting processes and martingales. Topics include: Failure time models, inference in parametric models, Cox models, counting processes and martingales, likelihood, competing risks and analysis of recurrent event data. The R programming language will be used.

Prerequisite: MTH 524, MTH 525, and BST 680.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BST 691. High Dimensional and Complex Data. 3 Credit Hours.

This course will cover some salient topics in high dimensional data analysis focusing on the uniqueness of the problem and discussing various analyses including error rate control methods, model based shrinkage, prediction, set analysis, cluster analysis, bump hunting and (if time permits), graphical models.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

BST 692. Case Studies in Biostatistics. 3 Credit Hours.

This course will demonstrate cases where commonly used statistical methods break down. It will give students the opportunity to apply new tweaks to common statistical methods and/or use entirely new techniques to address real applied biostatistics problems. Students will be presented with data that the UM faculty are working on, they will be asked to apply statistical methods that they have learned in previous classes and then they will study and apply new methods to handle complexities that are not well handled by the common techniques. The goal of the class is to give students the opportunity to apply their existing skills, study methods for identifying problems and then learn new methods to deal with complexities.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

BST 695. Special Topics. 3 Credit Hours.

The course is designed to allow the listing of special topics within the Division of Biostatistics degree programs and cross list topics with other department's offerings.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BST 830. Doctoral Dissertation (pre-candidacy). 1-12 Credit Hours.

Required of all candidates for the PhD. The student will enroll for credit as determined by his/her advisor but not for less than a total of 24. Not more than 12 hours of BST 730 may be taken in regular semester, nor more than six in a summer session.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

BST 840. Doctoral Dissertation (Post-Candidacy). 1-12 Credit Hours.

Required of all candidates for the PhD. The student will enroll for credits as determined by his/her advisor but not for less than a total of 24. Not more than 12 hours of BST 740 may be taken in regular semester, nor more than six in a summer session.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

BST 850. Research in Residence. 1 Credit Hour.

Used to establish research in residence for the PhD. after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Credit not granted. May be regarded as full-time residence as determined by the Dean of the Graduate School.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

Business (BUS)

BUS 100. Fundamentals in Business. 3 Credit Hours.

We will expose students to the fundamental activities of the functional areas of business.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BUS 101. First Step: Freshman Integrity, Responsibility, and Success through Teamwork. 3 Credit Hours.

This course is designed to provide entering freshman business majors an enriched curriculum that examines key issues in the global business environment and emphasizes the importance of ethical business practices. The course culminates with a team project that encourages students to address real world problems and encourages a lifelong commitment to civic engagement.

Requisite: Business School.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BUS 150. Business Analytics. 3 Credit Hours.

The primary purpose of this course is to build skills in learning and using software technologies to support business-oriented problem solving and decision making. Specifically, you will develop the ability to solve problems, to organize and analyze data using spreadsheet and database software, and to learn to distribute information to others through the effective use of collaborative technologies and the Web. Case problems will cover areas such as accounting, finance, marketing, statistics and operations management. Professors from several business school departments will discuss how their disciplines use spreadsheets to solve problems.

Requisite: Business School.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BUS 155. Exploration of Faculty Research in SBA. 1 Credit Hour.

Students will be exposed to some of the SBA's top faculty researchers to learn more about research opportunities and styles of research methodologies within business.

Components: LEC.

Grading: CNC.

Typically Offered: Offered by Announcement Only.

BUS 156. Global Business Studies Introductory Seminar. 1 Credit Hour.

The honors seminar provides an experiential introduction to culture, history, and geography of the region, as well as economic challenges and successes of business in the region. Course involves social interaction among Global Business Studies cohort through cultural visits and workshops/talks, both on and off campus. Travel component is designed to showcase key sectors of a regional economy, and includes case-study and presentation activities.

Requisite: Global Business Studies and Corequisite: INS 584.

Components: THI.

Grading: GRD.

Typically Offered: Spring.

BUS 200. Introduction to Business. 3 Credit Hours.

Businesses today operate in an exceedingly complex environment. Such factors as commodity prices, labor and capital markets, as well as trends in tastes and preferences are constantly changing. This course will explore many of the key issues facing business decision makers in the contemporary environment, including an introduction to business ethics and corporate social responsibility. The course will take an interdisciplinary perspective, touching on essentially all of the business functions including economics, finance, accounting, marketing, management, and business communications. Using approaches from different business disciplines, students will gain insight into the structures and systems of business, as well as the strategies that firms use to compete effectively in the global business environment. BUS200 serves as the foundational course for the Business Cognate in People & Society, and it is offered for Gen Ed credit only.

Requisite: Non Business Majors.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BUS 201. Money. 3 Credit Hours.

Financial decisions are at the heart of success in today's economy. Thus, financial literacy and the ability to manage personal finances is increasingly important. This GENERAL EDUCATION course delivers a comprehensive introduction to savings and borrowing, investments, and insurance, including such topics as budgeting, banking and consumer credit, the purchase of residential real estate, planning for retirement, starting a business, and understanding basic financial statements. Not for credit toward any business major or minor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BUS 202. Introduction to the Legal Environment of Business. 3 Credit Hours.

This GEN ED course provides an overview of legal principles impacting business. Students will explore fundamental features of the U.S. judicial system, conflict resolution, the domestic system of property rights, the U.S. Constitution, and the regulatory process as they related to the business firm or business as a societal actor. Topical areas may include environmental regulation, consumer protection, employment discrimination laws, privacy concerns, the law of competition, and business ethics.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BUS 203. Managing Effectively: A Skills Development Approach. 3 Credit Hours.

This Business Cognate course focuses on the seven core skills used by successful managers in their day to day work. Students will explore these skills, how they are applied and practiced in organizational settings, how they enable organizational success, and how they fit with the students' own capabilities. The course uses an action-based learning format that makes students participants in the process whereby they assess, practice, and enhance their own managerial skills.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BUS 206. Principles of International Business. 3 Credit Hours.

This course is designed to provide nonbusiness students with an understanding of what global business is, in particular how international business is conducted across countries with different sets of formal and informal institutions. It also addresses the issues facing multi-national corporations and the factors influencing their success or failure globally.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BUS 255. Business and Society: Inquiry and Discourse. 1-3 Credit Hours.

This course will explore the relationships between business firms and their regulatory, ethical, political, cultural, and social environments. Students will be exposed to a wide range of source materials and academic activities, with the objective of developing their capacity for principled professionalism.

Requisite: Foote Fellow AND Business School.

Components: SEM.

Grading: GRD.

Typically Offered: Fall.

BUS 256. Global Business Studies Seminar II. 1 Credit Hour.

This honors seminar introduces the key political movements and concepts that have shaped society in the region studied.

Requisite: Global Business Studies co-major AND Corequisite: BSL 212 in Spanish.

Components: THI.

Grading: GRD.

Typically Offered: Fall.

BUS 300. Critical Thinking and Persuasion for Business. 3 Credit Hours.

The modern businessperson faces a constantly evolving environment and must be able to confront and respond to an array of business issues. At the heart of an effective response is a critical, comprehensive analysis coupled with the ability to meaningfully and persuasively communicate that assessment and recommendations to a variety of constituencies. This course prepares business students for this by exposing them to a three-step process of problem solving in which they critically analyze the problem, and then communicate their analysis both in writing and orally.

Prerequisite: ENG 106 with a C- or better AND Requisite: Business School.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BUS 356. Global Business Studies Seminar III. 1 Credit Hour.

This honors seminar facilitates understanding of economic challenges faced by business communities, connecting regional studies work with business curriculum. May be conducted in language of the region.

Global Business Studies co-major AND Corequisite: MGT 371.

Components: THI.

Grading: GRD.

Typically Offered: Spring.

BUS 400. Senior Experience for Business Students. 0 Credit Hours.

The Miami Business School Senior Experience (SBX) is a virtual, self-paced, credit/no credit course specially designed to assist business seniors in successfully navigating the final year at the University of Miami Business School. The course collects the various tasks required of business seniors under a single LMS-enhanced umbrella, making it easier for students to track completion of mandated assignments within established deadlines. SBX also serves as a hub for peer networking and for access to relevant resources for senior-level students, related to professional life, graduate study, and young alumnus leadership opportunities. Videos, power points, blogs, threaded discussions, as well as detailed instructions and web-links for required activities for graduating seniors are only a click away.

Requisite: Business School and Senior Standing.

Components: DIL.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

BUS 456. Global Business Studies Seminar IV. 1 Credit Hour.

The honors seminar is designed to introduce students to research methods and structuring a thesis question/argument.

Requisite: Global Business Studies co-major.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

BUS 496. Directed Studies in Business. 1-3 Credit Hours.

Supervised readings, individual research project, or independent investigation of selected non-STEM related problems in the discipline. Offered only by special arrangement with supervising faculty member, who approves topic and evaluation process at time of registration.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BUS 497. Directed Studies in Business. 1-3 Credit Hours.

Supervised readings, individual research project or independent investigation of selected STEM-related problems in the discipline. Offered only by special arrangement with supervising faculty member, who approves topic and evaluation process at time of registration.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BUS 498. Special Topics in Business. 1-3 Credit Hours.

Special topics in selected non-STEM areas of Business.

Requisite: Sophomore Standing or Higher.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BUS 499. Special Topics in Business. 1-3 Credit Hours.

Special topics in selected STEM areas of Business.

Requisite: Sophomore Standing or Higher.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BUS 555. Business Departmental Honors Research Project. 3 Credit Hours.

Research project to fulfill requirements for Departmental Honors in Business.

Components: THI.

Grading: SUS.

Typically Offered: Offered by Announcement Only.

BUS 556. Global Business Studies Seminar V. 1 Credit Hour.

This directed study course provides individual supervision in thesis writing.

Requisite: Global Business Studies co-major.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

BUS 557. Global Business Studies Thesis Defense. 1 Credit Hour.

This honors seminar is designed for completion of the thesis writing and individualized preparation for thesis defense.

Requisite: Global Business Studies co-major.

Components: THI.

Grading: GRD.

Typically Offered: Spring.

BUS 600. Fundamentals of Critical Thinking and Effective Writing. 1 Credit Hour.

Critical thinking skills are developed by studying questions that transcend any single business discipline. Utilizing a variety of written formats, students hone analytic and persuasive skills, with emphasis on identifying critical issues, developing reasoned positions, and making compelling written arguments.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BUS 601. MBA Math Module. 3.00 Credit Hours.

This course provides the student with the necessary mathematical skills to progress toward an MBA degree. The course begins with a review of algebra and continues with the fundamentals of differential and integral calculus. The focus is on applying these concepts in solving business problems.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

BUS 602. Critical Thinking and Effective Writing. 1 Credit Hour.

Critical thinking skills are developed by studying questions that transcend any single business discipline. Utilizing a variety of written formats, students hone analytic and persuasive skills, with emphasis on identifying critical questions, developing reasoned positions, and making compelling written arguments.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BUS 603. Critical Thinking and Effective Speaking. 1 Credit Hour.

Builds on critical thinking and writing skills acquired in BUS 602. Topics include oral persuasion, prepared and impromptu speeches and dealing with the media, defending one's view before adversarial audiences, display of data, and effective use of visual aids.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BUS 604. Career Development and Enrichment. 1.00 Credit Hour.

This course will expose students to a variety of academic and industry career lectures, events, and workshops to enhance their MBA experience. The focus is to establish added-value to an MBA student through real world and relevant access to information and resources beyond the traditional curriculum.

Components: THI.

Grading: SUS.

Typically Offered: Fall & Spring.

BUS 605. Residential Session Abroad. 1-6 Credit Hours.

One two-week session of the Global Executive MBA program is held abroad. During this corporate and international experience students attend lectures and institutional visits. This experience exposes students to other cultures and different perspectives on business issues, and widens international networking opportunities.

Components: LEC.

Grading: SUS.

Typically Offered: Fall.

BUS 610. Critical Thinking and Persuasion for Business. 2 Credit Hours.

The modern businessperson faces a constantly evolving environment and must be able to confront and respond to an array of business issues. At the heart of an effective response is a critical, comprehensive analysis coupled with the ability to meaningfully and persuasively communicate that assessment and recommendations to a variety of constituencies. This course prepares business students for this by exposing them to a three-step process of problem solving in which they critically analyze the problem, and then communicate their analysis both in writing and orally. The critical thinking and communication elements of the course are supplemented with additional practical applications relating to career readiness, job search and job procurement.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BUS 620. Exchange Program: IE Business School-Madrid Spain. 1-16 Credit Hours.

Components: LEC.

Grading: SUS.

Typically Offered: Fall.

BUS 622. Global Business Consulting. 1-6 Credit Hours.

The Global Business Consulting (GBC) project is a collaborative course offered by participating CIBER schools to their Graduate Students. Students in related disciplines work in teams both virtually and in person on real business issues with multinational and local businesses and not-for-profits. Project supervision and final grade provided by Faculty Advisor.

Components: PRA.

Grading: GRD.

Typically Offered: Spring.

BUS 624. Asian/Pacific Business Environment- International Trip. 1-4 Credit Hours.

Course content, dates and location will vary from semester to semester at selected universities.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BUS 625. Latin America Business Environment - International Trip. 1-4 Credit Hours.

Course content, dates and location will vary from semester to semester at selected universities.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BUS 628. Multidisciplinary Action Projects. 2-4 Credit Hours.

The Multidisciplinary Action Projects core course (MAP) places students with organizations throughout the world to address pressing organizational challenges. Students work in teams with guidance from faculty advisors to develop actionable and valuable recommendations for sponsors. For students, MAP provides an opportunity to augment and integrate knowledge of fundamental business concepts and tools learned in classroom settings. MAP also offers opportunities to develop and test both critical thinking and leadership skills through practical experience with real business challenges. For sponsoring organizations, MAP offers access to a high-caliber team of 4-6 students, the latest business concepts and tools, an external viewpoint, and rapid turnaround. The ultimate deliverable to the sponsor from a MAP project is a set of actionable, data-driven recommendations. MAP projects are based on sponsor needs and address a wide range of business issues – from identifying new processes and improving existing operations to launching new products and targeting new growth opportunities. Sponsors come from many different industries – from alternative energy to business process outsourcing to consumer products to financial services to healthcare to real estate to telecom. Sponsoring organizations may be large corporations, small entrepreneurial start-ups, or non-profit organizations. While each MAP project is different in context, all have essential features in common. All confront students with a real business challenge of significant importance and no existing solution. All require applying concepts and tools from multiple disciplines to successfully complete. All require dynamic sense-making, fact-based decisions, and high-performance teamwork. All unfold in unpredictable ways. All conclude with teams presenting actionable recommendations to project sponsors and faculty advisors.

Components: EXP.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

BUS 629. Graduate Business Exchange Program. 1-16 Credit Hours.

Components: LEC.

Grading: SUS.

Typically Offered: Fall & Spring.

BUS 630. Fundamentals of Economics, Accounting, and Finance. 4 Credit Hours.

This course provides an overview of business economics, accounting, and finance. Economic themes primarily focus on microeconomic topics such as demand, supply, elasticity, and forms of competition. Accounting concepts include corporate financial statements, cost-volume-profit analysis, and traditional and activity-based cost accounting. Finance topics include time value of money, capital budgeting basics, foreign exchange, risk and return, modern portfolio theory, and financial markets. The course includes an integration of many of these concepts through an exposure to business plan development.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BUS 631. Business Analytics and Operational Excellence. 4 Credit Hours.

This course combines three disciplines that form the basis of a modern analytical approach to business management: statistics, optimization, and operations management. Many of the concepts covered are cross-disciplinary and can be applied to a variety of business functions and situations. Although specific examples will be used during the course to illustrate each concept, instruction will focus on the general applicability of the material. Topics to be covered include: numerical and categorical data, population/sample, parameter/statistic, introduction to excel, frequency distributions, histograms, pie charts, measures of variability, pivot tables, measures of association, random variables and distributions, sampling, types of hypothesis and of statistical errors, linear programming, network models, sensitivity analysis, integer and goal programming, forecasting, inventory management and location analysis.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BUS 632. Introduction to Strategy, Market, and Management. 4 Credit Hours.

This integrated course focuses on the external environment in which business firms operate and on the management techniques through which managers organize and motivate human resources to support strategic initiatives. It emphasizes in particular three critical sets of actors: customers, competitors, and employees. The purpose of the course is to introduce the student to basic conceptual frameworks and analytic models that managers use to a) identify and understand the customer segments that make up a marketplace, b) formulate strategies that achieve a competitive advantage within that marketplace, and c) lead and motivate employees in the execution of competitive strategies.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BUS 633. Business Plan Fundamentals and Communications. 4 Credit Hours.

This course provides students with the fundamentals in the development and preparation of a business plan, as well as of oral and written business communications. Students, after exploring new venture opportunities, will develop a comprehensive business plan, including its functional components (marketing, finance, operational, human and intellectual capital plans), the support with which to secure the needed financial and human resources, and the organization to manage the new venture. Students will also enhance their communication skills with which to identify critical issues, develop reasoned positions, display data, use visual aids effectively, state persuasive and compelling arguments for written documents as well as prepared and impromptu speeches, and deal with the media.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BUS 634. Research Project. 1-6 Credit Hours.

Individually supervised research project in selected field. Scope of work must be approved by supervision instructor prior to registration. Total enrollment may not exceed six credits.

Components: LEC.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

BUS 635. Research Project. 1-6 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

BUS 636. United States Business Environment - Domestic Trip. 1-4 Credit Hours.

Course content, dates and location will vary from semester to semester at selected universities.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

BUS 640. Quantitative and Analytical Fundamentals for Finance. 1-4 Credit Hours.

This four-credit course provides graduate students with an intensive review of the fundamentals of financial accounting and finance, and as well as microeconomic concepts and quantitative skills, needed as appropriate foundation to pursue the Master of Science in Finance degree or other master degrees that entail taking an elective course in finance. Topics include: Math concept review (functions, exponents, notation, weighted average, derivatives as applied to maximization/minimization); Measures of central location, variability, and association; Supply and demand curves, elasticity; Profit maximization; Markets: perfect competition, monopoly, oligopoly; Economic role of Government (monetary and fiscal policy, regulation, taxation); Basic financial statements (income statement, balance sheet, statement of cash flow, statement of changes in shareholders' equity); Working capital, noncurrent liabilities and owners' equity, investments and long-lived assets; Common size and ratio analysis; Principles in finance; Time value of money; Valuation (including bonds and stocks); Fixed income securities; Term structure of interest rates; Interest rate risk and duration; Capital markets, how securities trade, intermediaries; Capital market efficiency, arbitrage; Risk and return, portfolio math; Diversifiable vs. non-diversifiable risk; Asset Pricing Models (CAPM, beta, Fama-French); Capital structure; Capital budgeting; Cost of capital; Foreign exchange and global investing; Introduction to derivatives. The course will be taught over a two-week period, primarily in lecture, homework, and test format.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

BUS 641. Business Analytics Capstone Project. 2 Credit Hours.

including data collection and analysis. The description of the problem in question, the approach used to address it, and the findings obtained by the group are to be described in formal written reports. The reports will be evaluated both on their quantitative value and on the quality of the writing.

Prerequisites: MAS 631 and MAS 632, and MAS 637, and MAS 639.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BUS 650. Introduction to the Miami EMBA for the Americas. 1 Credit Hour.

This course provides incoming Executive MBA students an orientation to program tools and resources central to program success. Students will receive training in Blackboard, learn to access e-materials and navigate the business fundamental virtual modules, and increase their knowledge of business networking and influence. Students will also be introduced to business information resources and research strategies that they will use throughout the program. They will partake in Case Study preparation and receive an overview of the Integrated Project from Global Management, Global Enterprise, and Global Strategic Marketing perspectives. Students will also receive guidance on operating in teams both virtually and during the residency components of the program. Students will also participate in a corporate visit. This orientation also helps build a sense of affiliation among students and with the University.

Components: LEC.

Grading: SUS.

Typically Offered: Fall.

BUS 651. Global Strategic Marketing. 4 Credit Hours.

The purpose of this course is to acquaint the student with the theories and practice of strategic marketing management in the Americas. This course will enable the student to understand markets, develop strategies to capture value, and develop marketing plans based on the nature of national as well as international markets. Specifically, the issues of strategic marketing in the context of firm level strategy will be addressed, as well as issues of value capture and delivery, customer life-time value, pricing, distribution, branding and communication in markets.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

BUS 652. Global Strategy. 2 Credit Hours.

The purpose of this course is to change how the strategic environment is viewed, how students think about their own organizations and other others, and how strategy and its execution is viewed. This course will help the student: understand organizations as complex systems embedded in a set of evolving cooperative and competitive economic relationships; identify the distinct resources and capabilities that form the foundation of an organization's competitive advantage; formulate business strategies that anticipate imitation and competitor response; evaluate the relationship between a firm's competitive advantage and its growth opportunities; understand the role of the corporate center in supporting and enhancing the competitive success of operating divisions; and see the interplay of organizational structures, systems, networks, and influence centers that form the basis of effective strategy implementation.

Components: LEC.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

BUS 653. Global Institutions, Infrastructure, and Environment. 4 Credit Hours.

This course considers how a country's legal and economic institutional arrangements influence managerial strategy involving goods, services and financial flows across nations. The course addresses how economic problems are dealt with by institutional arrangements in different ways around the world. Discussions will emphasize the influence that these institutional arrangements have on managerial project strategy when firms operate across borders. Specific emphasis will be placed on legal, economic and financial institutions in the Americas.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

BUS 654. Corporate Financing and Investing. 4 Credit Hours.

This course considers financing and investing within the corporation. As such, it will consider the theoretical structure of the problem, the boundaries that management faces and how these decisions are made by management. The inter-residency portion will focus on the theoretical development and computational aspects of solving the problems. The residency portion will emphasize case discussion and simulation to demonstrate the practical implementation as well as integrating these concepts into the overall management picture. The objective of the course is to develop your understanding of the principles that define financial decision making in the firm. These topics are an important component of the strategic planning and top-level management of the firm. The course will guide you through the theory and computational aspects applying the theory, then through application to situations that will enhance and cement your understanding. Finance theory is universal and therefore does not apply to any given country or system. All of the applications will be international, multinational, or global in context. A central theme of the course is decision making. Specifically we will focus on the financial aspects of major strategic decisions. We will build on previous courses to understand how institutions, accounting, legal structures and more, affect these decisions.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BUS 655. Public Policy and Health. 3 Credit Hours.

Development of public policy at the federal, state and local level. Policy process, models of policy analysis, policy development in several government service areas, and plans for policy change. Special emphasis on health policy formulation, implementation and the use of epidemiological tools in health policy analysis.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

BUS 656. Integrated Business Project. 1-6 Credit Hours.

The Integrated Project course (IP) requires students to formulate, develop and implement three business projects that address pressing organizational challenge, over the 17-month duration of the EMBA for the Americas. Students may work in teams or individually to develop actionable and valuable recommendations for their chosen organization and present project outcomes to faculty advisors during the February, June and October residencies. For students, IP provides an opportunity to augment and integrate knowledge of fundamental business concepts and tools learned in classroom settings. IP also offers opportunities to develop and test both critical thinking and leadership skills through practical experience with real business challenges.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BUS 657. Optimizing Human Capital. 4 Credit Hours.

The 21st century workplace has often been characterized as the “Age of Intellectual Capital,” a time in which competitive advantage is linked intricately to optimizing human resources in distinctive ways. In this dynamic, global marketplace, Darwin rules. To survive, organizations must provide the best products, the best services with the best labor or risk extinction. Contextual factors including changing demographics; global social, economic, and regulatory issues; and technological innovations have created major challenges for organizational sustainability. In a recent publication based on survey results from 94 countries, talent acquisition, retention, management, and engagement were viewed as “urgent” global trends for the 21st century. Utilizing a variety of pedagogical approaches, this course will focus on the ways in which human capital can be leveraged to create sustainability as well as work environments that engage the minds and hearts of participants to achieve strategic initiatives.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

BUS 658. Business Analytics. 4 Credit Hours.

One of the strengths of Business Analytics is its broad applicability. The skills learned in this module can be used in virtually any context of business, including but not limited to: finance, marketing, strategy, operations, logistics, transportation, health care, real estate, sports, manufacturing, etc. For that reason, rather than focusing on a single central theme, as do other modules in the MEMBAA program, the Business Analytics module touches on a variety of themes that illustrate its potential.

Components: LEC.

Grading: SUS.

Typically Offered: Fall & Spring.

BUS 660. High Performance Leadership. 4 Credit Hours.

The High Performance Leadership course was developed to help executives build a high-performance work environment and effectively operate in the multi-cultural environment of the Americas and the World. The course is divided into two parts. The first part, the inter-residency will concentrate on the facets of high-performance leadership. It will explore the fundamentals of leadership; investigate the major leadership theoretical concepts; explore a wide-range of leadership research; convey practical leadership implications; and share lessons in conquering self-leadership. This section will be taught online through readings, discussion boards, and case and leader analyses. The emphasis will be on building a sound grasp of good practice, and on developing the ability to apply such knowledge to actual business problems. The theories will be applied to specific situations. The second part of the course, the residency concentrates on the cross-cultural environment of the Americas (and global markets) and addresses four main topics. The first session focuses on Cross-Cultural Communication in Business and allows executives to understand culturally-specific communication patterns, negotiation styles, expectations, cues, and norms. The second session addresses Leadership Issues in Organizational Control and participants will explore ethical and moral dilemmas, and external communications by senior executives. The third session focusses on Cross Cultural Issues in Leadership and examines effective leadership across cultures. The final session addresses Guanxi and Doing Business in China. China is currently or will soon become the world's largest economy (PPP basis) and is increasingly becoming important to the Americas. This session addresses critical thinking, cultural understanding, solutions to problems, and evaluating different options when doing business with China.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BUS 661. Enhancing Global Operations. 4 Credit Hours.

This course focusses on how to manage more complicated global networks; how to optimize service and quality levels of performance; and, how to minimize risks yet maintain required capacities. Operational transformation requires commitment and expertise in strategy and execution to achieve lasting improvements. This course draws on research and real world issues confronting manufacturing and service companies today, providing strategic frameworks to enable executives to make smart choices so that their firms can deliver the products and services they are committed to providing their customers.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BUS 662. Decision Making in Global Environment. 4 Credit Hours.

This course provides students with a systematic way to carefully think about decisions to arrive at more informed choices while doing business globally and specifically in the Americas. The course covers structuring decisions, creating alternatives, making tradeoffs among conflicting objectives, accounting for uncertainties and risk tolerance, and analyzing and evaluating alternatives. The course is intended to make participants aware of decision making issues surrounding global business, the dynamic issues surrounding their context, and how these affect managerial strategy. An objective of the course is to increase participants' competence in managerial decision making related to globalization, institutions, incentives, corporate governance, regulation, business law, international finance and accounting, organizations and management (including culture), and international trade.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BUS 663. Entrepreneurship and Innovation. 4 Credit Hours.

This course considers entrepreneurship and innovation within the Americas, together with a special emphasis on the Latin American context. The course covers the building blocks of the entrepreneurial process and pays special attention to the family business model where ownership is closely held. The objective of the course is to develop an understanding of the venture formulation process within the Americas and the processes that surround this. The topics of innovation; venture capital; venture formulation; human capital; market dynamics; technological readiness; role of government, regulation, and culture will be assessed. An objective of the course is to consider new models for venture design such as the agile model of development and the creation of the business canvases, a lean version of the traditional business plan.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BUS 698. Selected Topics. 1-6 Credit Hours.

Topics in selected areas of business.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BUS 801. Introduction to Commercial Real Estate: Analysis and Field Experience. 3 Credit Hours.

Students enrolled in the Accelerated MBA in Real Estate program are required to participate in a one-week, four module, on-campus class followed by a full-time internship at a local Commercial Real Estate Institution during the first summer of the program. Module I: Students are introduced to the complexities of commercial construction techniques used in South Florida and the important links between architectural plans and economic value to owners and tenants. Module II: Students are introduced to the terminology and financial analysis of commercial real estate. Module III: Students are introduced to the application of real estate finance and valuation principles using ARGUS Valuation – DCF. Module IV: Students participate in a required internship at a local Commercial Real Estate Institution. Regarded as a full-time student.

Components: THI.

Grading: GRD.

Typically Offered: Summer.

BUS 802. Commercial Real Estate Field Experience. 3 Credit Hours.

Students enrolled in the Accelerated MBA in Real Estate program are required to participate in a full-time internship at a local Commercial Real Estate Institution during the first fall semester of the program. This internship is subsequent to their previous summer internship (BUS 700). Regarded as a full-time student.

Components: THI.

Grading: SUS.

Typically Offered: Fall & Spring.

Business Law (BSL)

BSL 212. Introduction to Business Law. 3 Credit Hours.

Introduction to business law and ethics for the undergraduate student. Topics include business ethics, contracts (the nature and requisites, formation, interpretation, performance and breach, and remedies), and sales (Uniform Commercial Code, Convention on the International Sale of Goods, transfer of title, warranties, and rights and remedies of buyers and sellers).

Requisite: Business School or Business Law minor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

BSL 304. Corporate Law. 3 Credit Hours.

Introduction to the law and regulation of corporations and other business entities. Topics include: tort and other business liabilities, agency and fiduciary duty, partnerships, limited liability companies, corporations (including the legal relationships underpinning their financial structure, director and officer liability, and laws relative to change of control), securities regulation, and antitrust law.

Prerequisite: BSL 212 or equivalent or BUS 202.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BSL 305. Legal and Social Aspects of Business Regulation. 3 Credit Hours.

An introduction to the legal and ethical issues arising out of business and the regulatory environment. Topics include business ethics and subjects as environmental law antitrust, securities, administrative process, consumer protection, and employment regulation.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BSL 306. Introduction to Corporate Sustainability. 3 Credit Hours.

This course introduces students to issues associated with business and sustainability, through the lens of corporate governance and corporate citizenship. Readings, lectures, class discussion, and student projects are designed to instill in students a practical understanding of key corporate sustainability frameworks, challenges and opportunities, institutions, and actors in the global corporate context. Students will learn to apply alternative decision making models to current business activities. BSL 304 recommended as a prerequisite, but not required.

Requisite: Sophomore Standing or Higher.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

BSL 324. Negotiation. 3 Credit Hours.

This experiential course is designed to introduce undergraduate business students to the theory and practice of negotiation. The lectures and readings will discuss negotiation theory, equipping students with the concepts and terminology to prepare and execute value-creating, interest-based negotiations. Negotiation exercises will provide the student with an opportunity to apply the theoretical elements of the course in live, simulated negotiations. Extensive review of these simulated negotiations through classroom discussion and film analysis will assist students in cementing their understanding of the use of negotiation theory in practice. Although negotiation theory is applicable to a wide variety of academic contexts, this course focuses on negotiations in the practice of law and business.

Requisite: Business School or Business Law minor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BSL 333. Legal Aspects of Real Estate Transactions. 3 Credit Hours.

Legal principles controlling the acquisition, ownership, financing, and development of real property. Topics include nature and acquisition of rights in real property, theory of estates, co-ownership, fixtures, easements, legal descriptions, evidence of title, title insurance, deeds, mortgages, closing the sales and mortgage transactions, condominiums and cooperatives, brokers, and land use.

Prerequisite: BSL 212 or equivalent or BUS 202.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BSL 401. The Law of Financial Transactions. 3 Credit Hours.

Overview of the law of commercial finance as it relates to existing and emergent payment systems, secured credit, and bankruptcy. Topics include: negotiable instruments, bank deposits and collections, secured transactions, personal and commercial bankruptcies, and accountant liability.

Prerequisite: BSL 212 or equivalent or BUS 202.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BSL 412. International Business Law. 3 Credit Hours.

International law and organizations, international sales, credits and commercial transactions, U.S. trade law, and the regulation of the international market place are discussed.

Prerequisite: BSL 212 or equivalent or BUS 202.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BSL 424. Intellectual Property Law. 3 Credit Hours.

This course is designed to acquaint the business student with the general framework of laws that regulate innovation, marketing, competition, and business development in the U.S. Special emphasis will be placed on discussion of ethical issues in information property, unfair competition, and management of intellectual property across various industries.

Prerequisite: BSL 212 or equivalent or BUS 202.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BSL 435. Law of Entrepreneurship. 3 Credit Hours.

Overview of the legal aspects of entrepreneurship and business management. Special emphasis on entity formation, intellectual property protection, capital formation, securities, tax planning, and risk management.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

BSL 460. Health Care Law and Ethics. 3 Credit Hours.

This course is designed to offer students an appreciation of the legal foundations and ethical considerations in healthcare administration in the U.S. The readings and classroom discussion assist the student in (1) understanding the legal framework of relationships and institutions in healthcare, and (2) appreciating some of the particularly delicate ethical implications of decision-making in this field. Case study will promote the ability to analyze both. Special emphasis is placed on discussion of ethical issues in healthcare administration, including access to care, allocation of scarce resources and privacy.

Prerequisite: BSL 212 or equivalent or BUS 202 AND Business School or Business Law minor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BSL 476. The Law of Risk. 3 Credit Hours.

This course offering will analyze risk in business and examine the tools that the law offers to identify danger and risk in the workplace and shift and minimize potential losses. This highly interactive course will first examine the various sources of legal risk, from criminal liability to employment discrimination to personal injury claims and toxic tort exposures. It will then examine the ways business and law pool, shift, and minimize risk. This seminar-style course will also include a significant experiential, hands-on component. Students will also practice contract construction and interpretation in a workshop environment.

Prerequisite: BSL 212 or equivalent or BUS 202.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BSL 485. Managing the Legal Factor. 3 Credit Hours.

This course offers the business manager a frank and analytical view of law and legal practice as they affect business decision-making. It addresses both the issues of cost containment and relationships between counsel and the company with the objective of achieving a more effective management of the legal function in business.

Prerequisite: BSL 212 or equivalent AND Requisite: Senior Status and Legal Studies major or Business Law minor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BSL 496. Directed Studies in Business Law. 1-3 Credit Hours.

Supervised readings, individual research project, or independent investigation of selected non-STEM related problems in the discipline. Offered only by special arrangement with supervising faculty member, who approves topic and evaluation process at time of registration.

Components: THE.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BSL 497. Directed Studies in Business Law. 1-3 Credit Hours.

Supervised readings, individual research project or independent investigation of selected STEM-related problems in the discipline. Offered only by special arrangement with supervising faculty member, who approves topic and evaluation process at time of registration.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BSL 498. Special Topics in Business Law. 3 Credit Hours.

Special topics in selected non-STEM areas of Business Law.

Requisite: Sophomore Standing or Higher.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BSL 499. Special Topics in Business Law. 3 Credit Hours.

Special topics in selected STEM areas of Business Law.

Requisite: Sophomore Standing or Higher.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BSL 555. Business Law Departmental Honors Research Project.. 3 Credit Hours.

Research project to fulfill requirements for Departmental Honors in Business Law.

Components: THI.

Grading: SUS.

Typically Offered: Offered by Announcement Only.

BSL 612. Legal Aspects of International Business. 3 Credit Hours.

International legal framework, transactional legal issues in finance, marketing, management, distribution, and a review of theory and practice of negotiations. Case studies on such topics as legal implications of GATT, European Competition, C.I.S.G., and Export Import Rules are also included.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

BSL 624. Negotiation: Theory and Practice. 2-3 Credit Hours.

This experiential course is designed to introduce graduate business students to the theory and practice of negotiation. The lectures and readings will discuss negotiation theory, equipping students with the concepts and terminology to prepare and execute value-creating, interest-based negotiations. Negotiation exercises will provide the student with an opportunity to apply the theoretical elements of the course in live, simulated negotiations. Extensive review of these simulated negotiations through classroom discussion and film analysis will assist students in cementing their understanding of the use of negotiation theory in practice. Although negotiation theory is applicable to a wide variety of academic contexts, this course focuses on negotiations in the practice of law and business.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BSL 675. Advanced Business Law. 2 Credit Hours.

Advanced Business Law focuses on the following substantive subject areas commonly encountered by Certified Public Accountants and tested on the Uniform Certified Public Accountancy Examination: business ethics, contracts (including formation, performance, breach, and remedies), commercial transactions under UCC Article 2, commercial paper, agency principles, and secured transactions. Special attention is given to the areas tested on Regulation section of the Uniform CPA Exam.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

BSL 685. Legal Aspects of Health Administration. 2-3 Credit Hours.

Derivation of rule of law governing health providers, vicarious liability of administrative and medical personnel, informed consent, and other related problems are discussed.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BSL 690. Legal and Ethical Implications of Business Decision Making. 2 Credit Hours.

The course provides an introduction to our legal and governmental regulatory system, as well as a review of constitutional considerations for businesses. Morality and ethics are defined and distinguished. Applied philosophy is then introduced, to give the student a foundation upon which to analyze the ethical dimensions of common business questions. The relationship between the letter and the spirit of the law is examined. Specific business topics and their legal and ethical aspects are then addressed. This includes, but is not limited to, discussion of the following areas:

consumer relationships; business organizations; the balancing of corporate vs. individual power (employee rights and responsibilities, employment discrimination); and the emerging ethic of a global economy.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BSL 691. The Public Corporation: Legal Perspectives. 2 Credit Hours.

The Public Corporation: Legal Perspectives reviews the laws governing the formation, operation, regulation, and governance of the public corporation with the objective of providing the graduate business student a sophisticated examination of the legal and social aspects of managing the money of others. Further, the course examines the rules and regulations governing the raising of capital from the public through the sale of securities for the development of and investment in a private enterprise.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BSL 692. Legal Implications of International Business Transactions. 2 Credit Hours.

International legal framework, transactional legal issues in finance, marketing, management, and distribution. Case studies in substantive international legal topics such as international sales contracts, international documentary sale, international terms of trade, legal implications and substantive rules governing international finance, collections, payments, and letter of credit, the resolution of international disputes with a particular emphasis and examination upon the management of litigation, enforcement of foreign judgments, and alternative dispute resolution are also included.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BSL 694. Real Estate Law. 2 Credit Hours.

Real Estate Law focuses on the U.S. legal system as it relates to the buying, selling, and financing of real property. In addition to traditional text material, the analysis of U.S. court cases is used to detail the legal factors of ownership rights and liabilities, specific interests in real property, contracting issues related to the purchase and sale of real property, as well as financing and closing the real estate transaction. The course provides a problem-solving experience, which is intended to develop graduate students' critical thinking process as well as their skills in oral and written communication.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BSL 695. Legal Implications in Executive Decision Making. 3 Credit Hours.

Law and legal process are examined as they mix with the politics and ethics of business, including the weight given to legal implications in the executive decision-making process.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BSL 696. Legal and Ethical Implications in Executive Decision Making. 3 Credit Hours.

Business and public administration cases requiring identification of the legal, ethical, and social elements as well as the determination of the weight such elements should have in setting policy are discussed. Integration of law and ethics with public and business administration is also included.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BSL 698. Selected Topics. 1-3 Credit Hours.

Topics in selected areas of specialization.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

Business Technology (BTE)

BTE 120. Introduction to Business Technology and Programming. 3 Credit Hours.

This Course covers the fundamentals of technology focusing on programming logic and structured programming principles including problem solving, algorithm design, and program development using Python. The course introduces the student to object-oriented programming through a study of the concepts of program specification and design, algorithm development, and coding and testing using a modern software development environment. Students learn how to write programs in an object-oriented high-level programming language (Python). Topics covered include fundamentals of algorithms, flowcharts, problem solving, programming concepts, classes and methods, control structures, arrays, and strings, data structures and object oriented programming. Throughout the semester, problem-solving skills will be stressed and applied to solving computing problems. Weekly assignments will provide hands-on experience in topics covered in this course.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BTE 210. Fundamentals of Business Technology and Innovation. 3 Credit Hours.

This course covers the fundamental technologies used in business today. Topics include information technology platforms; enterprise technology concepts; network infrastructure; enterprise resource planning; information security; technology architectures; internet; cloud, mobile, and web platforms; analytical technologies; business intelligence; expert systems, and Big Data. Students work on an innovation project to create a specification/business canvas for a new technology product.

Requisite: Business School.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BTE 320. Introduction to Programming. 3 Credit Hours.

This course covers the fundamentals of programming logic and structured programming principles—including problem solving, algorithm design, and program development—using a high level programming language. Topics covered include fundamentals of algorithms, flowcharts, problem solving, programming concepts, classes and methods, control structures, arrays, and strings, pointers, and data structures.

Requisite: Miami Business School or BTE Minor or CSC Major or Minor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

BTE 324. Object-Oriented Programming. 3 Credit Hours.

This course introduces the concepts and fundamental techniques of object-oriented programming. Topics include: data abstraction, encapsulation, inheritance, polymorphism, class library, graphics/GUI, exception handling, multithreading, multimedia, files and streams, Internet applets, application development, integrated development environment, interactive program debugging and the eXtensible Markup Language (XML).

Prerequisite: BTE 320 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

BTE 360. Systems Analysis and Design. 3 Credit Hours.

This course introduces the techniques of systems analysis and design. Topics include: the Software Development Life Cycle (SDLC), Agile Programming, Extreme Programming, lean software development, Universal Modeling Language (UML), requirements modeling, data modeling, user interface design, data design, normalization, systems architectures, implementation methods, and testing methodologies.

Prerequisite: BTE 320 or CSC 120 or ECE 118 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BTE 361. Design of Information Systems. 3 Credit Hours.

Continuation of BTE 360. Topics include concepts, tools, and techniques of systems design, prototyping, file/database design, and physical process modeling. Students work in groups to design an application system for a business related problem.

Prerequisite: BTE 360.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BTE 389. Launching HighTechnology Ventures. 3 Credit Hours.

This course develops an understanding of the entrepreneurial processes as they apply to new technology ventures. Topics include: venture formation, venture and angle investments, innovation and creativity, business plan creation, human capital, ethics, and intellectual property.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BTE 400. Web-Mobile-Cloud. 3 Credit Hours.

This course introduces the basics of the cloud computing paradigm and examines how to implement different algorithms for different web and mobile applications in the cloud. The course covers the principles, systems, and applications of cloud computing that integrate web applications, smart phones, and tablets with cloud computing infrastructure. The student will be introduced to the basics of Infrastructure, Platform, and Software as a Service (IaaS/PaaS/SaaS), as well as to cloud platforms such as Google App Engine, Microsoft Azure, and Amazon Web Services (AWS).

Prerequisite: BTE 320.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BTE 401. Computers in an Inter-Networked Society. 3 Credit Hours.

This course provides students with fundamental knowledge of the technology and tools that integrate big data, cloud, and mobile computing within a business and social context. Students will study these technologies and their impact on socioeconomic, political, organizational, and personal environments. The course covers the cultural components of a social media society and examines the systems and processes that need to be developed for effective management of that environment.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BTE 412. Foundations of Business Enterprise Technologies. 3 Credit Hours.

This course provides an understanding of the foundations of enterprise technologies. Topics include: making the business case for technology, distributed architectures, customer relationship management systems (CRM), enterprise resource planning systems (ERP), requirements modeling and design for enterprise systems, software development and outsourcing for the enterprise, enterprise productivity technologies (RFID, internet of things, machine data), 3D-design technologies, cloud technologies, and technologies for the global enterprise.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BTE 413. Big Data Strategy. 3 Credit Hours.

This course provides an introduction to the area of business intelligence termed Big Data. The concepts of high volume, velocity, and variety data are examined. The course examines how big data can be used to create business intelligence strategies in the areas of marketing, product development, systems deployment, and innovation. The course utilizes business intelligence software and Structured Query Languages (SQL) to analyze data. Other Big Data topics covered include the ethics, security, streaming data, sourcing, emergent technologies, and international data regulations.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

BTE 417. Fundamentals of Tech Project Management. 3 Credit Hours.

This course is designed to provide the fundamental project management knowledge necessary for a business manager, consultant, project manager, IT professional, and/or team member to successfully initiate and plan IT and other business projects. It is structured to provide principles, methodology, and practical information through a combination of lectures, group collaboration and hands-on exercises. Emphasis is placed on the importance of standardization and best practices as defined by the PMI's Project Management Body-of-Knowledge (PMBOK®).

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BTE 420. Analysis of Information Systems. 3 Credit Hours.

Overview of the systems development life cycle (SDLC). Topics include concepts, tools, and techniques of systems analysis; data modeling; process modeling; CA SE tools; and the role of the systems analyst in the organization. Students will work in groups to analyze an application system for a business related problem. Prerequisite: Knowledge of a high level programming language.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BTE 421. Design of Information Systems. 3 Credit Hours.

Continuation of BTE 420. Topics include concepts, tools, and techniques of systems design; prototyping; file/database design; and physical process modeling. Students will work in groups to design an application system for a business related problem.

Prerequisite: BTE 420.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BTE 423. Database Management Systems. 3 Credit Hours.

This course covers the foundations of database management systems (DBMS). Topics include: database systems design, SQL, the relational model, entity-relationship modeling, distributed DBMS, object DBMS, web technology and DBMS, semi-structured data, XML, business intelligence, data warehousing, data warehousing design, introduction to OLAP, and a brief overview of data mining. Students will engage in hands-on exercises for the design and implementation of database business applications.

Prerequisite: BTE 320.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BTE 430. Business Networks. 3 Credit Hours.

In this course, students will learn the underlying concepts and technologies in the field of business networks with specific focus on their applications in businesses. Topics covered include: network types, networking standards, protocols, and architectures; the characteristics of physical and logical networking components and technologies; the security issues that affect network systems and their implications on business applications; the technical and organizational issues concerning wireless networks; emerging networking technologies and software tools for designing and troubleshooting various aspects of networks.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BTE 450. Introduction to Health Informatics. 3 Credit Hours.

The course develops an understanding of the role of information systems and technology within a healthcare organization. It examines the business and technical issues associated with the selection, deployment and use of health informatics, both in the clinical and back office areas. Health informatics, for the purpose of the course, is defined as the convergence of information technology, information management, and health care, at various levels, ranging from simple data gathering, to the design and implementation of new health care information systems.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BTE 465. Web Application Development. 3 Credit Hours.

This course will explore Internet and mobile application development methodologies. Topics include: HTML 5, CSS3, scripting languages (JavaScript); jQuery, AJAX, web services, Web Servers (IIS and Apache) and relational databases (MySQL/Apache Derby/Java DB)—all the skills and tools needed to create dynamic Web-based and mobile applications. The coverage will be both on the client side and the server side of Web-based applications, and the course will provide instruction on building rich Internet applications that enhance the presentation of online content and give web applications the look and feel of desktop applications. Students in the course will build Web-based, client/server, database-intensive, multi-tier, and mobile business applications.

Prerequisite: BTE 320.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BTE 496. Directed Studies in Business Technology. 1-3 Credit Hours.

Supervised readings, individual research project, or independent investigation of selected non-STEM related problems in the discipline. Offered only by special arrangement with supervising faculty member, who approves topic and evaluation process at time of registration.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BTE 497. Directed Studies in Business Technology. 1-3 Credit Hours.

Supervised readings, individual research project, or independent investigation of selected STEM related problems in the discipline. Offered only by special arrangement with supervising faculty member, who approves topic and evaluation process at time of registration.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BTE 498. Special Topics in Business Technology. 3 Credit Hours.

Special topics in selected non-STEM areas of Business Technology.

Requisite: Sophomore Standing or Higher.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BTE 499. Special Topics in Business Technology. 3 Credit Hours.

Special topics in selected STEM areas of Business Technology.

Requisite: Sophomore Standing or Higher.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BTE 523. Big Data Development. 3 Credit Hours.

This course covers foundational techniques and tools required for data science and big data analytics. The course delivers a thorough overview of and hands-on experience with Big Data technologies, including: Hadoop, Mapreduce, Association rules, Large scale supervised machine learning, Data streams, Clustering, NoSQL systems (Cadenra, Pig, Hive), and applications, including recommendation systems, Web, and security. Students will also examine current research and publications in Data Science/Big Data Analytics, with emphasis on systems and algorithms for large-scale advanced data analysis.

Prerequisite: BTE 320.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BTE 524. Mobile Apps Development. 3 Credit Hours.

This course covers the fundamentals of programming logic and structured programming principles—including problem solving, algorithm design, and program development for mobile environments—with a focus the Android Platform. The course introduces the requirements and methodologies for developing dedicated and client-server applications that target smartphones, tablet computers, and other mobile devices. Topics include: memory management, communications, power systems, APIs, and among others. The techniques studied are applicable to and can be transitioned to the iOS or Windows 8 platforms.

Prerequisite: BTE 320 and BTE 324.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BTE 535. Information Security. 3 Credit Hours.

This course introduces the principles of computer security. Information is an important strategic and operational corporate asset that needs to be protected from data breaches. This course investigates some of the security measures that can be employed to safeguard information and explores some of the tools and techniques used in designing these measures. Students will examine how system designs, network protocols, and software engineering practices can result in vulnerabilities. They will also explore how to detect and mitigate vulnerabilities in existing systems and, so, how to design and implement better future systems. Additional topics include ethical hacking, social engineering strategies, and other approaches to managing vulnerabilities.

Prerequisite: BTE 320.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BTE 550. Business Technology Internship. 1-3 Credit Hours.

Student is individually assigned to operating business firm or other organization to gain insight in information technology practice in the area of career interest. Periodic reports and conferences are required.

Components: THI.

Grading: SUS.

Typically Offered: Offered by Announcement Only.

BTE 555. Business Technology Departmental Honors Research Project. 3 Credit Hours.

Research project to fulfill requirements for Departmental Honors in Business Technology.

Components: THI.

Grading: SUS.

Typically Offered: Offered by Announcement Only.

BTE 565. Mobile to Cloud: Developing Distributed Applications. 3 Credit Hours.

This course introduces students to the basics of the emerging cloud computing paradigm. It also examines how to implement different algorithms for different applications in the cloud and how to deploy mobile applications in the cloud. The course covers the principles, systems, and applications of mobile cloud computing that integrates smart phones and tablets with virtualized distributed computing infrastructure. Students will learn the fundamentals of a variety of systems such as virtual machines, the principles and practices of client/server architectures, the concepts and practices of Infrastructure, Platform, and Software as a Service (IaaS/PaaS/SaaS), cloud platforms such as Google App Engine, Microsoft Azure, and Amazon Web Services(AWS), as well as security issues.

Prerequisite: BTE 320 and BTE 324.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BTE 571. AI Programming for Business Management. 3 Credit Hours.

Overview of AI programming languages and technologies. Topics include: Functional Programming, Logical Programming, Software methodologies for development of AI systems and software.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BTE 601. Programming for Distributed Systems. 2 Credit Hours.

This course covers the fundamentals of programming logic and structured programming principles including problem solving, algorithm design, and program development using Python. The course introduces the student to object-oriented programming through a study of the concepts of program specification and design, algorithm development, and coding and testing using a modern software development environment. Students learn how to write programs in an object-oriented high-level programming language Python. Topics covered include fundamentals of algorithms, flowcharts, problem solving, programming concepts, classes and methods, control structures, strings, and data structures. Throughout the semester, problem solving skills will be stressed and applied to solving computing problems. Weekly assignments will provide hands-on experience in topics covered in this course.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BTE 610. Foundations of Management Information Systems. 2 Credit Hours.

Course is designed to provide the foundations in management information systems information systems required to understand and effectively use an enterprise wide information system. Topics include the role of the CIO, managing Information Technology (IT) as a strategic resource, business process reengineering, IT planning, IT governance and communication, the Internet, and eBusiness.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

BTE 612. Enterprise Technologies. 2 Credit Hours.

Course addresses the needs of business students who wish to expand their understanding of information technology fundamentals. Focusing upon their use in today's enterprises, the course aims to provide students with knowledge of a variety of technological concepts commonly used in the IT Organization's systems development initiatives and enables students to understand the implications of deploying such technologies within the enterprise.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BTE 613. Business Intelligence Technologies. 2 Credit Hours.

Course facilitates business decision makers in their understanding of data analysis tools that operate over data warehouses and 'data marts' more commonly referred to as Business Intelligence. Course focuses upon using technologies to drive effective data driven decision making through effective mining of corporate data warehouses, thus improving operational efficiency and ultimately increasing profitability. Students are exposed to the concepts, analysis techniques, data cubes, and manipulation of information extracted from a data warehouse that enables the formulation and execution of business strategies. Data analysis case studies are used to reinforce students' understanding and strategic use of results to accomplish business objectives.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BTE 617. Information Technology Project Management. 2 Credit Hours.

Course covers the identification and development of information technology plans for projects supporting the organization's business objectives and all activities required in the initiating, planning, executing, controlling, and closing phases of the project's lifecycle. Course is intended to provide the body of knowledge and best practices necessary for a new Consultant, Business Analyst or Project Manager to successfully perform his/her responsibilities on a wide variety of IT enterprise projects.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BTE 620. Database Development for High Performance Computing. 2 Credit Hours.

Course enables software developers to understand the fundamental database concepts, practice, and emerging trends in relational database design and implementation for high performance computing. Formal query languages are covered including SQL, No SQL and relational object-orientated databases are examined. Other topics include database performance tuning and query optimization, distributed database systems, administration and security.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

BTE 621. Management Information Systems. 3 Credit Hours.

Course is designed to give prospective managers a foundation in MIS sufficient to understand and effectively use information systems. Topics include types of information systems, role of MIS in organizations, CIO issues, ERP systems, and electronic commerce.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BTE 622. High Performance Computing. 2 Credit Hours.

The course is designed to introduce HPC and Big Data Compute environments. Topics include: Cloud concepts, container concepts, distributed file systems, dockers, fundamentals of the ETL process, introduction to the Hadoop environment, Pig, Hive and JAQL, BigSQL, and SQL.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

BTE 623. Database Management Systems. 3 Credit Hours.

Course covers the fundamental concepts of database management systems using the Oracle DBMS. Topics include database theory and terminology, logical modeling, normalization, SQL language, database design and implementation, database administration, data security, database transaction/concurrency, and data backup.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BTE 624. Mobile Apps Development. 3 Credit Hours.

The course covers the programming languages associated with the iPhone application. Topics include the development platform, the libraries used, memory management, communication and power systems, APIs and tools associated with application development for the mobile environment.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

BTE 630. Fundamentals of Local and Wide Area Networks. 3 Credit Hours.

Course provides the graduate student the necessary knowledge to understand the design, integration, technologies, and services of local and wide area networks (LANs and WANs) in the business environment. Topics include signal transmission and propagation, standards and protocols, data communications media and devices, layered/encapsulated communications based on the hybrid TCP/IP-OSI standards, small and large-site PC LANs, Frame Relay, ATM, Virtual Private Networking (VPN), Telephony, Internet technologies, and network security.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BTE 631. Computer and Network Security. 3 Credit Hours.

Protection of computers and networks against unauthorized access, access control, encryption, firewalls, proxy, digital certificates, and software security are discussed.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BTE 635. Comp Communication Security. 3 Credit Hours.

The course covers technical and managerial aspects associated with the deployment of mobile communication platforms such as phones and tablets. The course investigates and introduces some of the security measures that can be employed to safeguard these devices and explores some of the tools used in designing these measures. Topics includes: Ethical Hacking, social engineering strategies, and other approaches to managing these vulnerabilities.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BTE 640. Data Communications and Networking. 3 Credit Hours.

Course addresses advanced topics in computer networks from the perspective of a business decision-maker. The course begins with a focus on signal propagation, media characteristics, and digital and analog encoding techniques. It continues with a study of datalink, network, and transport layer functions as defined by the OSI and TCP/IP models. The architecture of the Internet is explored and routing algorithms for wired, wireless, and peer-to-peer networks are introduced. Course concludes with a high-level overview of the top OSI layers. After taking the class the students should be able to critically evaluate network solutions based on the capabilities and limitations of the equipment.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BTE 646. IT Planning and Project Management. 3 Credit Hours.

Course covers the development of information technology strategic and tactical plans for projects supporting the organization's business objectives and project management as applied to planning, implementing, controlling networking, information systems and e-commerce projects. Course is intended to provide a body of knowledge necessary for a new Consultant or Project Manager to successfully initiate, plan, manage, control, and report on a variety of project types. People skills required in the areas of team selection, structure, conflict resolution, and leadership is also covered.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BTE 650. Introduction to Health Informatics. 3 Credit Hours.

The course develops an understanding of the role of information systems and technology within a healthcare organization. It examines the business and technical issues associated with the selection, deployment and use of health informatics, both in the clinical and back office areas. Health informatics, for the purpose of the course, is defined as the convergence of information technology, information management, and health care, at various levels, ranging from simple data gathering, to the design and implementation of new health care information systems.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

BTE 665. Applied Software Project Development. 3 Credit Hours.

Advanced concepts and techniques in application project development. Topics include project management, program testing, documentation, application installation, and application maintenance. Students will work on a group project to sharpen their implementation skills. Prerequisite: CIS 223 or 226 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BTE 680. Topics in Business Technology. 3 Credit Hours.

Topics in selected areas of specialization.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BTE 682. Topics in Business Technology. 3 Credit Hours.

Topics in selected areas of specialization.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BTE 684. Topics in Business Technology. 3 Credit Hours.

Topics in selected areas of specialization.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BTE 685. Topics in Business Technology. 3 Credit Hours.

Topics in selected areas of specialization.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BTE 686. Topics in Business Technology. 3 Credit Hours.

Topics in selected areas of specialization.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BTE 687. Topics in Business Technology. 3 Credit Hours.

Topics in selected areas of specialization.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BTE 688. Topics in Business Technology. 3 Credit Hours.

Topics in selected areas of specialization.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BTE 689. Topics in Business Technology. 1-3 Credit Hours.

Topics in selected areas of specialization.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BTE 690. Directed Study in Business Technology. 1-3 Credit Hours.

Investigation and research in special areas of interest. Offered by special arrangement.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BTE 691. Directed Study in Business Technology. 1-3 Credit Hours.

Investigation and research in special areas of interest. Offered by special arrangement.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BTE 699. Directed Study in Business Technology. 1-3 Credit Hours.

Offered by special arrangement.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

Cancer Biology (CAB)

CAB 701. CAB Student Seminar. 1 Credit Hour.

This course (required of 2nd and 3rd year students) offers instruction on the fundamental elements of scientific speaking. The ability to communicate effectively is essential for scientists. All CAB students are required to present their research each year as a 25 min (2nd year students) or 55 min seminar (3rd year and above). Students who are 4th year+ give seminars but are not enrolled.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CAB 705. Translational to Clinical Research. 1.00 Credit Hour.

Beginning in the fall of their second year, students participate in "Translational to Clinical Research", which spans years two through four of the program. Students are introduced to clinical trials, pathology reviews, tumor boards, the protocol review process and have an opportunity to interact with physicians who care for cancer patients and conduct clinical trials. The student's Physician Mentor advises and directs the student in the most relevant activities to attend and discusses the student's experience with them every semester. Students are required to attend 2 meetings each semester for a total of 12 meetings in addition to discussion with their Physician Mentors. A short written report of each review meeting of the student's experience is required. Didactic seminars are not accepted.

Components: DIS.

Grading: SUS.

Typically Offered: Fall.

CAB 710. Cancer Biochemistry and Molecular Biology. 3 Credit Hours.

This is an entry-level lecture course designed to introduce students to the major concepts and principles of cell growth deregulation in cancer with a major emphasis on molecular mechanisms. Topics include: oncogenes, tumor suppressors, mechanisms of uncontrolled cell growth, receptors and intracellular signal transduction pathways.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CAB 712. Special Topics in Cancer Research - Viral Oncology and Tumor Immunology Module. 2 Credit Hours.

This module emphasized state of the art knowledge of each discipline, student participation in a problem based learning context. Topics include viral carcinogenesis and epidemiology, Hepatitis, Herpes, Epstein Barr and Human Papilloma Viruses, Kaposi's Sarcoma, viral induced lymphomas, viral oncolysis, and mechanisms of anti-tumor immunity.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CAB 713. Special Topics in Cancer Research - Molecular Cancer Therapeutics Module. 2 Credit Hours.

This module explores the signal transduction pathways critical for cancer cell proliferation and survival that may provide new therapeutic targets, approaches for identification and validation of molecular targets within these pathways. Students are introduced to the strategies used in the discovery and design of biological and drug based therapies, and the implementation of clinical trials.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CAB 714. Cancer Epidemiology, Prevention and Biobehavioral Oncology. 2 Credit Hours.

The overall philosophy of this module is to introduce students to the basic principles of biobehavioral oncology and cancer epidemiology and cancer prevention and control. The course will explore cancer epidemiology approaches used to identify the molecular and genetic mechanisms of cancer risk and progression and how these are used to develop predictive models in treatment response. Methods for identifying social, environmental, and biological reasons for cancer disparities among different populations will also be covered. Sections on bio-behavioral oncology include: health behavior change processes in persons at risk for and diagnosed with cancer; methods to improve adaptation to cancer diagnosis and treatment, psychosocial intervention research techniques and bio-behavioral processes explaining their effects on health and quality of life (QOL), translation of behavioral and psychosocial intervention to the community, symptom/treatment side effects management approaches, predictors of late effects of cancer treatment and development of preventative interventions.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CAB 715. Special Topics in Cancer Research - Breast and Genitourinary Cancers Module. 2 Credit Hours.

This module highlights key aspects of the cellular and molecular mechanisms of breast, prostate, renal and bladder cancers as well as providing an overview of cancer detection, diagnosis, and therapy. Emerging research opportunities are identified. Topics include estrogen receptor and androgen receptor signaling, cancer progression, endocrine therapies and resistance. Key signaling pathways and the biology of metastasis will be discussed.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CAB 720. Dialogues with Cancer Clinicians (PIBS Module). 1 Credit Hour.

This module features physician mentors of the Cancer Biology Graduate Program who will discuss clinical aspects of cancer treatment with an emphasis on continuity of care of newly diagnosed patients between disciplines and will articulate unmet clinical needs and research. Mentors will provide clinical perspectives on their areas of specialization as it relates to patient care including diagnosis, staging, therapy, and outcomes.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CAB 731. Special Work. 1-3 Credit Hours.

Independent, faculty assigned study.

Components: IND.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

CAB 750. Logic and Reasoning in Translational Cancer Research: Bench to Bedside Part 1. 3 Credit Hours.

An important facet of the Cancer Biology Ph.D. Program is the training of students in the interrelationships between basic research and clinical medicine, i.e., translational research. The goal of this advanced course is to expose students to the scientific reasoning and logic underlying problem solving in clinical cancer research. This course is designed to help students integrate information and develop the thought processes necessary to critically evaluate information in the literature and experimental approaches, conceptualize problems in the field and identify areas for scientific exploration. Students learn how the knowledge obtained from basic research laboratories is applied to clinical problems including prevention, diagnosis, prognosis, and therapeutic treatment of cancer. Specific examples of translational research, i.e., laboratory to clinic are emphasized. Students also learn the key role of clinical observation in identifying basic research problems.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CAB 810. Master's Thesis. 1-6 Credit Hours.

The student working on his/her Master's thesis enrolls for credit, in most departments not to exceed six, as determined by his/her advisor.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

CAB 820. Master's Research in Residence. 1 Credit Hour.

Students must be registered in the semester they plan to defend. Used to establish research in residence for the Master's degree, after the student has been enrolled for the permissible cumulative total in appropriate Master's research. May be regarded as full-time residence as determined by the Dean of the Graduate School.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

CAB 830. Dissertation Research - Pre Candidacy. 2 Credit Hours.

Required of all candidates for the Ph.D. The student will enroll for credits as determined by the Office of Graduate Studies but not less than a total of 24. Not more than six in the summer. If a student has a) passed qualifying exam(s) and (b) is engaged in an assistantship, he/she may still take the maximum allowable credits.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

CAB 840. Doctoral Dissertation- Post Candidacy. 1-12 Credit Hours.

Required for all Ph.D. candidates. Grade will remain IP until student dissertation is accepted by Graduate School.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

CAB 850. Research in Residence. 1 Credit Hour.

Used to establish research in residence for the Ph.D., after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Credit is not granted. May be regarded as full-time residence as determined by the Dean of the Graduate School.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

Chemistry (CHM)

CHM 099. Preparatory Chemistry I. 3 Credit Hours.

A description of atoms and periodicity, structure of the atom, atomic orbital, the Aufbau principle, combining atoms to make molecules, bonding-covalent and ionic. Naming compounds and compound ions. Writing balanced chemical equations. Empirical and molecular formulas. Stoichiometry. Limiting Reactants. Yields. Percent Yields. Percent Composition.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

CHM 101. Chemistry and Society. 3 Credit Hours.

The basic principles of chemistry for the non-science major with an emphasis on understanding the chemistry of the world around us, especially as it pertains to the choices we make as consumers and as a society. Integrated themes include energy, the environment, food and nutrition, health and personal care, and other contemporary societal issues.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CHM 102. Fundamentals of Chemistry II. 3 Credit Hours.

A continuation of Chemistry 101.

Prerequisite: CHM 101.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CHM 103. Chemistry for Life Sciences I (Lecture). 3 Credit Hours.

Essentials of inorganic chemistry as it applies to biological systems. Designed for (but not limited to) those planning health-related careers. Lecture, 3 hours.

Corequisite: CHM 105.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CHM 104. Chemistry for Life Sciences II (Lecture). 3 Credit Hours.

A continuation of CHM 103, with emphasis on organic and biological chemistry, including biochemical processes and metabolism. Lecture, 3 hours.

Prerequisite: CHM 103.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CHM 105. Chemistry for Life Sciences I (Laboratory). 1 Credit Hour.

Designed for those students in CHM 103 requiring a laboratory course. Laboratory, 3 hours.

Pre/Corequisite: CHM 103.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

CHM 106. Chemistry for Life Sciences II (Laboratory). 1 Credit Hour.

Designed for those students in CHM 104 requiring a laboratory course. Laboratory, 3 hours.

Pre/Corequisite: CHM 104.

Components: LAB.

Grading: GRD.

Typically Offered: Spring.

CHM 110. Chemical Problem Solving. 3 Credit Hours.

Chemical problem solving strategies to prepare students for more advanced studies in the sciences. Focusing on basic concepts in chemistry, chemical problem solving, and mathematical preparation for future studies.

Components: LEC.

Grading: GRD.

CHM 111. Principles of Chemistry I. 3 Credit Hours.

Fundamental principles of chemical science.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

CHM 112. Principles of Chemistry II. 3 Credit Hours.

Continuation of CHM 111. Lecture, 3 hours.

Prerequisite: CHM 111.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

CHM 113. Chemistry Laboratory I. 1 Credit Hour.

Laboratory techniques of chemistry. To accompany CHM 111. Laboratory, 3 hours.

Corequisite: CHM 111 or CHM 121.

Components: LAB.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

CHM 114. Chemistry Laboratory II. 1 Credit Hour.

Continuation of CHM 113. Intermediate laboratory techniques and quantitative analysis. To accompany CHM 112. Laboratory, 3 hours.

Corequisite: CHM 112. or CHM 221.

Components: LAB.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

CHM 121. Chemistry for the Biosciences I. 4 Credit Hours.

This is the first course in a three course sequence designed to meet the needs of Life Science students interested in pursuing professional education in the health sciences. Topics to be covered in this course include: basic atomic structure, reaction stoichiometry, gases, chemical equilibrium, acids and bases, thermodynamics, and chemical kinetics. Co-registration with a separate recitation section is required.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CHM 151. Chemistry for Engineers. 3 Credit Hours.

Fundamental principles of chemistry for engineering students. Not recommended for students that plan to enter Medical School. Lecture, 3 hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CHM 153. Chemistry Laboratory for Engineers. 1 Credit Hour.

An introductory laboratory course to accompany CHM 151. The techniques of chemistry for engineering students.

Pre/Corequisite: CHM 151.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

CHM 201. Organic Chemistry I (Lecture). 3 Credit Hours.

The chemistry of carbon compounds. Required of chemistry majors, and premedical students; recommended for majors in life sciences. Lecture, 3 hours.

Prerequisite: CHM 112 or CHM 221.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

CHM 202. Organic Chemistry II (Lecture). 3 Credit Hours.

Continuation of CHM 201. Lecture, 3 hours.

Prerequisite: CHM 201.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

CHM 205. Organic Chemistry Laboratory I. 1 Credit Hour.

Introduction to techniques of organic chemistry. Laboratory, 3 hours.

Corequisite: CHM 201 or CHM 222.

Components: LAB.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

CHM 206. Organic Chemistry Laboratory II. 1 Credit Hour.

Continuation of CHM 205. Laboratory, 3 hours.

Prerequisite: CHM 205. and Corequisite: CHM 202 or CHM 222.

Components: LAB.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

CHM 214. Quantitative Analytical Chemistry. 3 Credit Hours.

Prerequisite: CHM 202. and MTH 162. or MTH 172.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CHM 221. CHM211 Chemistry for the Biosciences II. 4 Credit Hours.

This is the second course in a three course sequence designed to meet the needs of Life Science students interested in pursuing professional education in the health sciences. Topics to be covered in this course include: electronic atomic structure, basic quantum mechanics, molecular geometry, identification of organic molecules, and interpretation of chemical structures via spectroscopic methods. Co-registration with a separate recitation section is required.

Prerequisite: CHM 121.

Components: LEC.

Grading: GRD.

CHM 222. CHM212 Chemistry for the Biosciences III. 4 Credit Hours.

This is the third course in a three course sequence designed to meet the needs of Life Science students interested in pursuing professional education in the health sciences. Topics to be covered in this course include: organic chemical reactivity, reaction prediction analysis, organic reaction mechanisms, electronic interactions, energy states, and reactivity of biomolecules. Co-registration with a separate recitation section is required.

Prerequisite: CHM 221.

Components: LEC.

Grading: GRD.

CHM 304. Structural Identification of Organic Compounds. 3 Credit Hours.

The fundamental principles of ultraviolet/visible, infrared, nuclear magnetic resonance and mass spectrometry. How the combination of these sophisticated analytical techniques can be used to elucidate the structures of organic compounds.

Prerequisite: CHM 202 and CHM 206.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CHM 316. Instrumental Analytical Chemistry. 3 Credit Hours.

Modern methods of quantitative analysis. Lecture, 3 hours.

Prerequisite: CHM 360 and CHM 214 or CHM 360 and CHM 304.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CHM 317. The Chemistry of Food and Taste.. 3 Credit Hours.

The chemical compositions of the raw materials and end products, and a survey of the changes that these undergo when exposed to human manipulations.

Prerequisite: CHM 202 or CHM 222.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CHM 320. Instrumental Methods in Chemistry and Biochemistry. 2 Credit Hours.

Instrumental methods in modern chemistry and biochemistry, including spectrometric, electrochemical, and chromatographic (separation) Laboratory, 8 hours. Satisfies writing requirement.

Prerequisite: CHM 214 or CHM 304 and Corequisite: CHM 316.

Components: LAB.

Grading: GRD.

Typically Offered: Spring.

CHM 331. Physical Chemistry for Premedical Students. 3 Credit Hours.

Fundamentals of thermodynamics as applied to gases, liquids and solutions; chemical kinetics and other selected topics. Lecture, 3 hours.

Prerequisite: CHM 112 and MTH 161 and PHY 102.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CHM 360. Physical Chemistry I (Lecture). 3 Credit Hours.

Introduction to physical chemistry including thermodynamics, gaseous and liquid states, solutions, homogeneous and heterogeneous equilibrium. Lecture, 3 hours.

Prerequisite: CHM 112 and MTH 162 or MTH 172. Requisite: One Semester of Physics.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CHM 364. Physical Chemistry (Laboratory I). 1 Credit Hour.

Representative experiments in physical chemistry. Laboratory, 4 hours.

Pre/Corequisite: CHM 360 or CHM 331.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

CHM 365. Physical Chemistry II (Lecture). 3 Credit Hours.

Chemical kinetics, introductory quantum chemistry, molecular spectroscopy.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CHM 381. Workshop Leaders in Chemistry I. 1 Credit Hour.

Students engaged in Peer-Led Team Teaching of workshops for groups of CHM 111 and/or CHM 112 students may enroll for this course. May be repeated.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

CHM 382. Workshop Leaders in Chemistry II. 1 Credit Hour.

Students engaged in Peer-Led Team Teaching of workshops for groups of CHM 111 and/or CHM 112 students may enroll for this course. May be repeated.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

CHM 391. Chemistry Internship for Credit. 1-3 Credit Hours.

Provides chemistry majors with an opportunity to apply skills learned in coursework within settings outside the university. For example students can work in local schools, assisting instructors and mentoring students. They can also work in companies or government agencies for a defined period of time with clearly delineated goals to expand their expertise and practical knowledge of chemistry. Each enrolled student will be closely mentored by a faculty member.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

CHM 401. Environmental Chemistry. 3 Credit Hours.

Major environmental features of the earth; Role of natural and synthetic chemicals in the environment; Atmospheric and aquatic pollution; Application of acid-base theory and oxidation-reduction to environmental problems.

Prerequisite: CHM 201 or CHM 222.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CHM 441. Inorganic Chemistry (Lecture). 3 Credit Hours.

The relation of atomic and molecular structure to chemical and physical properties; introduction to nonaqueous solvents, coordination compounds, solid state chemistry and nuclear reactions. Lecture, 3 hours. Prerequisite: CHM 365.

Prerequisite: CHM 365.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CHM 442. Inorganic Chemistry (Laboratory). 1 Credit Hour.

Synthesis of inorganic compounds and determination of their physical and chemical properties. CHM 541 is a co-requisite for ACS chemistry majors. Laboratory, 3 hours.

Prerequisite: CHM 365 and CHM 541.

Components: LAB.

Grading: GRD.

Typically Offered: Spring.

CHM 464. Physical Chemistry (Laboratory II). 1 Credit Hour.

Continuation of CHM 364. Laboratory, 4 hours.

Prerequisite: CHM 365.

Components: LAB.

Grading: GRD.

Typically Offered: Spring.

CHM 488. Undergraduate Research. 1-3 Credit Hours.

Laboratory research under the direction of a member of the chemistry faculty. Thesis optional. Course may be repeated for credit.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

CHM 490. Honors Research. 1-3 Credit Hours.

Laboratory research under the direction of a member of the Chemistry faculty. Thesis required. Course may be repeated for credit.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

CHM 515. Makings of a Scientist. 3 Credit Hours.

By analyzing achievements and advise of few successful scientists, chemists in particular will highlight what qualities are needed to be a successful scientist. Importance of motivation, perseverance, communication skills, adhering to ethical guidelines and ability to deal with colleagues and co-workers will be brought out. Career options available for a trained chemist and how different each one is will be pointed out. Overall this is a course in multi-mentoring of graduate students who are aiming for a career in science and hope to be successful researchers in science, particularly in chemistry.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CHM 520. Physical Organic Chemistry. 3 Credit Hours.

Aspects of chemical bonding, acids and bases, stereochemistry, aromaticity, pericyclic reactions, linear free energy relationships, transition state theory, excited state chemistry, reactive intermediaries, mechanisms of uni- and bi-molecular reactions.

Prerequisite: CHM 202 and CHM 360.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CHM 522. Synthetic Organic Chemistry. 3 Credit Hours.

Functional group transformations, Synthons approach. Retro-synthetic analyses, multistep syntheses.

Prerequisite: CHM 202.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CHM 524. Supramolecular Chemistry. 3 Credit Hours.

Complexation, recognition, and catalysis as applied to bio-organic chemistry. Steric, polar, and lipophilic interactions as well as proximity effects in the design of synthetic enzyme mimics, cationic transport species, etc.

Prerequisite: CHM 365 and CHM 520.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CHM 525. Structural Organic Chemistry. 3 Credit Hours.

Use of electronic and vibrational spectroscopy in structure elucidation. Structure elucidation by modern NMR; EI, CI, MALDI and Electrospray mass spectrometry. Assignment of absolute configuration of chiral centers.

Prerequisite: CHM 202.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CHM 526. CHM523 Medicinal Chemistry. 3 Credit Hours.

Medicinal chemistry is primarily concerned with the development of drug molecules, and the interpretation of their mode of action at the molecular level, with an emphasis on chemical synthesis.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CHM 530. Fluorescence Spectroscopy and Microscopy. 3 Credit Hours.

The photophysical properties of organic compounds that illustrates the fundamental principles of fluorescence. It also explains how fluorescence spectra and images can be recorded and how these powerful analytical techniques can be used to address significant problems in biology and medicine.

Prerequisite: CHM 304 and CHM 360.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CHM 535. Molecular and Supramolecular Photochemistry. 3 Credit Hours.

Generation of a model that will help rationalize/predict excited state reactions. A brief background on physical aspects of photochemistry will be given. Exploring and understanding of reactions that are triggered by light. Importance of light in life will be highlighted.

Prerequisite: CHM 201 and CHM 202.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CHM 541. Principles of Bonding and Reactivity in Inorganic Chemistry. 3 Credit Hours.

Bonding principles necessary to understand the structure, stability, and fundamental reactivity of main group and transition metal inorganic compounds.

Prerequisite: CHM 365.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CHM 553. Modern Quantum Chemistry. 3 Credit Hours.

Many-electron wave functions and operators. Hartree-Fock approximation, density functional theory, configuration interaction, and many-body perturbation theory.

Prerequisite: CHM 365.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CHM 565. Principles of Spectroscopic Techniques. 3 Credit Hours.

Spectroscopic techniques: nuclear magnetic resonance (NMR), mass spectra (MS), ultraviolet (UV), visible infrared (IR), fluorescence, and other specialized spectroscopic techniques.

Prerequisite: CHM 365.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CHM 575. Principles of Nuclear Magnetic Resonance and Multidimensional Spectroscopy. 3 Credit Hours.

Theory of nuclear magnetic resonance; Bloch equations; relaxation theory; time- domain versus frequency domain spectroscopies, and principles of multidimensional spectroscopy.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CHM 581. Advanced Analytical Chemistry. 3 Credit Hours.

Provides a strong foundation in the most important concepts in advanced analytical chemistry, including electrochemistry, chemical separations, and bioanalytical chemistry, and in the different classes of instrumental analytical techniques available to current chemists.

Prerequisite: CHM 214 and CHM 316.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CHM 591. Topics in Chemistry. 1-3 Credit Hours.

Subject matter offerings based upon student demand and availability of faculty. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule following the title, "Topics in Chemistry".

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CHM 592. Topics in Chemistry. 1-3 Credit Hours.

Subject matter offerings based upon student demand and availability of faculty. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule following the title, "Topics in Chemistry."

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CHM 593. Readings in Chemistry. 1-3 Credit Hours.

Supervised readings on special topics. Offered by special arrangement. May be repeated for credit.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CHM 594. Readings in Chemistry. 1-3 Credit Hours.

Supervised readings on special topics. Offered by special arrangement. May be repeated for credit.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CHM 615. Makings of a Scientist. 3 Credit Hours.

By analyzing achievements and advise of few successful scientists, chemists in particular, will highlight what qualities are needed to be a successful scientist. Importance of motivation, perseverance, communication skills, adhering to ethical guidelines and ability to deal with colleagues and co-workers will be brought out. Career options available for a trained chemist and how different each one is will be pointed out. Overall this is a course in multi-mentoring of graduate students who are aiming for a career in science and hope to become successful researchers in science, particularly in chemistry.

Prerequisite: CHM 202.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CHM 620. Physical Organic Chemistry. 3 Credit Hours.

Aspects of chemical bonding, acids and bases, stereochemistry, aromaticity, pericyclic reactions, linear free energy relationships, transition state theory, excited state chemistry, reactive intermediaries, mechanisms of uni- and bi-molecular reactions.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CHM 622. Synthetic Organic Chemistry. 3 Credit Hours.

Functional group transformations, Synthon approach. Retro-synthetic analyses, multistep syntheses.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CHM 624. Supramolecular Chemistry. 3 Credit Hours.

Complexation, recognition, and catalysis as applied to bio-organic chemistry. Steric, polar, and lipophilic interactions as well as proximity effects in the design of synthetic enzyme mimics, cationic transport species, etc.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CHM 625. Structural Organic Chemistry. 3 Credit Hours.

Use of electronic and vibrational spectroscopy in structure elucidation. Structure elucidation by modern NMR; EI, CI, MALDI and Electrospray mass spectrometry. Assignment of absolute configuration of chiral centers.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CHM 626. Structural Organic Chemistry. 3 Credit Hours.

Use of electronic and vibrational spectroscopy in structure elucidation. Structure elucidation by modern NMR; EI, CI, MALDI and Electrospray mass spectrometry. Assignment of absolute configuration of chiral centers.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CHM 630. Fluorescence Spectroscopy and Microscopy. 3 Credit Hours.

The photophysical properties of organic compounds that illustrates the fundamental principles of fluorescence. It also explains how fluorescence spectra and images can be recorded and how these powerful analytical techniques can be used to address significant problems in biology and medicine.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CHM 635. Molecular and Supramolecular Photochemistry. 3 Credit Hours.

Generation of a model that will help rationalize/predict excited state reactions. A brief background on physical aspects of photochemistry will be given. Exploring and understanding of reactions that are triggered by light. Importance of light in life will be highlighted.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CHM 641. Principles of Bonding and Reactivity in Inorganic Chemistry. 3 Credit Hours.

Bonding principles necessary to understand the structure, stability, and fundamental reactivity of main group and transition metal inorganic compounds.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CHM 653. Modern Quantum Chemistry. 3 Credit Hours.

Many-electron wave functions and operators. Hartree-Fock approximation, density functional theory, configuration interaction, and many-body perturbation theory.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CHM 655. Electrochemistry. 3 Credit Hours.

Modern electrochemical techniques including voltammetry, chronocoulometry, rotating disk electrode, and ultramicroelectrodes.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CHM 665. Principles of Spectroscopic Techniques. 3 Credit Hours.

Spectroscopic techniques: nuclear magnetic resonance (NMR), mass spectra (MS), ultraviolet (UV), visible infrared (IR), fluorescence, and other specialized spectroscopic techniques.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CHM 675. Principles of Nuclear Magnetic Resonance and Multidimensional Spectroscopy. 3 Credit Hours.

Theory of nuclear magnetic resonance; Bloch equations; relaxation theory; time- domain versus frequency domain spectroscopies, and principles of multidimensional spectroscopy.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CHM 681. Advanced Analytical Chemistry. 3 Credit Hours.

Provides a strong foundation in the most important concepts in advanced analytical chemistry, including electrochemistry, chemical separations, and bioanalytical chemistry, and in the different classes of instrumental analytical techniques available to current chemists.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CHM 691. Topics in Chemistry. 1-3 Credit Hours.

Subject matter offerings based upon student demand and availability of faculty. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule following the title, "Topics in Chemistry".

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CHM 692. Topics in Chemistry. 1-3 Credit Hours.

Subject matter offerings based upon student demand and availability of faculty. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule following the title, "Topics in Chemistry."

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CHM 693. Readings in Chemistry. 1-3 Credit Hours.

Supervised readings on special topics. Offered by special arrangement. May be repeated for credit.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CHM 694. Readings in Chemistry. 1-3 Credit Hours.

Supervised readings on special topics. Offered by special arrangement. May be repeated for credit.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CHM 779. Chemistry Seminar. 1 Credit Hour.

Participation in the departmental seminar program. Required each semester the student is in residence and not enrolled in CHM 680 (excluding summer sessions).

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

CHM 780. Chemistry Seminar. 1 Credit Hour.

Participation in the chemistry department seminar program, including an oral presentation of special topics.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

CHM 785. Introduction to Research. 2 Credit Hours.

Research principles and practices, independent study in selected subject areas, and/or oral presentation of a proposed research topic. Open only to graduate students working toward the M.S. or Ph.D. in chemistry.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CHM 788. Problems in Research Planning. 2 Credit Hours.

Formulation of a research program for investigating an original problem not related to the candidate's major laboratory research. A brief written summary and an oral defense of the plan will be required.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CHM 805. Research Practices. 1-3 Credit Hours.

Research experiences in special techniques. For students electing the non-thesis M.S. option. May be repeated for a total not to exceed six credits.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

CHM 810. Master's Thesis. 1-6 Credit Hours.

The student working on his/her master's thesis enrolls for credit, in most departments not to exceed six, as determined by his/her advisor. Credit is not awarded until the thesis has been accepted.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

CHM 820. Research in Residence. 1 Credit Hour.

Used to establish research in residence for the thesis for the master's degree after the student has enrolled for the permissible cumulative total in CHM 710 (usually six credits). Credit not granted. May be regarded as full time residence.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

CHM 830. Doctoral Dissertation. 1-12 Credit Hours.

Required of all candidates for the Ph.D. The student will enroll for credit as determined by his/her advisor, but for not less than a total of 12 hours. Up to 12 hours may be taken in a regular semester, but not more than six in a summer session.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

CHM 840. Post-candidacy Dissertation. 1-12 Credit Hours.

Required of all candidates for the Ph.D. who have advanced to candidacy. The student will enroll for credit as determined by his/her advisor, but not for less than a total of 12. Up to 12 hours may be taken in a regular semester, but not more than six in a summer session.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

CHM 850. Research in Residence. 1 Credit Hour.

Used to establish research in residence for the Ph.D. and D.A., after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Credit not granted. May be regarded as full-time residence as determined by the Dean of the Graduate School.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

CHM 851. Research in Residence. 0 Credit Hours.

Components: THI.

Grading: GRD.

CHM 880. Doctoral Dissertation Seminar. 1 Credit Hour.

Required of all candidates for the Ph.D. degree when defending their doctoral dissertation during their final term. A written dissertation and an oral defense of the Ph.D. dissertation will be required.

Prerequisite: CHM 830 and CHM 840.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

Chinese (CHI)

CHI 101. Elementary Chinese (Mandarin). 3 Credit Hours.

Conversation, grammar, reading, elementary composition.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CHI 102. Elementary Chinese (Mandarin). 3 Credit Hours.

Continuation of CHI 101, conversation, grammar, reading, elementary composition.

Prerequisite: CHI 101.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CHI 195. Transfer Credit. 1-3 Credit Hours.

Awarded for 100-level course work at another institution for which UM has no direct equivalent.

Components: LEC.

Grading: CNC.

Typically Offered: Fall, Spring, & Summer.

CHI 201. Intermediate Chinese I. 3 Credit Hours.

Expanding further on language skills (grammar, composition and reading) while introducing students to aspects of Chinese customs, history and culture. Closed to native speakers.

Prerequisite: CHI 102.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CHI 202. Intermediate Chinese II. 3 Credit Hours.

Continuation of CHI 201. Further development of reading, writing, speaking and listening skills in Mandarin Chinese. CLOSED TO NATIVE SPEAKERS.

Prerequisite: CHI 201.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CHI 203. Advanced Chinese. 3 Credit Hours.

This course is designed to develop students' ability to use Chinese in a more advanced way. The course emphasizes accurate comprehension, expansion of vocabulary, and development of the ability to use increasing complex grammatical and sentence structures. In addition to improving their language abilities, students will also be exposed to different areas of Chinese culture.

Prerequisite: CHI 202.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CHI 204. Advanced Chinese II. 3 Credit Hours.

The course aims to develop students' ability to use Chinese in a more advanced way by continuing Chinese 203's emphasis on accurate comprehension, expansion of vocabulary, and development of the ability to use increasing complex grammatical and sentence structures. In addition to improving their language abilities, students will also be exposed to different areas of Chinese culture.

Prerequisite: CHI 203.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

CHI 210. Experiencing Chinese Culture through Art and Design. 3 Credit Hours.

A broad exposure on both traditional and modern Chinese arts, crafts, designs, architectures, and other cultural elements. Through discussions, hands on art projects, and cultural excursions, students will examine how traditional and contemporary Chinese values and beliefs are expressed in Chinese arts, crafts, designs, and architecture. An opportunity to truly immerse in Chinese culture. Students will visit historical and cultural sites. Local Chinese artists and scholars will co-teach certain sessions. Students will be guided to conduct cultural interviews and presentations to develop their own understanding on Chinese values and perspectives. This course takes place in Beijing during summer term. And it will be taught primarily in English.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

CHI 295. Transfer Credit. 1-3 Credit Hours.

Awarded for 200-level course work at another institution for which UM has no direct equivalent.

Components: LEC.

Grading: CNC.

Typically Offered: Fall, Spring, & Summer.

CHI 301. Advanced Reading and Diction Chinese. 3 Credit Hours.

Use of Chinese in a more advanced way to achieve greater fluency in a variety of written and spoken genres. Course materials incorporate authentic Chinese materials in genres including formal speech, short story, debate, op-ed essay, and newspaper. The course emphasizes accurate comprehension, expansion of vocabulary, and development of the ability to use increasing complex grammatical and sentence structures, in particular, formal speech and written language. In addition to improving their language abilities, course materials are also geared towards deepening students understanding of many different areas of Chinese culture.

Prerequisite: CHI 204.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CHI 310. The Esoteric and the Mundane in the Chinese Literary Tradition. 3 Credit Hours.

Introduction to a variety of important genres and themes in the Chinese literary tradition through the close reading of texts spanning three millennia.

Particular attention is paid to notions of humanity, divinity, and monstrosity.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CHI 311. Comparative Literature in East Asia. 3 Credit Hours.

An introduction to the East Asian literary tradition (in China, Japan, and Korea) while introducing the methods of and issues surrounding comparative literary study. The course is structured thematically, according to particular motifs and themes that become central in Chinese, Japanese, and Korean literature. Themes to be studied include the non-human bride; romantic ideals and the romance narrative; the otherworldly journey; the dream; and the modern nation. It also seeks to challenge pre-conceived notions about East Asian literature and culture to instill a nuanced understanding of East Asian literary traditions.

Prerequisite: ENG 106.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CHI 322. Cultural Topics. 3 Credit Hours.

A variety of important genres, issues, and themes related to Chinese culture through the close reading and analysis of texts. Topics may include film, religion, gender, epistemology, visual arts, immigration, travels, the preternatural. Note: Students will complete all readings and written assignments in Chinese. Course is open only to students with native or native-level fluency in Chinese.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CHI 330. The Powerful Women of Medieval China in History, Fiction, and Modern Media. 3 Credit Hours.

An interdisciplinary examination of the portrayals of ruling-class women who lived during the medieval period in China and who have become a part of the Chinese literary-historical tradition. Works to be examined include short stories, novels, plays, films, and television.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CHI 394. Internship. 1-3 Credit Hours.

Internships are intended to provide the student with an opportunity to apply analytical, interpretive, expressive, and creative skills developed in coursework. Internships ordinarily take place outside the University. They involve UM-faculty supervision as well as supervised on-site experience in a Chinese-speaking cultural, business, or not-for-profit organization. Student needs to fill out the internship application form. Normally, 40 internship hours are required per credit earned (the host will supply documentary evidence of hours worked). Permission of a faculty member in CHI required.

Prerequisite: CHI 204.

Components: PRA.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

CHI 395. Transfer Credit. 1-3 Credit Hours.

Awarded for 300-level course work at another institution for which UM has no direct equivalent.

Components: LEC.

Grading: CNC.

Typically Offered: Fall, Spring, & Summer.

CHI 495. Transfer Credit. 1-3 Credit Hours.

Awarded for 400-level course work at another institution for which UM has no direct equivalent.

Components: LEC.

Grading: CNC.

Typically Offered: Fall, Spring, & Summer.

CHI 591. Directed Readings. 1-3 Credit Hours.

Provides Directed Readings in Chinese.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

CHI 641. Elementary CHI I for Graduate Students. 0 Credit Hours.

Designed to develop graduate students' communicative abilities in speaking, reading, writing, and comprehending Chinese, as well as to provide an introduction to Chinese Studies.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

CHI 642. Elementary CHI II for Graduate Students. 0 Credit Hours.

Continuation of CHI 641. Designed to develop graduate students' communicative abilities in speaking, reading, writing, comprehending Chinese, and continued engagement in Chinese Studies.

Prerequisite: CHI 641.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

CHI 651. Intermediate CHI I for Graduate Research. 0 Credit Hours.

For graduate students with previous study of elementary-level Chinese. Designed to enhance graduate students' communication skills in the Chinese language at the intermediate level. Intended principally for students who will carry out research in Chinese Studies.

Prerequisite: CHI 642.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

CHI 652. Intermediate Chinese II for Graduate Research. 0 Credit Hours.

For student with previous study of Chinese at the intermediate level. Designed to enhance graduate students' communication skills in the Chinese language at the high-intermediate level. Intended principally for students who will carry out research in Chinese Studies.

Prerequisite: CHI 651.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

CHI 653. Advanced Chinese I for Graduate Research. 0 Credit Hours.

Designed to enhance graduate students' communication skills in the Chinese language at the advanced-low level. Intended principally for students who will carry out research in Chinese Studies.

Prerequisite: CHI 652.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

CHI 654. Advanced Chinese II for Graduate Research. 0 Credit Hours.

Designed to enhance graduate students' communication skills in Chinese language at the advanced-intermediate level. Intended principally for students who will carry out research in Chinese Studies.

Prerequisite: CHI 653.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

CHI 692. Directed Readings. 1-3 Credit Hours.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

Cinema and Interactive Media (CIM)

CIM 103. Survey of Motion Pictures. 3 Credit Hours.

Examination of the aesthetic, social, and economic aspects of the motion picture industry. Concentration on the present state of the medium with particular emphasis on future trends.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

CIM 111. Web Lab. 3 Credit Hours.

This course is a practical introduction to web design and marketing. Students will learn how to produce and market dynamic websites using modern content management systems.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

CIM 113. Documentary Approaches. 3 Credit Hours.

Students will explore the varied forms and narrative approaches used in contemporary documentary filmmaking to understand the position of the filmmaker as a storyteller.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CIM 120. Internet, Media, and Society. 3 Credit Hours.

Internet, Media, and Society is a foundational course intended to give perspectives on the continuing progression of technology through the lens of media and popular culture. Students will learn about the historical roots of the internet and early tech pioneers, including the various technologies, trends, and subcultures that bubbles up along the way, creating our current media and technological landscapes. From this perspective, students will gain an appreciation and greater understanding of how things came to be, especially the Internet's role in shaping society and their everyday lives.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CIM 126. Introduction to Screenwriting. 3 Credit Hours.

Creation and formatting of narrative material for motion pictures. Emphasis on writing the short film.

Components: DIL.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

CIM 151. Introduction to Digital Filmmaking. 3 Credit Hours.

Lectures and laboratory work to acquaint the student with the basic techniques of motion pictures. Students make short films using digital equipment to develop an understanding of the motion picture as a creative tool of communication and expression.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

CIM 206. History of International Cinema. 3 Credit Hours.

This course is an examination of the origin and history of the motion picture. Narrative and non-fiction genres, in the American and World Cinemas, from 1890 to the present are discussed.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

CIM 211. Interaction Design. 3 Credit Hours.

In this class students will familiarize themselves with the disciplines of user experience (UX) and interaction design (IxD) by understanding and learning how to apply creative and abstract thinking skills to facilitate communication through the design of interfaces that connect information, products, services, and space. Students will be taught to prototype rich interactive experiences and to assess ease of use, utility, perception of the value of the system, and efficiency in performing tasks.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CIM 215. 2D Character Design. 3 Credit Hours.

This is a comprehensive course devoted to the development of skills in creating characters for 2D animation and games. Students will develop an understanding of how shape language relates to the characters personality through the creation of weekly exercises. The course will be delivered in the form of studio projects, individual and class critiques, lectures, discussions, workshops and readings.

Components: LAB.

Grading: GRD.

Typically Offered: Spring.

CIM 251. Motion Picture Workshop: Storytelling. 3 Credit Hours.

The practice of the grammar of cinematic language including shot selection, composition, pacing, story clarity, performance, pre-visualization and pre-planning for the creation of short narrative projects. Through critiques, students encounter and interact with an audience of their peers. This course requires students to master contemporary technology in use in the profession.

Prerequisites: CIM 103, CIM 151.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

CIM 310. Introduction to Game Design. 3 Credit Hours.

This is an introductory course about game design, theory, and development, and how games align themselves as a lens of study for all interactive media.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CIM 326. Intermediate Screenwriting. 3 Credit Hours.

Study of, and practice in, writing feature length, narrative motion pictures. Development of story line in treatment form, attention to cinematic structure, the development of character, and its presentation on screen is discussed.

Prerequisite: CIM 126.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

CIM 329. Writing for Series Television. 3 Credit Hours.

An introduction to the structures and techniques of writing situation-comedy and dramatic series television.

Prerequisite: CIM 126.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CIM 351. Intermediate Filmmaking. 3 Credit Hours.

This course is an introduction to intermediate level techniques and methodologies for digital production of all contemporary media genres including narrative, documentary, experimental and music performance. Students will work in crews, collaboratively, with specific assigned roles throughout the production work flow.

Prerequisite: CIM 206 and CIM 251.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CIM 353. Post Production Sound Editing and Design. 3 Credit Hours.

Post production sound editing and design is a seminar/workshop that provides a practical and theoretical introduction to sound and its function in the narrative moving image process. The course explores the process from production recording through the final mix.

Requisite: Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CIM 355. Essentials of Documentary Film. 3 Credit Hours.

This course is designed to teach students how to tell compelling cinematic documentary stories with a clear and effective point-of-view. We will compare and analyze various styles of documentary storytelling and use these methods in creating effective documentaries films. An emphasis will be put on the various styles of documentary filmmaking.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CIM 356. Cinematography. 3 Credit Hours.

An overview of the cinematographer's process from script to screen. Working with camera, lighting, and grip equipment on exercises and projects is discussed.

Prerequisite: CIM 251.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CIM 357. Editing. 3 Credit Hours.

Introduction to the theory and practice of motion picture editing. Short editing assignments are designed to develop students' understanding of aesthetic, and technical considerations in the art of dramatic editing.

Prerequisite: CIM 251.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CIM 360. 360 Immersive Storytelling. 3 Credit Hours.

This course introduces the student to immersive storytelling techniques. This hands on course is designed for students who want to develop the necessary skills to make immersive projects, this course sets out the tools used tell visually effective and interactive stories. Through a wide selection of immersive material including film, games, articles, and interviews, students will also analyze immersive storytelling techniques, technologies, narrative strategies, and film theories used across media. The student will be required not only to create immersive experiences using the new technologies but to also write about new ways to think about immersive stories, moving images, interactivity, and how they affect audiences and new distribution outlets.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CIM 364. Business of Motion Pictures. 3 Credit Hours.

Students will get an overview of how content is created and who the players are. They will practice synthesizing information and translating it into a strategic plan for a business or individual career path in the entertainment industry.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CIM 386. Writing the Feature Film-Online. 3 Credit Hours.

The student will prepare and complete the first act of a feature-length screenplay or the student will prepare and commence the rewrite of an existing screenplay.

Prerequisite: CIM 126.

Components: DIL.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

CIM 394. Special Topics in Motion Pictures. 3 Credit Hours.

This course subject matter varies according to announced special topic. See class schedule for details.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CIM 395. Directing Techniques I. 3 Credit Hours.

To teach the craft of directing through exercises, screen work, and readings.

Prerequisite: CIM 251.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CIM 401. Nonfiction Film and Digital Media. 3 Credit Hours.

An examination of American and world nonfiction films and media.

Requisite: Junior Standing or Higher.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CIM 402. Global Issues and Filmmaking: An Interdisciplinary Approach. 3 Credit Hours.

We will study U.S. foreign aid policies and programs with efforts to stimulate international development, encourage humanitarian engagement, elicit diplomacy and/or promote international and national security. Case studies will focus on global health aid programs, along with other important aid initiatives. Written and oral assignments will be complemented by short analytical film created and produced by students. This will include an historical analysis on the type and purpose of foreign aid, existing online news media sources about the foreign aid programs, expert video interviews, and the coverage and editing of a class debate to fully capture the theoretical and practical foundations of international aid in the twenty-first century.

Requisite: Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CIM 403. Film Directors. 3 Credit Hours.

The study of the film authorship through a focus on specific directors.

Requisite: Junior Standing or Higher.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CIM 404. Aspects of Contemporary Cinema. 3 Credit Hours.

Study of contemporary movements in American and world cinemas.

Requisite: Junior Standing or Higher.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CIM 405. Representations of Sport in Popular Culture. 3 Credit Hours.

This course presents approaches to understanding and contextualizing representations of sports in cinema, television, and digital media. Students gain valuable skills in critical thinking, analysis, and evaluation as they learn to reflect on the various ways sports are portrayed in selected media and popular culture.

Requisite: Junior Standing or Higher.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CIM 406. Genres. 3 Credit Hours.

Study of selected genres from a variety of critical perspectives. Issues pertaining to methodologies of defining and categorizing film are discussed.

Requisite: Junior Standing or Higher.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CIM 407. National Cinemas. 3 Credit Hours.

Selected films from Europe, Asia, Africa and Latin America will be studied in relation to their diverse social, political and cultural contexts.

Requisite: Junior Standing or Higher.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CIM 408. Women, Media, and Popular Culture. 3 Credit Hours.

Examination of film, media, and gender representation from the perspective of feminist theory and cultural studies. Students explore the many ways that women have been portrayed, and how they have portrayed themselves, within popular culture.

Requisite: Junior Standing or Higher.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CIM 409. Legal Aspects of Motion Pictures. 3 Credit Hours.

The law, contracts, and negotiating techniques of the business affairs aspects of the production of motion pictures.

Requisite: Junior Status or Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CIM 413. Mobile Application Development. 3 Credit Hours.

This course will provide students the ability to conceptualize, design, and develop a mobile application of their choosing.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CIM 416. Building Virtual Worlds. 3 Credit Hours.

The purpose of this course is to explore the construction of virtual environments. Students will learn the principles of constructing interactive 3D environments using a game engine. Students will be responsible for creating a world that can be interacted with on various platforms, including virtual and mixed reality.

Prerequisite: CIM 540 or CSC 120 or ECE 118.

Components: LAB.

Grading: GRD.

Typically Offered: Spring.

CIM 424. Augmented Reality. 3 Credit Hours.

This course will provide students the ability to design and develop augmented reality apps. It covers various approaches to designing and programming augmented reality apps using the latest technologies and devices. Students will be given hands-on programming assignments and learn about the key advantages in each of the approaches via in-class discussions.

Prerequisite: CIM 540 or CSC 120 or ECE 118.

Components: LAB.

Grading: GRD.

Typically Offered: Spring.

CIM 426. Advanced Screenwriting. 3 Credit Hours.

A continuation of CIM 326. Study of, and practice in, writing feature length, narrative motion picture scripts. Attention is given to cinematic structure, the development of character, and its presentation on screen. Emphasis is placed on bringing the script to a completed draft.

Prerequisite: CIM 326.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CIM 429. Advanced Television Writing. 3 Credit Hours.

This course explores how to create, format, and write the original Television Pilot and treatment. The class will cover TV pilot format, length, structure as well as techniques in creating TV characters and situations for both comedy and dramatic episodic TV.

Prerequisite: CIM 329.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CIM 431. Human Computer Interaction. 3 Credit Hours.

This course will teach students about the importance human computer interaction (HCI) in the design, implementation, and evaluation of interactive computing systems for human use. The course will provide both practical application and theoretical knowledge of HCI, with practical concerns balanced by discussion of relevant theory from the literature of computer science, human factors, and interaction design.

Prerequisite: CIM 211.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

CIM 439. Front End Fundamentals. 3 Credit Hours.

This course focuses on the job-ready skills and production workflow techniques in highest demand for front end web developers. Students will learn, practice and demonstrate the skills and principles needed to make effective use of these technologies.

Prerequisite: CIM 111 or JMM 341.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CIM 444. Internet and Media Activism. 3 Credit Hours.

In this course, students will examine the role of media in shaping social reform to document social issues such as poverty, human rights, social inequities, the environment, and powerless groups. We will review the philosophy and history of media as activism ranging from photography, documentary, cinema, the Internet, social media and newer forms of media. Emphasis is placed on developing a critical understanding of current media advocacy practices with a conscious goal; awareness, change minds, to affect policy, and action. At the end of the semester, students will have a fully developed project concept.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CIM 451. Advanced Filmmaking Workshop. 3 Credit Hours.

The theory and practice of motion pictures production from script to screen. Lecture and laboratory. Students will develop and produce a narrative, a documentary, or an experimental work of their choice.

Prerequisite: CIM 351.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CIM 455. Science Documentary: Autism. 3 Credit Hours.

This course brings together student citizens across science, communication, and education to collaborate on content intended to reach audiences on multiple platforms. Students will be exposed to both history and cutting edge research surrounding Autism Spectrum Disorder. In addition to learning the neuroscience and genetics that underlie autism spectrum disorders, students will connect with people in the local community - to lend these issues a face and context. Students will gather information from readings, experts at the University of Miami, and the larger South Florida Community. Students will work in teams to share expertise from their fields of study to generate content for community consumption.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CIM 456. Advanced Cinematography. 3 Credit Hours.

Advanced work with camera, lighting, and grip equipment on exercises and projects.

Prerequisite: CIM 356. Or Requisite: Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CIM 457. Advanced Editing. 3 Credit Hours.

Advanced concepts in aesthetics and theories of picture and sound editing, mixing, color correction, and finishing techniques.

Prerequisite: CIM 357. Or Requisite: Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CIM 458. Documentary Production. 3 Credit Hours.

Students produce two short digital documentaries and explore various approaches to the documentary film.

Prerequisite: CIM 151.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

CIM 462. Motion Picture Marketing and Distribution. 3 Credit Hours.

Economic and marketing considerations in the production and distribution of motion pictures.

Prerequisite: CIM 364.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CIM 465. Creative Producing. 3 Credit Hours.

Students will discover what their creative voice is as a producer; sharpen their communication skills (networking, pitching, coverage & notes); and will learn the nuts and bolts of what a producer does.

Prerequisite: CIM 364.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CIM 471. Social Impact Games. 3 Credit Hours.

Students will explore the use of games as a communication tool for social good and will create their own game-based interventions.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CIM 489. Projects in Screenwriting. 3 Credit Hours.

Individual study. This course and CIM 499 cannot count for more than three credits towards a Communication major or minor.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

CIM 494. Internship in Cinema and Interactive Media. 1-3 Credit Hours.

Prescribed study and supervised work with practitioners in motion pictures.

Requisite: Sophomore Status, cumulative GPA of 2.5, and Permission of Instructor.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

CIM 499. Projects and Directed Research. 1-3 Credit Hours.

Individual study. No more than three credits may be counted toward a Communication major or minor.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

CIM 501. Principles of Aesthetics and Analysis. 3 Credit Hours.

Provides graduate students with introductory immersion in aesthetics, analysis, and history of film and media.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CIM 510. Foundation of Screenwriting. 3 Credit Hours.

This course explores the fundamental skill set necessary to manipulate the basic elements of cinematic writing. The course will investigate common dramatic elements found in all screenplays as well as teach format principles of feature, TV and emerging media scripts.

Prerequisite: CIM 126.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CIM 511. Writing the Short Film. 3 Credit Hours.

A course in the fundamentals of screenwriting focused on the creation of a 15-30 page screenplay suitable for an MFA project film. Study of and practice in writing short narrative motion picture scripts. Focus is placed on concept, content, cinematic story structure and presentation of character.

Prerequisite: CIM 510.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CIM 513. UX Research Methods. 3 Credit Hours.

This course provides a comprehensive overview of User Experience research methods and how they are incorporated into the product development lifecycle. Students will learn about user-centered design and will conduct a wide range of research methods including ethnography, questionnaires, online studies, and usability testing. There will be considerable focus on practicing research skills and reporting findings from these activities.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CIM 514. Motion Picture Studio. 3 Credit Hours.

This course allows students the time to enhance and exhibit their knowledge and skills in Motion Picture. Students will fine-tune their final film projects, polishing their final cuts for film festival submission to film festivals and professional consideration.

Motion Picture Major and Senior Standing.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CIM 515. Interactive Media Studio. 3 Credit Hours.

The Interactive Media Studio is designed to allow a student to enhance his or her accumulated knowledge and skills in interactive Media. This course prepares students to gain employment in the field by creating and producing a professional design portfolio and resume. Students will also gain knowledge about how to set up, prepare for, and conduct themselves during professional interviews.

Requisite: Senior Standing and Interactive Media Majors.

Components: STU.

Grading: GRD.

Typically Offered: Spring.

CIM 518. Seminar in Documentary Film History: Cinéma-vérité. 3 Credit Hours.

The primary focus of this course will be on the half-century old school or tradition of documentary filmmaking associated with the terms “Cinéma-vérité” and “direct cinema”. Through close analysis of selected classic and contemporary documentaries, the class will explore their historical significance, their aspirations and achievements as films, and their ways of addressing the aesthetic, epistemological, political and moral issues that inevitably arise when filmmakers take their sync-sound camera into the world and undertake to film life as it is really lived.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CIM 519. Seminar in Documentary Production. 3 Credit Hours.

The Seminar in Documentary Production is the capstone production class within the documentary track of the Cinema and Interactive Media Department. Students are entered into the course based on a proposal that outlines their documentary project.

Prerequisites: CIM 255, CIM 458 or JMM 541.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CIM 523. Advanced 3D Character Design and Motion Capture. 3 Credit Hours.

Theory and practice of the entire game art development pipeline, from 3D modeling, texturing, rigging and animation to motion capture, and special effects.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CIM 526. Adaptation. 3 Credit Hours.

This course will examine the craft and techniques of adapting sources such as novels, short stories, plays, articles, comic books, Shakespeare to the screen.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CIM 529. Nonfiction Film. 3 Credit Hours.

An examination of American and world nonfiction films.

Prerequisites: CIM 204 or CIM 205.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CIM 535. Human Centered Design. 3 Credit Hours.

This course takes a comprehensive look at human limitations and abilities and how they are key to interaction design and a great user experience. Students will learn about human behavior and how to apply UX guidelines to the design of digital interfaces. Students will also learn how to produce design deliverables for real world practice

Prerequisite: CIM 211.

Components: PRA.

Grading: GRD.

Typically Offered: Fall & Spring.

CIM 540. Intro to Creative Coding. 3 Credit Hours.

This course will introduce students to the building blocks of creative coding within the visual and media environment.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CIM 541. Technology Trends. 3 Credit Hours.

Trends is a foundation course intended to promote a dialogue about the current state of business, art, health, culture, and innovation.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CIM 542. Physical Computing. 3 Credit Hours.

This seminar will examine the differences and opportunities present, between a series of physical computing techniques and rapid prototyping.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CIM 543. Designing Innovation. 3 Credit Hours.

Students will explore the process of creating a dialogue between individuals or groups of people and a product, service, or system.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CIM 545. Managing Interactive Media Projects. 3 Credit Hours.

This course takes a comprehensive look at managing interactive media projects from inception to implementation and maintenance.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CIM 550. Motion Graphics and Compositing. 3 Credit Hours.

Methods, techniques and aesthetics of 2D computer animation and compositing including animated text, title design, and green screen.

Prerequisite CIM 206.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CIM 551. Advanced Motion Graphics and Compositing. 3 Credit Hours.

Extend the 2D skills of students who have taken CIM 550 to 3D motion graphics and animation. Emphasis on title design and animation.

Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CIM 552. Motion Picture Marketing and Distribution. 3 Credit Hours.

Economic and marketing considerations in the production and distribution of motion pictures.

Prerequisite CIM 206.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CIM 553. Advanced Motion Picture Marketing. 3 Credit Hours.

Advanced marketing considerations in the distribution of motion pictures.

Prerequisite: CIM 552.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CIM 560. Directing the Actor. 3 Credit Hours.

The purpose of this course is to teach and practice the craft of directing, including text analysis, characterization, visualization, design, intention and rehearsal: to train students to articulate their ideas to actors and film crew.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CIM 566. Character and Dialogue. 3 Credit Hours.

An examination of the craft and techniques of creating original characters and dialogue.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CIM 590. Prototyping Techniques. 3 Credit Hours.

This course covers accepted prototyping techniques introducing students to a wide variety of approaches for different kinds of user experience design problems and platforms. Students will learn to develop preliminary iterations of a solution to a design problem in order to communicate the essence of their idea without committing to a costly implementation.

Prerequisite: CIM 111.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CIM 591. Advanced Systems: Designing Playful Experiences. 3 Credit Hours.

Building on their systems foundation from the Intro to Systems course, students will continue to play and analyze the games along with designing games in order to build a more extensive vocabulary and toolkit to both understand and design interactive systems. Students will be exposed to a range of popular game prototyping technologies (for example: Twine, GameSalad, ARIS) and will create several mini projects as well as one final game project created using the platform of their choice. Students will explore a different core game mechanic with each prototyping tool thus broadening their ability to create targeted meaning within a playful experience.

Prerequisite: CIM 211 or CIM 310.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CIM 593. Dynamic Data. 3 Credit Hours.

This course teaches data analysis through the development of interactive web applications. The course focuses on communicating through computer programming. Students will learn to build and use databases as a primary source and explore data as content. For this course students will be required to build custom software solutions through web programming languages that utilize third party APIs to interpret, analyze and manipulate data.

Prerequisites: JMM 341 or CIM 111.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CIM 594. Special Topics in Cinema and Interactive Media. 3 Credit Hours.

This course subject matter varies according to announced special topic. See class schedule for details.

Requisite: Junior Status.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CIM 595. Directing Techniques. 3 Credit Hours.

To build a more advanced set of professional skills and practices through scene work, shooting, and collaboration.

Prerequisite: CIM 251. Or Requisite: Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CIM 599. Advanced Projects and Directed Research. 1-6 Credit Hours.

Individual study. May be repeated for a maximum of six credits.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

CIM 601. Principles of Aesthetics and Analysis. 3 Credit Hours.

Provides graduate students with introductory immersion in aesthetics, analysis, and history of film and media.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CIM 602. Global Issues and Filmmaking. 3 Credit Hours.

We will study U.S. foreign aid policies and programs with efforts to stimulate international development, encourage humanitarian engagement, elicit diplomacy and/or promote international and national security. Case studies will focus on global health aid programs, along with other important aid initiatives. Written and oral assignments will be complemented by short analytical film created and produced by students. This will include a historical analysis on the type and purpose of foreign aid, existing online news media sources about the foreign aid programs, existing online news media sources about the foreign aid programs, expert video interviews, and the coverage and editing of a class debate to fully capture the theoretical and practical foundations of international aid in the twenty-first century.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CIM 603. Film Directors. 3 Credit Hours.

This course will address the conditions of authorship in film through an intensive study of the films of two or more directors, whose careers will serve as case studies. These directors will be historically important and their work will represent significant achievements in the art of film.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CIM 604. Aspects of Contemporary Cinema. 3 Credit Hours.

The study of the ways in which film communicates. Intensive analysis and criticism of cinematic techniques exemplified through particular films.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CIM 606. Genres. 3 Credit Hours.

A study of selected movie genres from a variety of critical perspectives. Issues pertaining to selfhood, sexual difference, and other concerns of present-day film criticism will be examined.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CIM 608. National Cinemas. 3 Credit Hours.

Selected films from Europe, Asia, Africa and Latin America will be studied in relation to their diverse social/political and cultural contexts.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CIM 609. Legal Aspects of Motion Pictures. 3 Credit Hours.

The law, contracts, and negotiating techniques of the business affairs aspects of the production of motion pictures.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CIM 610. Foundation of Screenwriting. 3 Credit Hours.

This course explores the fundamental skill set necessary to manipulate the basic elements of cinematic writing. The course will investigate common dramatic elements found in all screenplays as well as teach format principles of feature, TV and emerging media scripts.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CIM 611. Writing the Short Film. 3 Credit Hours.

A course in the fundamentals of screenwriting focused on the creation of a 15-30 page screenplay suitable for an MFA project film. Study of and practice in writing short narrative motion picture scripts. Focus is placed on concept, content, cinematic story structure and presentation of character.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CIM 612. Writing for Episodic Television. 3 Credit Hours.

The course will explore the art and craft required to write a "spec" Television episode. The course will explore how TV writing differs from feature writing and how the TV writer/producer business model works. By the end of the course the student will have finished an hour-long "spec" script for an existing TV show or a two-part sitcom teleplay.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CIM 613. Mobile Application Development. 3 Credit Hours.

This course will provide students the ability to conceptualize, design, and develop a mobile application of their choosing.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CIM 615. 2D Character Design. 3 Credit Hours.

This is a comprehensive course devoted to the development of skills in creating characters for 2D animation and games. Students will develop an understanding of how shape language relates to the characters personality through the creation of weekly exercises. The course will be delivered in the form of studio projects, individual and class critiques, lectures, discussions, workshops and readings.

Components: LAB.

Grading: GRD.

Typically Offered: Spring.

CIM 616. Building Virtual Worlds. 3 Credit Hours.

The purpose of this course is to explore the construction of virtual environments. Students will learn the principles of constructing interactive 3D environments using a game engine. Students will be responsible for creating a world that can be interacted with on various platforms, including virtual and mixed reality.

Prerequisite: CIM 640 or CSC 120 or ECE 118.

Components: LAB.

Grading: GRD.

Typically Offered: Spring.

CIM 618. Seminar in Documentary Film History: Cinéma-vérité. 3 Credit Hours.

The primary focus of this course will be on the half-century old school or tradition of documentary filmmaking associated with the terms "Cinéma-vérité" and "direct cinema". Through close analysis of selected classic and contemporary documentaries, the class will explore their historical significance, their aspirations and achievements as films, and their ways of addressing the aesthetic, epistemological, political and moral issues that inevitably arise when filmmakers take their sync-sound camera into the world and undertake to film life as it is really lived.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CIM 619. Seminar in Documentary Production. 3 Credit Hours.

The Seminar in Documentary Production is the capstone production class within the documentary track of the Cinema and Interactive Media Department. Students are entered into the course based on a proposal that outlines their documentary project.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CIM 620. Cinematography. 3 Credit Hours.

This hands-on course provides students with the aesthetic and technical aspects of professional concepts and techniques in film and digital media cinematography.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CIM 621. Narrative Production. 3 Credit Hours.

An introduction to film and digital production techniques on narrative projects. Emphasis on collaboration, group process and social purpose. Students will be expected to produce a short film abroad as part of this course.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CIM 622. UX Research. 3 Credit Hours.

The course provides a comprehensive overview of User Experience research methods and how they are incorporated into the product development lifecycle. Students will learn about user-centered design and will conduct a wide range of research methods including ethnography, questionnaires, online studies, and usability testing. There will be considerable focus on practicing research skills and reporting findings from these activities.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CIM 623. Advanced 3D Character Design. 3 Credit Hours.

Theory and practice of the entire game art development pipeline, from 3D modeling, texturing, rigging and animation to motion capture, and special effects.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CIM 624. Augmented Reality. 3 Credit Hours.

This course will provide students the ability to design and develop augmented reality apps. It covers various approaches to designing and programming augmented reality apps using the latest technologies and devices. Students will be given hands-on programming assignments and learn about the key advantages in each of the approaches via in-class discussions.

Prerequisite: CIM 640 or CSC 120 or ECE 118.

Components: LAB.

Grading: GRD.

Typically Offered: Spring.

CIM 626. Adaptation. 3 Credit Hours.

This course will examine the craft and techniques of adapting sources such as novels, short stories, plays, articles comic books, and public domain material such as Shakespeare to the screen.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CIM 629. Nonfiction Film. 3 Credit Hours.

An examination of American and world nonfiction films.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CIM 630. Introduction to Editing. 3 Credit Hours.

Introduction to the theory and practice of motion picture editing. Short editing assignments are designed to develop students' understanding of aesthetic, and technical considerations in the art of dramatic editing.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CIM 631. Human Computer Interaction. 3 Credit Hours.

This course will teach students about the importance human computer interaction (HCI) in the design, implementation, and evaluation of interactive computing systems for human use. The course will provide both practical application and theoretical knowledge of HCI, with practical concerns balanced by discussion of relevant theory from the literature of computer science, human factors, and interaction design.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

CIM 635. Human Centered Design. 3 Credit Hours.

This course takes a comprehensive look at human limitations and abilities and how they are key to interaction design and a great user experience. Students will learn about human behavior and how to apply UX gridlines to the design of digital interfaces. Students will also learn how to produce design deliverables for real world practice.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CIM 636. Collaborative Innovation Laboratory. 3 Credit Hours.

In this collaboration studio course, students will form small teams and undertake real-world projects with a partnering organization. Students will be provided a design brief outlining project objectives identified by the partnering organization. Over the course of the semester, students will research, brainstorm, design, and test innovative interactive solutions for this core objective, including proposing ideas and presenting prototypes to the partnering organization. Projects that satisfy the partner's needs may result in on-going work for full implementation and exposure for students' work.

Components: LAB.

Grading: GRD.

CIM 639. Front End Fundamentals. 3 Credit Hours.

This course focuses on the job-ready skills and production workflow techniques in highest demand for front end web developers. Students will learn, practice and demonstrate the skills and principles needed to make effective use of these technologies.

Prerequisite: CIM 111 or JMM 341.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CIM 640. Intro to Creative Coding. 3 Credit Hours.

This course will introduce students to the building blocks of creative coding within the visual and media environment.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CIM 641. Technology Trends. 3 Credit Hours.

Trends is a foundation course intended to promote a dialogue about the current state of business, art, health, culture, and innovation.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CIM 642. Physical Computing. 3 Credit Hours.

This seminar will examine the differences and opportunities present, between a series of physical computing techniques and rapid prototyping.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CIM 643. Designing Innovation. 3 Credit Hours.

In this course, students will learn methods for investigating problems, prioritizing resolutions, and designing practical solutions. Students will be exposed to current technology trends and innovative projects and will critique them as a means for understanding their affordances and their possible limitations. Students will learn brainstorming techniques to fuel their creation of innovative products and will present these for feedback and further ideation.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CIM 644. Internet and Media Activism. 3 Credit Hours.

In this course, students will examine the role of media in shaping social reform to document social issues such as poverty, human rights, social inequities, the environment, and powerless groups. We will review the philosophy and history of media as activism ranging from photography, documentary, cinema, the Internet, social media and newer forms of media. Emphasis is placed on developing a critical understanding of current media advocacy practices with a conscious goal; awareness, change minds, to affect policy, and action. At the end of the semester, students will have a fully developed project concept.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CIM 645. Managing Interactive Media Projects. 3 Credit Hours.

This course takes a comprehensive look at managing interactive media projects from inception to implementation and maintenance.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CIM 651. Motion Graphics and Compositing. 3 Credit Hours.

Methods, techniques and aesthetics of 2D computer animation and compositing including animated text, title design, and green screen.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CIM 654. Advanced Motion Graphics and Compositing. 3 Credit Hours.

Extend the 2D skills of students who have taken CMP 550 to 3D motion graphics and animation. Emphasis on title design and animation.

Prerequisite: CIM 651.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CIM 655. Science Documentary: Autism. 3 Credit Hours.

This course brings together student citizens across science, communication, and education to collaborate on content intended to reach audiences on multiple platforms. Students will be exposed to both history and cutting edge research surrounding Autism Spectrum Disorder. In addition to learning the neuroscience and genetics that underlie autism spectrum disorders, students will connect with people in the local community - to lend these issues a face and context. Students will gather information from readings, experts at the University of Miami, and the larger South Florida Community. Students will work in teams to share expertise from their fields of study to generate content for community consumption.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CIM 658. Documentary Production. 3 Credit Hours.

An introduction to the documentary genre including the production of a documentary from start to finish.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CIM 660. Directing the Actor. 3 Credit Hours.

The purpose of this course is to teach and practice the craft of directing, including text analysis, characterization, visualization, design, intention and rehearsal: to train students to articulate their ideas to actors and film crew.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CIM 661. 360 Immersive Storytelling. 3 Credit Hours.

This course introduces the student to immersive storytelling techniques. This hands-on course is designed for students who want to develop the necessary skills to make immersive projects, this course sets out the tools used to tell visually effective and interactive stories. Through a wide selection of immersive material including film, games, articles, and interviews, students will also analyze immersive storytelling techniques, technologies, narrative strategies, and film theories used across media. The student will be required not only to create immersive experiences using the new technologies but to also write about new ways to think about immersive stories, moving images, interactivity, and how they affect audiences and new distribution outlets.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CIM 666. Character and Dialogue. 3 Credit Hours.

An examination of the craft and techniques of creating original characters and dialogue.

Prerequisite: CIM 610.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CIM 670. The Independent Producer. 3 Credit Hours.

Beyond covering the role of the producer, this hands-on class offers students a place to workshop their thesis projects. Students will brand themselves or their company and leave with a packaged project ready to take to market.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CIM 686. Online Screenwriting. 3 Credit Hours.

The student will prepare and complete the first act of a feature-length screenplay or the student will prepare and commence the rewrite of an existing screenplay.

Components: DIL.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

CIM 690. Prototyping Techniques. 3 Credit Hours.

This course covers accepted prototyping techniques introducing students to a wide variety of approaches for different kinds of user experience design problems and platforms. Students will learn to develop preliminary iteration of a solution to a design problem in order to communicate the essence of their idea without committing to a costly implementation.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CIM 691. Capstone. 3 Credit Hours.

The capstone seminar is designed to demonstrate a student's accumulated training in Interactive Media in a single original project of their choice, subject to the instructor's approval and under the additional supervision of a faculty mentor.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CIM 692. Advanced Systems: Designing Playful Experiences. 3 Credit Hours.

Building on their systems foundation from the Intro to Systems course, students will continue to play and analyze the games along with designing games in order to build a more extensive vocabulary and toolkit to both understand and design interactive systems. Students will be exposed to a range of popular game prototyping technologies (for example: Twine, GameSalad, ARIS) and will create several mini projects as well as one final game project created using the platform of their choice. Students will explore a different core game mechanic with each prototyping tool thus broadening their ability to create targeted meaning within a playful experience.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CIM 693. Dynamic Data. 3 Credit Hours.

This course teaches data analysis through the development of interactive web applications. The course focuses on communicating through computer programming. Students will learn to build and use databases as a primary source and explore data as content. For this course students will be required to build custom software solutions through web programming languages that utilize third party APIs to interpret, analyze and manipulate data.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CIM 694. Motion Picture Marketing and Distribution. 3 Credit Hours.

Economic and marketing considerations in the production and distribution of motion pictures.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CIM 695. Advanced Motion Picture Marketing. 3 Credit Hours.

Advanced marketing considerations in the distribution of motion pictures.

Prerequisite: CIM 694.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CIM 696. Directing Techniques. 3 Credit Hours.

To build a more advanced set of professional skills and practices through scene work, shooting, and collaboration.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CIM 697. Topics in Film Analysis. 3 Credit Hours.

Content varies by semester. Topics such as Film Directors, National Cinemas, Silent Film, Contemporary Cinema. Course may be repeated for credit if content varies.

Requisite: Graduate Standing.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CIM 705. Production Management. 3 Credit Hours.

A comprehensive examination of the skills and techniques employed by line producers and production managers in the preproduction, production, and post-production of motion pictures.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CIM 707. Pedagogy and Film. 3 Credit Hours.

This course covers a range of traditions in pedagogy, including history, theory, and practical applications. Intended for those who are currently teaching—or who intend to teach—at the college level, the course provides grounding in foundational approaches as well as a familiarity with recent research advancements in pedagogy.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CIM 710. Writing the Feature-Length Screenplay. 3 Credit Hours.

Study of and practice in writing feature-length, narrative motion picture scripts. Focus is placed on cinematic structure and presentation of character. Classes will generally be conducted as follows: a discussion of screenplay craft, an in-depth analysis of various films from the writer's POV, and a critique of the various stages of your fellow student screenplays as they evolve throughout the semester.

Prerequisite: CIM 510.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CIM 721. Game Development Studio. 3 Credit Hours.

Game Dev Studio is a project-based course devoted to developing a game. In groups, students will start with a concept and create prototypes that will be refined through multiple iterations and playtests. Your final game will either be a well-polished 2D or 3D digital game.

Components: LEC.

Grading: CNC.

Typically Offered: Fall.

CIM 727. Scriptwriting. 3 Credit Hours.

Study of and practice in writing feature-length, narrative motion picture scripts. Focus is placed on cinematic structure and presentation of character.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CIM 730. Advanced Editing. 3 Credit Hours.

An examination of the art and techniques of post-production designed for students completing advanced motion picture projects. Lectures, group discussions and screenings. Emphasis on rhythm, dramatic moments, character arcs, symbolic vs. thematic editing, elements of sound editing, sound design, and professional mastering standards. This class is designed to develop editorial skills that will prepare students for professional careers in editing. In-depth examination of effects and sound palettes of the Avid Media Composer, as well as a discussion of how to integrate visual effects from external applications. Finishing and mastering techniques for a variety of mediums as well as a reel building will be covered.

Prerequisite: CIM 630.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CIM 738. Writing the Short Film. 3 Credit Hours.

A course in the fundamentals of screenwriting focused on the creation of a 15-30 page screenplay suitable for an MFA project film.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CIM 740. Sound Design. 3 Credit Hours.

Sound Design through seminar and workshop provides a practical and theoretical introduction to sound and its function in the narrative moving image process. The course utilizes professional environments to instruct in the basics of sound editing, studio recording and mixing as it is practiced in the film industry. It will also present the aesthetic use of sound and its integral part in the moving image narrative process.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CIM 750. From Script to Screen. 3 Credit Hours.

Advanced production concepts and techniques explored in a variety of media. Students will produce an approved film or script. The class will explore the language of motion picture and how this language is utilized in the story telling process. Knowledge of both the practical and aesthetic aspects of film will be stressed at all times.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CIM 752. Advanced Cinematography. 3 Credit Hours.

Advanced technical and photographic principles begun in CMP 651. Preparation for the filming of the MFA project film.

Prerequisite: CIM 620.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CIM 756. Motion Picture Post-Production Procedures. 3 Credit Hours.

An examination of the esthetics of editing, recording, re-recording, and laboratory procedures following completion of principal photography.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CIM 761. Directing the Camera. 3 Credit Hours.

An introduction to directing actors in low budget, independent films utilizing traditional, modern and evolving directorial techniques used by independent and traditional film makers: analyzing and orchestrating scripted material, developing a directorial concept, creating indelible characterizations, building a visual image, auditioning and casting the talent, blocking and directing the untrained amateur or highly skilled professional actor.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CIM 794. Motion Picture Internship. 1-3 Credit Hours.

Prescribed study and supervised work with practitioners in motion pictures.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

CIM 795. Special Topics in Cinema and Interactive Media. 3 Credit Hours.

This course subject matter varies according to announced special topic. See class schedule for details.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CIM 799. Advanced Projects and Directed Research. 1-6 Credit Hours.

Individual study, involving a project, paper or a program of research designed in consultation with a supervising faculty member. No more than six credits may be counted toward the degree.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CIM 815. MFA Thesis. 1-6 Credit Hours.

The focus is on completing the culminating thesis project, in consultation with the student's selected committee and thesis chair.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

Civil, Architectural, and Environmental Engineering (CAE)

CAE 100. Introduction to Civil, Architectural, and Environmental Engineering. 3 Credit Hours.

This introductory course is designed to expose high school students to a variety of specific disciplines within the civil engineering arena to assist them in making informed decisions about possible college majors. The program is designed for the exemplary high school student interested in applied mathematics and science. All students enrolled in this course will gain experience in problem solving, engineering mechanics, computer simulation, and laboratory activity. The course content changes throughout the 3-week duration and includes topics on civil engineering, environmental engineering, and architectural engineering. The students will be provided with an understanding and some hands-on experience on topics relative to the disciplines of civil, architectural, and environmental engineering. Via an introduction to several case histories, the students will be able to understand the challenges associated with the design and construction and importance of the scientific methods in engineering. The laboratory and field trip experiences will deal with bridge building, material testing, water purification, and building systems.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

CAE 111. Introduction to Engineering I. 3 Credit Hours.

Use of engineering tools for problem solving. Computer techniques for data acquisition, analysis and presentation, software design, and computer aided drafting are covered. Development of design skills is achieved through several design and building competitions. Introduction to professional ethics and intellectual property rights, MATLAB, AutoCAD, and programming in C++ is also included.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CAE 112. Introduction to Engineering II. 2 Credit Hours.

Hands-on applications of various surveying instruments for leveling, angles and distance measurements, and other engineering applications. Hands on application of Geographic Information Systems, including ArcView and extensions.

Prerequisite: CAE 111.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CAE 114. Introduction to Engineering II (GIS). 1 Credit Hour.

Fundamentals of Geographic Information Systems (GIS). Hands on application of GIS using ArcGIS and extensions.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CAE 115. Introduction to Engineering II (Surveying). 1 Credit Hour.

Hands on application of various surveying instruments. Leveling, angles and distance measurements.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CAE 210. Mechanics of Solids I. 3 Credit Hours.

Vectors, force systems, equilibrium, analysis of frames, machines, trusses for internal forces, friction, centroids, moment of inertia, and shear and bending moment diagrams are discussed.

Prerequisite: Engineering Program - PHY 205 And MTH 151 Or 161 Or 171. Non-Engineering Program - PHY 101 Or 103 Or 160 Or 201 And MTH 130 Or 141 Or 161 Or 171.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CAE 211. Mechanics of Solids II. 3 Credit Hours.

Fundamental material behavior including stresses, strains, and deformations associated with axial, bearing, flexural, shear, thermal, and torsional loading. Composite beams, elastic buckling of columns, combined loading, Mohr's Circle, and statically indeterminate analysis of axial members is also included.

Prerequisite: CAE 210.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CAE 212. Structural Laboratory. 1 Credit Hour.

Laboratory techniques, tests for tension, compression, shear, bending, and torsion are discussed. Models, similitudes, buckling of columns, and review of current research are also included. Laboratory 3 hours.

Prerequisite: IEN 311. Or Corequisite: IEN 311 or CAE 211.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

CAE 213. Behavior of Structural Systems I. 3 Credit Hours.

The course begins with a review of basic structural principles. From this basis, analysis and design of simple axial loaded structural systems and members is covered. Through the use of project based learning the students are introduced to the principles of statics using both graphical and calculated methods. Concurrent and non-concurrent systems are defined and analysis of concurrent systems is covered in this course. Structural systems based on concurrent forces are covered including cable suspension structures, concrete shells, trusses, fan like structures and membrane structures. The requirements of building codes are included in the lectures. The class concludes with discussion of structural materials and failure modes accompanied with a visit to the Civil/Architectural Engineering Laboratory.

Prerequisite: ARC 231.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CAE 240. Environmental Pollution. 3 Credit Hours.

Exploration of contemporary environmental issues. Introduction to engineering approaches for protecting and cleaning up the environment, techniques for assessing the impact of human activity on the environment, strategies for pollution control and implementation of environmental mitigation measures.

Requisite: Sophomore Standing or Higher.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CAE 310. Structural Analysis. 3 Credit Hours.

Analysis of statically determinate and indeterminate structures for internal forces, external reactions, displacements, including influence lines.

Prerequisite: CAE 211.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CAE 313. Behavior of Structural Systems II. 3 Credit Hours.

Upon completion the students will understand the application of fundamental methods of structural frame systems and their place in architectural design. The bending action of beams, including shear and moment diagrams and shear and bending stress calculations are covered. Structural material design for steel, concrete, wood and masonry are covered as separate topics. They will also understand the integration of basic elements into structural systems that resist both gravity and lateral loads. The course allows students to develop foundation and framing systems.

Prerequisite: CAE 213.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CAE 320. Concrete Structures. 3 Credit Hours.

Course topics include design of concrete beams, columns, structural systems one-way slabs, and isolated footings by ultimate design methods.

Pre or Corequisite: CAE 310.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CAE 321. Steel Structures. 3 Credit Hours.

Design of tension, compression, flexural members, and beam columns using load and resistance factor design are discussed. Introduction to design and detailing of welded and bolted connections is also included.

Pre or Corequisite: CAE 310.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CAE 330. Fluid Mechanics. 3 Credit Hours.

Properties of fluids, gas systems, pressure distribution in static fluids, and hydrostatic forces on plane and curved surfaces are discussed. Kinematics and dynamics of fluid motion, dimensional analysis and similitude, flow in closed conduits, pumps, design of water distribution systems, and an introduction to flow in open channels is also included.

Prerequisite: CAE 211. And PHY 206.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CAE 340. Introduction to Environmental Engineering. 3 Credit Hours.

Environmental mass and energy balances, introduction to environmental chemistry, air pollution, water pollution, sustainable solid waste management, risk assessment, and global atmospheric change are discussed.

Prerequisite: MTH 162, and CHM 111 or CHM 151.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CAE 345. Environmental Laboratory and Analysis. 3 Credit Hours.

Laboratory-based course focusing on the analysis of environmental samples including water, wastewater, air, and solids. Basic analytical techniques and quality control are also included as well as an introduction to advanced analytical measurements.

Prerequisite: CHM 112 And CAE 340.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CAE 350. Transportation Engineering I. 3 Credit Hours.

Transportation systems and organizations. Characteristics of driver, vehicles and roads. Basic probability and statistics. Traffic studies and data collection. Signal timing design, basic capacity and analysis. Basic geometric design and route surveying. Highway safety. Sustainable transportation systems.

Prerequisite: MTH 211 and Requisite: Junior Standing.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CAE 370. Geotechnical Engineering I. 3 Credit Hours.

Soil composition and classification, excavation, grading, fill compaction, stress distribution in soils, one-dimensional flow of water through soil, laboratory, and field permeability, effective stress concept, calculation of consolidation, field settlement, bearing capacity, and design and analysis of shallow foundations are discussed.

Prerequisite: CAE 211. And Corequisite: CAE 371.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CAE 371. Geotechnical Laboratory. 1 Credit Hour.

Evaluation of physical and mechanical properties of soils, and preparation of reports. Three hours.

Prerequisite: ENG 107. And IEN 311. And Corequisite: CAE 370.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CAE 380. Electrical and Illumination Systems for Buildings. 3 Credit Hours.

Typical electrical systems for buildings including electrical circuits, protective devices and code requirements. Illumination and lighting design.

Prerequisite: PHY 207.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CAE 381. Building Mechanical Systems I: Hvac Fundamentals. 3 Credit Hours.

Moist air properties and psychrometric chart. Indoor air quality and thermal comfort. Air conditioning systems and processes. Heat transfer in buildings. Solar radiation. Space load analysis and calculation.

Prerequisite: MAE 303 and Corequisite: CAE 330.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CAE 395. Undergraduate Research. 1-3 Credit Hours.

Designed for the undergraduate student who wishes to engage in research. Not for graduate credit or for baccalaureate graduation credit. Subject and credit to be arranged with the instructor.

Components: THI.

Grading: GRD.

Typically Offered: Spring.

CAE 399. Internship. 1 Credit Hour.

Practical application of classroom theory through employment with firms offering positions consistent with the student's field of study. Courses may be repeated.

Components: IND.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

CAE 400. Preparation for FE Exam. 1 Credit Hour.

Review of material in preparation for the Fundamentals of Engineering (FE) examination. For credit only.

Requisite: Senior Status.

Components: LEC.

Grading: CNC.

Typically Offered: Offered by Announcement Only.

CAE 402. Professional Engineering Practice. 3 Credit Hours.

Principles of engineering economics and economic evaluation of engineering projects. A discussion of professional practice issues including the philosophy and methodology of engineering, professional licensure and ethics. Discussion of the business aspects of engineering including business organization, management, contracts and legal issues. Engineering leadership in the formulation of public policy.

Requisite: Senior Status.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CAE 403. Senior Design Project I - Engineering Design. 3 Credit Hours.

A two semester comprehensive design project applying the knowledge acquired during earlier coursework and implementing the pedagogy of life-long learning. Team projects incorporate interdisciplinary design skills, engineering standards and realistic constraints. The faculty coordinator working with practicing design professionals provide consultation, guidance and recommendations on aspects such as problem definition, evaluation of design alternatives and approaches. The course progresses along the customary design sequence of pre-design, schematic design and design development phases established in Civil, Architectural and Environmental Engineering practice.

Requisite: Senior Standing.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CAE 404. Senior Design Project II - Construction Documents. 3 Credit Hours.

The second semester of a two semester comprehensive design project applying the knowledge acquired during earlier coursework and implementing the pedagogy of life-long learning. Team projects incorporating interdisciplinary design skills, engineering standards and realistic constraints.

The faculty coordinator working with several practicing design professionals provide consultation, guidance, and recommendations on aspects of preparing the construction documents required for project procurement and construction. Using the designs produced in CAE 403 the course develops the drawings, specifications and calculations required for a comprehensive construction documents package.

Prerequisite: CAE 403.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CAE 421. Timber Structural Systems. 3 Credit Hours.

Engineering properties of timber, design of tension, compression, and flexural members are covered. The design and detail of connections and hardware, and the design of timber systems and heavy timber construction is also included. Prerequisite: CAE 310.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CAE 430. Water-Resources Engineering I. 3 Credit Hours.

Basic principles of open channel flow. Computation of water surface profiles. Design of hydraulic structures, design of lined and unlined open channels, and design of sanitary sewer systems. Introduction to hydrology and analysis of hydrologic data. Rainfall characteristics and peak runoff models.

Prerequisite: CAE 330.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CAE 440. Water Quality Control Systems. 3 Credit Hours.

Physical, Chemical and Biological Transformations; Water and Wastewater Treatment Processes; Water Treatment Plant Design; Wastewater Treatment Plant Design; Case Studies

Prerequisite: CAE 330. And CAE 340.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CAE 450. Transportation Engineering II. 3 Credit Hours.

Transportation system planning and design. Advanced geometric design for highway and railway/transit. Human, vehicle, and environmental factors affecting the design, operation, and safety of transportation systems. Planning and design of both landside/airside aspects of airport facilities. Water port and multi-modal facilities design.

Prerequisite: CAE 350.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CAE 460. Construction Management. 3 Credit Hours.

An introduction to the management of construction projects including legal considerations as well as the techniques of management science applied to construction. The course includes engineering methods of cost and time estimating, and exercises in applications of engineering economics, network planning techniques, including CPM and PERT are introduced. The management principles of time and cost control are also explored. Computer application of project management tools are included.

Requisite: Senior Status.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CAE 470. Foundations and Earth Retaining Systems. 3 Credit Hours.

Natural soil deposits and subsoil exploration. Geotechnical analysis and design of shallow and deep foundations. Theories of lateral earth pressure. Design and analysis of earth-filled retaining systems.

Prerequisite: CAE 330. And CAE 370. And CAE 371.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CAE 480. Plumbing and Life Safety for Buildings. 3 Credit Hours.

Design of Building environmental systems including domestic cold and hot water systems, sanitary storm and special waste systems, fuel gas systems, building life safety systems and architectural acoustics.

Prerequisite: CAE 330.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CAE 481. Building Mechanical Systems II: HVAC Systems. 3 Credit Hours.

Applies engineering principles to the design of heating, ventilating, and air conditioning (HVAC) systems for buildings. Covers air distribution systems, air handling units, coils and heat exchangers, water distribution systems, and primary systems.

Prerequisite: CAE 381. And CAE 330.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CAE 510. Structural Mechanics. 3 Credit Hours.

Analysis of stress and deformation of solids. Application to systems in the elastic and inelastic range. Topics include beams of special geometry and support, stress concentrations, stresses in elastic foundations, torsion, energy methods, failure theories, and brittle fracture.

Prerequisite: CAE 211. And CAE 310.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CAE 511. Advanced Structural Analysis. 3 Credit Hours.

General methods of indeterminate analysis. Elements of energy method in indeterminate analysis of axial, flexural torsional, and composite members. Basic flexural and stiffness methods and matrix development are also included.

Prerequisite: CAE 211. And CAE 310.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CAE 520. Advanced Design of Concrete Structures. 3 Credit Hours.

Analysis and design of reinforced concrete elements in the context of the current ACI Building Code; beams subjected to combined loading, flat plates, flat slabs, slender columns, connections, and concrete building systems are included.

Prerequisite: CAE 310. And CAE 320.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CAE 521. Advanced Design of Steel Structures. 3 Credit Hours.

Steel framing systems, design of members and connections of braced and rigid frames, design for torsion, and design of steel-concrete composite members are discussed.

Prerequisite: CAE 310. And CAE 321.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CAE 522. Design of Prestressed Concrete Structures. 3 Credit Hours.

Materials and systems for prestressing, design of prestressed concrete members for flexure and shear, camber, deflection, and crack control are discussed. Design of continuous beams, compression members, two-way concrete floor systems, and the loss of prestress are also included.

Prerequisite: CAE 310. And CAE 320.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CAE 523. Design of Masonry Structures. 3 Credit Hours.

Masonry construction. Design of flexural and compression members, bearing walls, shear walls, diaphragms, and connections of masonry structures. Arches, vaults, and buttresses are also included.

Prerequisite: CAE 310. And CAE 320.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CAE 525. Timber Structural Systems. 3 Credit Hours.

Engineering properties of timber, design of tension, compression, and flexural members are covered. The design and detail of connections and hardware, and the design of timber systems and heavy timber construction is also included.

Prerequisite: CAE 310.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CAE 530. Water Resources Engineering II. 3 Credit Hours.

Runoff models, routing models, water-quality models, and evapotranspiration models. Design of storm water management systems. Principles of groundwater flow. Design of wells and wellfields for public water supply. Legal regulatory, and economic components of water-resources management systems. Comprehensive design project.

Prerequisite: CAE 430.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CAE 531. Surface-Water Hydrology. 3 Credit Hours.

Rainwater characteristics, abstraction processes, surface-runoff, routing, and water-quality models. Design of stormwater-management systems, evapotranspiration, and regional water-management is also included as well as case studies.

Prerequisite: CAE 430.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CAE 532. Ground-Water Hydrology. 3 Credit Hours.

Governing equations of ground-water flow. Numerical modeling of ground-water flow. Analytic and semi-analytic solutions to the flow equations. Principle of superposition and method of images. Saltwater intrusion. Ground-water flow in the unsaturated zone. Engineered systems. Introduction to contaminant fate and transport in ground water.

Prerequisite: CAE 430.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CAE 533. Water-Quality Control in Natural Systems. 3 Credit Hours.

Water quality regulations, fate and transport processes, water-quality control in rivers, lakes, wetlands, oceans, and ground water.

Pre or Corequisite: CAE 430. And CAE 440.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CAE 540. Environmental Chemistry. 3 Credit Hours.

Kinetics, equilibrium, acid-base, oxidation-reduction, and reaction chemistry applied to water and wastewater engineering.

Prerequisite: CHM 112.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CAE 541. Engineering Systems for Disease Control and Bioremediation. 3 Credit Hours.

Classification of microorganisms. Microbial agents of infectious diseases and modes of disease transmission. Control of pathogens through water and waste treatment, food protection, and insect control. Microbial ecology and bioremediation systems. Laboratory exercises in microbiology.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CAE 542. Solid and Hazardous Waste Engineering. 3 Credit Hours.

Solid-waste characteristics, recycling, incineration, hazardous waste characteristics, prevention, and physical and chemical treatment are covered. Design projects are also included.

Prerequisite: CAE 340.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CAE 543. Air Pollution Control Engineering. 3 Credit Hours.

Fundamentals of air pollution and air quality; properties and control of particulates, volatile organic compounds, carbon monoxide, sulfur oxides, and nitrogen oxides; motor vehicle emissions; health and aesthetic effects (acid rain, visibility), laws and regulations, meteorology and pollutant transport in the atmosphere; indoor air pollution.

Prerequisite: MAE 303. And CAE 330. Or MAE 309.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CAE 560. Sustainable Construction. 3 Credit Hours.

Drivers and foundations of sustainable construction. Principles of sustainable construction: integrated planning and design, life-cycle view of projects, resource selection and optimization, protection of the natural environment, toxics and pollutants elimination, durability and quality. Green building assessment initiatives, green building policies, and code impacts. Evaluation of the environmental impacts of construction operations. Innovative design and construction practices. Economic viability. Subtropical and coastal issue and opportunities. Case studies.

Pre or Corequisite: CAE 403. Or CAE 404.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CAE 561. Computer Aided Architectural Engineering Design. 3 Credit Hours.

The course prepares students to utilize Building Information Modeling (BIM) and Building Performance Analysis (BPA) in a coordinated, integrated and consistent approach in the Architecture, Engineering and Construction (AEC) Industry. The basics of high-quality 5 dimensional BIM modeling are covering including 3D modeling of buildings and building components, imbedded cost-estimating and the phasing the construction process. Basics of REVIT Structure and MEP are also covered. BPAC components covered include climate analysis, daylighting, wind and airflow analysis, solar radiation analysis and whole building energy analysis. Upon completion student will receive a PBA certification from Autodesk.

Requisite: Junior Status or Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CAE 570. Advanced Foundation Engineering. 3 Credit Hours.

Rock and soil formation. Subsurface exploration. Advanced design and analysis of shallow and deep foundations. Design and analysis of cofferdams.

Prerequisite: CAE 470.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CAE 581. Energy-Efficient Building Design. 3 Credit Hours.

Concepts and methods of energy-efficient building design and sustainable performance. Topics cover building envelope, mechanical, power and lighting, and service water heating systems. Computer-based energy simulation methods and building energy standards are emphasized.

Prerequisite: CAE 481.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CAE 582. Building Energy Modeling and Simulation. 3 Credit Hours.

Modeling and analysis of building energy performance using state-of-art whole building energy simulation programs. Topics include dynamic simulation of heating and cooling loads in buildings, modeling of building equipment and control system, and integrated simulation of equipment and building loads.

Pre-Co-requisite: CAE 581.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CAE 590. Special Topics. 1-3 Credit Hours.

Sub-titles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title "Special Topics."

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CAE 595. Special Problems. 1-3 Credit Hours.

Project course introducing methods of research through an individual investigation of current problems. Offered by special arrangement only.

Components: IND.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CAE 604. Master's Design Project. 3 Credit Hours.

Course is taken in place of CAE 404 for students accepted to the Bachelor to Master (4+ 1) degree program in the CAE Department. A project elaborating on a topic from the students Senior Design Project is the basis of the course. See CAE 403 and CAE 404 for the description of the Senior Design Project.

Prerequisite: CAE 403.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CAE 610. Structural Mechanics. 3 Credit Hours.

Analysis of stress and deformation of solids. Application to systems in the elastic and inelastic range. Topics include beams of special geometry and support, stress concentrations, stresses in elastic foundations, torsion, energy methods, failure theories, and brittle fracture.

Prerequisite: CAE 211. And CAE 310.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CAE 611. Advanced Structural Analysis. 3 Credit Hours.

General methods of indeterminate analysis. Elements of energy method in indeterminate analysis of axial, flexural torsional, and composite members. Basic flexural and stiffness methods and matrix development are also included.

Prerequisite: CAE 211. And CAE 310.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CAE 620. Advanced Design of Concrete Structures. 3 Credit Hours.

Analysis and design of reinforced concrete elements in the context of the current ACI Building Code; beams subjected to combined loading, flat plates, flat slabs, slender columns, connections, and concrete building systems are included.

Prerequisite: CAE 310. And CAE 320.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CAE 621. Advanced Design of Steel Structures. 3 Credit Hours.

Steel framing systems, design of members and connections of braced and rigid frames, design for torsion, and design of steel-concrete composite members are discussed.

Prerequisite: CAE 310. And CAE 321.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CAE 622. Design of Prestressed Concrete Structures. 3 Credit Hours.

Materials and systems for prestressing, design of prestressed concrete members for flexure and shear, camber, deflection, and crack control are discussed. Design of continuous beams, compression members, two-way concrete floor systems, and the loss of prestress are also included.

Prerequisite: CAE 310. And CAE 320.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CAE 623. Design of Masonry Structures. 3 Credit Hours.

Masonry construction. Design of flexural and compression members, bearing walls, shear walls, diaphragms, and connections of masonry structures. Arches, vaults, and buttresses are also included.

Prerequisite: CAE 310. And CAE 320.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CAE 625. Timber Structural Systems. 3 Credit Hours.

Engineering properties of timber, design of tension, compression, and flexural members are covered. The design and detail of connections and hardware, and the design of timber systems and heavy timber construction is also included.

Prerequisite: CAE 310.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CAE 630. Water Resources Engineering II. 3 Credit Hours.

Runoff models, routing models, water-quality models, and evapotranspiration models. Design of storm water management systems. Principles of groundwater flow. Design of wells and wellfields for public water supply. Legal regulatory, and economic components of water-resources management systems. Comprehensive design project.

Prerequisite: CAE 430.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CAE 631. Surface-Water Hydrology. 3 Credit Hours.

Rainwater characteristics, abstraction processes, surface-runoff, routing, and water-quality models. Design of stormwater-management systems, evapotranspiration, and regional water-management is also included as well as case studies.

Prerequisite: CAE 430.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CAE 632. Ground-Water Hydrology. 3 Credit Hours.

Governing equations of ground-water flow. Numerical modeling of ground-water flow. Analytic and semi-analytic solutions to the flow equations. Principle of superposition and method of images. Saltwater intrusion. Ground-water flow in the unsaturated zone. Engineered systems. Introduction to contaminant fate and transport in ground water.

Prerequisite: CAE 430.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CAE 633. Water-Quality Control in Natural Systems. 3 Credit Hours.

Water quality regulations, fate and transport processes, water-quality control in rivers, lakes, wetlands, oceans, and ground water.

Pre or Corequisite: CAE 430. And CAE 440.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CAE 640. Environmental Chemistry. 3 Credit Hours.

Kinetics, equilibrium, acid-base, oxidation-reduction, and reaction chemistry applied to water and wastewater engineering.

Prerequisite: CHM 112.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CAE 641. Engineering Systems for Disease Control and Bioremediation. 3 Credit Hours.

Classification of microorganisms. Microbial agents of infectious diseases and modes of disease transmission. Control of pathogens through water and waste treatment, food protection, and insect control. Microbial ecology and bioremediation systems. Laboratory exercises in microbiology.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CAE 642. Solid and Hazardous Waste Engineering. 3 Credit Hours.

Solid-waste characteristics, recycling, incineration, hazardous waste characteristics, prevention, and physical and chemical treatment are covered. Design projects are also included.

Prerequisite: CAE 340.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CAE 643. Air Pollution Control Engineering. 3 Credit Hours.

Fundamentals of air pollution and air quality; properties and control of particulates, volatile organic compounds, carbon monoxide, sulfur oxides, and nitrogen oxides; motor vehicle emissions; health and aesthetic effects (acid rain, visibility), laws and regulations, meteorology and pollutant transport in the atmosphere; indoor air pollution.

Prerequisite: MAE 303. And CAE 330. Or MAE 309.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CAE 660. Sustainable Construction. 3 Credit Hours.

Drivers and foundations of sustainable construction. Principles of sustainable construction: integrated planning and design, life-cycle view of projects, resource selection and optimization, protection of the natural environment, toxics and pollutants elimination, durability and quality. Green building assessment initiatives, green building policies, and code impacts. Evaluation of the environmental impacts of construction operations. Innovative design and construction practices. Economic viability. Subtropical and coastal issue and opportunities. Case studies.

Pre or Corequisite: CAE 403. Or CAE 404.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CAE 661. Computer Aided Architecture Engineering Design. 3 Credit Hours.

The course prepares students to utilize Building Information Modeling (BIM) and Building Performance Analysis (BPA) in a coordinated, integrated and consistent approach in the Architecture, Engineering and Construction (AEC) Industry. The basics of high-quality 5 dimensional BIM modeling are covering including 3D modeling of buildings and building components, embedded cost-estimating and the phasing the construction process. Basics of REVIT Structure and MEP are also covered. BPAC components covered include climate analysis, daylighting, wind and airflow analysis, solar radiation analysis and whole building energy analysis. Upon completion student can receive a PBA certification from Autodesk.

Requisite: Senior Status.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CAE 670. Advanced Foundation Engineering. 3 Credit Hours.

Rock and soil formation. Subsurface exploration. Advanced design and analysis of shallow and deep foundations. Design and analysis of cofferdams.

Prerequisite: CAE 470.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CAE 681. Energy-Efficient Building Design. 3 Credit Hours.

Concepts and methods of energy-efficient and environmentally-friendly building design. Topics include energy and sustainable design strategies, climate, passive and active solar design, passive cooling systems, day lighting, and computer simulation of energy flows in buildings. A quantitative understanding of energy fundamentals, examples from practice, and design exercises using computer simulation programs are emphasized.

Prerequisite: CAE 481.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CAE 682. Building Energy Modeling and Simulation. 3 Credit Hours.

Modeling and analysis of building energy performance using state-of-art whole building energy simulation programs. Topics include dynamic simulation of heating and cooling loads in buildings, modeling of building equipment and control system, and integrated simulation of equipment and building loads.

Pre-Co-requisite: CAE 581.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CAE 690. Special Topics. 1-3 Credit Hours.

Sub-titles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title "Special Topics."

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CAE 695. Special Problems. 1-3 Credit Hours.

Project course introducing methods of research through an individual investigation of current problems. Offered by special arrangement only.

Components: IND.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CAE 702. Finite Element Methods. 3 Credit Hours.

Variational principles and their application to finite element methods. Applications to: plane stress and plane strain, three-dimensional stress analysis, bending of plates, and axi-symmetric shells. Lecture, 3 hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CAE 711. Theory of Elasticity. 3 Credit Hours.

Analysis of stress, strain, and displacement in elastic solids. Basic equations of elasticity. Two-dimensional solutions of beams and other problems in rectangular and polar coordinates. Torsion of bars. Energy methods. Selected topics. Lecture, 3 hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CAE 712. Structural Reliability. 3 Credit Hours.

Basic theory and tools of structural reliability including theory of probability, statistical assessments as well as inference and model building. Topics include: review probability theory; descriptive statistics; uncertainty modeling; estimation and model building; structural reliability theory; first and second order reliability methods; Level I methods/code calibration; load combinations; Bayesian decision analysis and reliability updating.

Prerequisite: IEN 311.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CAE 714. Structural Dynamics. 3 Credit Hours.

Elementary structural dynamic analysis covering single degree-of-freedom and multiple degree-of-freedom systems. Topics include: free, damped and forced vibrations; transmissibility and ground motion; arbitrary, step and pulse excitation; numerical evaluation; rigid and flexible bodies; natural frequencies and modes; tuned-mass dampers; responses and spectrum; practical indications as well as an introduction to wind and earthquake engineering.

Prerequisite: CAE 310.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CAE 716. Fracture Mechanics. 3 Credit Hours.

Theory of fracture mechanics for linear elastic and nonlinear material behavior, energy release rate, stress intensity factor, and J-integral with practical application to brittle fracture and fatigue. Case studies involving civil infrastructure such as bridges, buildings, pipelines and ships. Metallurgical aspects of fatigue and fracture.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CAE 730. Environmental Hydrology. 3 Credit Hours.

Principles of ecohydrology, agricultural hydrology, impacts of climate change, fundamentals of remote sensing and geographic information systems for hydrologic applications, statistical applications in hydrology.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CAE 731. Wastewater Treatment and System Design. 3 Credit Hours.

Characterization of domestic wastewater and flows. Sources of wastewater and health considerations. Unit processes for treatment of wastewater including screening, sedimentation, filtration, flocculation floatation, activated sludge, disinfection, sludge digestion, and sludge disposal.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CAE 732. Water Treatment and System Design. 3 Credit Hours.

Drinking water treatment standards, philosophy of setting standards, public health aspects of organic and inorganic contaminants, basis for design of treatment facilities, design of unit processes for aeration, sedimentation, coagulation, filtration, softening, disinfection, and oxidation are covered. Theory of membrane processes, ion exchange, and water treatment plant residuals are also included.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CAE 735. Water and Wastewater Engineering: Treatment and Reuse. 3 Credit Hours.

Physical treatment processes; Chemical unit processes; Advanced biological treatment processes; Sludge treatment and disposal; Industrial water supply and wastewater treatment; Membrane systems for wastewater treatment and case studies; Advanced wastewater treatment and reuse; Environmental nanotechnology.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CAE 743. Risk Analysis. 3 Credit Hours.

Probabilistic risk assessment, Poisson processes, Bayesian methods, fault trees, contaminant transport models, and dose-response relationships for assessment of natural and technological risks.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CAE 744. Risk and Resilience. 3 Credit Hours.

Introduction to Risk Management, and Resilience. Topics include: Hazards Risk Management, Risk Management for the Private Sector, Hazard Risk Management Approach, Mitigation Planning, Forming Partnerships and Involving the Public, Establishing Context for Risk Management, Identifying Hazards. Scope Vulnerability and Understand Capacity, Analyze and Assess Risk, Identify and Assess Risk Reduction Measures, Financing Risk Reduction.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CAE 762. Construction Project Management. 3 Credit Hours.

This course is designed to provide a practical background and working knowledge of how Construction Projects are developed and managed through professional Program Management. Elements consisting of Program Organization, Program and Project conception, Project planning, Scoping, effective project communication strategies, budgeting, scheduling, controls, resource and cost management and behaviors of the Program Manager to lead. The Project Management Body of Knowledge (PM BoK) guide relating to scope, time, cost, quality and other knowledge areas for planning and control of projects throughout their entire lifecycle. This course will also explore various applications that use construction project management software such as Primavera, eBuilder, etc. as interactive platform tools. Key leadership skills and managerial styles needed to effectively build, manage, and lead a successful project team.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CAE 780. Indoor Environmental Modeling. 3 Credit Hours.

Prediction of indoor environment using computational fluid dynamics techniques. Advanced topics in thermal comfort and indoor air quality. Basic concepts of turbulence modeling and numerical methods for natural, forced, and mixed convection and jet flows indoors. Simulation of air velocity, temperature, and contaminant concentrations in buildings. Comparison of the simulated results with measured data.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CAE 781. Advanced Building Energy Modeling and Simulation. 3 Credit Hours.

Equation-based object-oriented building energy modeling. Coupling of different building simulation tools. Applications in rapid prototyping of new building systems, model-based design and evaluation of building control, and building performance evaluation.

Prerequisite: CAE 582. Or CAE 682.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CAE 790. Advanced Topics. 1-3 Credit Hours.

Subject matter offerings based upon student demand and availability of faculty. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title "Advanced Topics".

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CAE 795. Special Problems. 1-3 Credit Hours.

Research and/or design projects. Individual investigation of current problems. Offered by special arrangement only.

Components: IND.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CAE 810. Master's Thesis. 1-6 Credit Hours.

The student working on his/her Master's thesis enrolls for credit as determined by his/her advisor. Credit is not awarded until the thesis has been accepted.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

CAE 820. Research in Residence. 1-6 Credit Hours.

Used to establish research in residence for the thesis for the Master's degree after the student has enrolled for the permissible cumulative total in CAE 810. Credit not granted. May be regarded as full-time residence.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

CAE 825. Continuous Registration--Master's Study. 1 Credit Hour.

To establish residence for non-thesis master's students who are preparing for major examinations. Credit not granted. Regarded as full-time residence.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

CAE 830. Pre-Candidacy Doctoral Dissertation. 1-12 Credit Hours.

Doctoral dissertation credits taken prior to the Ph.D. student's candidacy. The student will enroll for credit as determined by his/her advisor. Not more than 12 credit hours of CAE 830 may be taken in a regular semester, nor more than 6 credit hours in a summer session.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

CAE 840. Post-Candidacy Doctoral Dissertation. 1-12 Credit Hours.

Doctoral dissertation credits taken after the Ph.D. student has been admitted to candidacy. The student will enroll for credit as determined by his/her advisor. Not more than 12 credit hours in CAE 840 may be taken in a regular semester, nor more than 6 credits in a summer session.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

CAE 850. Research in Residence. 1 Credit Hour.

Used to establish research in residence for the Ph.D. after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Credit not granted. May be regarded as full-time residence as determined by the Dean of the Graduate School.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

Classics (CLA)

CLA 210. The Greek and Latin Roots of English. 3 Credit Hours.

Equips students with the tools needed to analyze and understand the meanings of English words with Ancient Greek and Latin roots. Special attention will be paid to legal and medical terminology.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CLA 219. Writing on Greek and Roman Mythology. 3 Credit Hours.

A companion writing course for students enrolled in CLA 220, Greek and Roman Mythology.

Prerequisite: CLA 220.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CLA 220. Greek and Roman Mythology. 3 Credit Hours.

The major political, cultural, and social themes that appear in Greek and Roman mythology, examining literary and material evidence.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

CLA 221. Sports and Society in the Ancient World. 3 Credit Hours.

The role of sports in ancient Greek and Roman culture. Topics covered include: Mycenaean bull-Jumping; athletic events in Homer; the Olympic games; chariot racing and gladiatorial combat at Rome; and the connection between public athletics and religion. Students learn to interpret literary and iconographic evidence, and study architectural remains such as the stadium at Olympia, the Circus Maximus, and the Colosseum.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CLA 222. Sexuality and Gender in the Ancient World. 3 Credit Hours.

Basic questions of sexuality and gender in ancient Greece and Rome: What does it mean to be male or female? What can we discover about ourselves from the way(s) we have sex? How are all these things related to life, love, power?

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

CLA 224. The Heroic Journey. 3 Credit Hours.

The figure of the Hero On a Journey has long captivated the minds of story-tellers and audiences. This motif, known as "The Monomyth," speaks the profoundest hopes and fears of humankind. This course will examine the Monomyth as it occurs particularly in the classical tradition from Gilgamesh to Tolkien.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CLA 225. Magic and the Occult in Antiquity. 3 Credit Hours.

A broad sweep of evidence for magic and the occult in the ancient Mediterranean world. The focus is Graeco-Roman Egypt, renowned in antiquity for occult arts such as divination, daemonology, astrology, and alchemy. The primary sources analyzed are diverse, and include magical formulae, manuals, recipes, curses, philosophical writings, and literary accounts, in particular those by Lucian and Apuleius, purporting to provide true tales of magic.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CLA 226. Greek and Roman Art. 3 Credit Hours.

The course is an introduction to ancient Greek and Roman art within its socio-political and religious context. It includes a survey of stylistic movements, elements of architecture, and a brief historical background for each period outlined in the syllabus.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CLA 231. Sciences in Ancient Greece and Rome. 3 Credit Hours.

The beginnings of scientific investigation in ancient Greece and its development and codification under the Roman Empire.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

CLA 232. Topics in Ancient Law, Trials from the Ancient Legal World. 3 Credit Hours.

This course examines selected trials from ancient Greece and Rome both as a way to understand these legal systems in themselves and as a way to explore the cultures, values, and biases that shaped them.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CLA 233. Ancient Medicine. 3 Credit Hours.

Provides a historical survey of evidence, practices, and ideas from the world of ancient medicine.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CLA 241. Greek Civilization. 3 Credit Hours.

This course introduces key concepts, events, and personalities of Greek culture.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CLA 242. Roman Civilization. 3 Credit Hours.

Introduces key concepts, events, and personalities of ancient Roman culture.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CLA 243. The Art of Government in Greece and Rome. 3 Credit Hours.

Introduces key concepts and models of Greek and Roman Statecraft, including the polis democracy, the Republic and the Empire.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CLA 246. Ancient Rhetorical Theory. 3 Credit Hours.

The historical development of, and key topics in, theories of persuasive communication developed by the ancient Greeks and Romans.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

CLA 271. Ancient Philosophy. 3 Credit Hours.

What is knowledge, and how can it be known? Why be moral? What is justice? What is the good life? If we really have free will, can there be such a thing as destiny? In what does friendship consist? What exactly is love? What is the meaning of death? These and other questions were addressed powerfully by the ancient Greeks and Romans. This course will explore such crucial philosophical themes, along with the actual method(s) of inquiry that the ancients devised for examining them. Major figures such as Plato and Aristotle will be featured, along with fragments of the Presocratics and selections from other ancient philosophers.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CLA 301. Ancient Greece. 3 Credit Hours.

Greek civilization from the Late Bronze Age to the end of Greek independence at the battle of Chaeronea in 338 B.C.E.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CLA 302. The Hellenistic Age. 3 Credit Hours.

Conquests of Alexander the Great and the spread of Greek culture in the Near East under Alexander's successors until the death of Cleopatra in 31 B.C.E.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CLA 303. The Roman Republic. 3 Credit Hours.

Roman civilization from the establishment of the Republic until the Battle of Actium in 31 B.C.E.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CLA 304. The Roman Empire. 3 Credit Hours.

Roman civilization from the reign of Augustus in 37 B.C.E. to the Fall of Rome in 476 C.E.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CLA 305. What is a Classic?. 3 Credit Hours.

An explanation of what it means to designate a work of art as 'a classic', in our own culture as well as in other times and places. In order to arrive at a more sophisticated understanding of the category, readings will be chosen from a variety of texts, selected from the world's treasury of acknowledged 'classics,' beginning from the canon of ancient Greek and Roman literature that for many centuries has been the touchstone of Western civilization.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CLA 310. Survey of Ancient Greek Literature and Culture. 3 Credit Hours.

Classical Greek culture, paying special attention to Greek literature from Homer to Aristotle. It is intended to lay a foundation for understanding how Hellenic thought and art influenced the development of all subsequent Western culture. All texts will be read in English translation.

Components: SEM.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

CLA 311. Survey of Classical Latin Literature and Culture. 3 Credit Hours.

A broad introduction (in English translation) to the literature of the Roman Republic and Empire. The Greek heritage behind Latin literature will be highlighted. Readings will be chosen from authors such as Catullus, Cicero, Vergil, Horace, Ovid, Petronius, Juvenal, Tacitus, and Suetonius, and from genres such as epic and lyric poetry, oratory, history and satire.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

CLA 315. The Classical Epic Tradition. 3 Credit Hours.

The course treats the rise and development of the Western epic tradition from Homer, Lucretius, and Virgil in the classical world, through Dante in the Middle Ages, Milton in the Renaissance, and Wordsworth and Eliot in modernity.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

CLA 322. Monsters and Fantastical Creatures in Western Antiquity and Other Cultures. 3 Credit Hours.

An explanation of the notion of the "monster" and the "fantastic creature" in a range of literary and visual representations from classical antiquity (the Greek and Roman World) and other cultures from various time periods. Starting with Hesiod's "Catalogue of Monsters" we examine the following questions: Whose mental projection is embodied in a given monster? Are there different categories of monsters? What does the monster represent? What fears does the monster crystallize?

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

CLA 323. The Ancient World on Screen. 3 Credit Hours.

How do we represent the ancient Greeks and Romans in modern media? What happens to the books the ancients wrote when these are turned into modern films, TV shows or video games?

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

CLA 324. Classical Myth and Contemporary Art. 3 Credit Hours.

The use, adaptation, transformation, and re-figuring of Classical myth in contemporary art. The artwork will range from photographs to installations and videos. We will use theories drawn from both art criticism and literary criticism. Female artists and post-feminist theory will figure prominently as a way to bring a broader perspective to a scrutiny of the marked gender imbalance in Classical myth.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CLA 325. The Vampire in Folklore, Fiction, and Film. 3 Credit Hours.

By pondering the role of vampires and other such monsters, in folklore, fiction, and film, this course attempts to ponder such fundamental questions as "What does it mean to be human?" and "What are the implications of death?" The tradition will be traced from its earliest antecedents in the ancient world to its latest manifestations in current fiction and screen media.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

CLA 326. What Does it Mean to be Human. 3 Credit Hours.

Questions of Artificial Intelligence, the Singularity, Superintelligence, and Robotics capture our imaginations (and sometimes stir profound anxiety and fear). But are these technological developments merely phenomena of the 20th and 21st centuries? Or are the key issues entailed already adumbrated in the literatures and cultures of the ancient Greeks and Romans? This course explores the parameters of that most-fundamental question of the Humanities: What does it mean to be human? Is 'human' a discrete category with well-defined boundaries, or have fuzzy logic and the dizzying pace of technological percentage a human body must be organically/naturally produced (as opposed to mechanically/technologically engineered) in order to be considered human. The course will entail reading assignments from the Greek and Roman classics (in English translation); weekly screenings of movies (including television programs); and in-class discussion.

Components: SEM.

Grading: GRD.

CLA 340. Greek Tragedy. 3 Credit Hours.

Readings in English of the tragedies of Aeschylus, Sophocles, and Euripides.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CLA 341. Comedy in Ancient Athens and Rome. 3 Credit Hours.

The comic plays of the ancient Greeks and Romans in English translation. The focus is close reading and analysis of plays by Aristophanes, Menander, Plautus, and Terence, with a view to their socio-political, cultural, and historical milieu. The final weeks are devoted to reception of these works by Shakespeare and Molière.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CLA 360. Women in Greek and Roman Antiquity. 3 Credit Hours.

The lives of women in ancient Greece and Rome. The historical panorama extends from the Mycenaean period ca. 1200 BC to the end of the Roman Empire in the West, 476 AD. The role and influence of Women as mothers and wives in control of the household will be examined in detail. Other themes such as love, death, marriage, divorce, legal and social status, foreign women, spinsters, wise women such as Diotima and Aspasia, Women in the arts and women of power, these will be considered through a close study of historical and literary texts as well as material culture.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CLA 370. Self and Other in the Ancient World. 3 Credit Hours.

The course examines Greek and Roman depictions of outsiders in a wide range of ancient texts and material sources.

Prerequisite: ENG 105 and ENG 106 or ENG 106.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CLA 372. Greek Religion. 3 Credit Hours.

Examines the religious thought and practice of the ancient Greek-speaking world from the Bronze Age to the first century CE. Major topics include ritual, sacrifice, prayer, chthonic and sky deities, oracles, and mystery-cults. Students will learn to interpret primary source material, such as the epic poems of the archaic period, the so-called Homeric Hymns, and objects of material culture.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CLA 373. Religions of Rome. 3 Credit Hours.

The religious practices of ancient Romans. Major topics include the machinery of state cult, the importation of foreign divinities to Rome, the deification of emperors, and Roman attitudes towards the Christians. Students will learn to interpret primary source material, such as the writings of Varro, Cicero, the historians, and St. Augustine, and archeological evidence

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CLA 401. Special Topics in Classics. 3 Credit Hours.

This course will address a specific author, topic or text (appearing as a subtitle). Required readings will be in English. Analogous to REL 404-409 courses.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

CLA 402. Special Topics in Classics. 3 Credit Hours.

This course will address a specific author, topic or text (appearing as a subtitle). Required readings will be in English. Analogous to REL 404-409 courses.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

CLA 403. Special Topics in Classics. 3 Credit Hours.

This course will address a specific author, topic or text (appearing as a subtitle). Required readings will be in English. Analogous to REL 404-409 courses.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

CLA 404. Special Projects in Classics. 3 Credit Hours.

This course will address a specific project in Classics (appearing as a subtitle). Analogous to REL 407-409.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

CLA 405. Special Projects in Classics. 3 Credit Hours.

This course will address a specific project in Classics (appearing as a subtitle). Analogous to REL 407-409.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

CLA 406. Special Projects in Classics. 3 Credit Hours.

This course will address a specific project in Classics (appearing as a subtitle). Analogous to REL 407-409.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

CLA 422. Aristophanes. 3 Credit Hours.

Readings from Aristophanes' plays in the original Ancient Greek.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CLA 491. Directed Reading in Classics. 1-3 Credit Hours.

Content to be determined by faculty member and registering student(s).

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

CLA 492. Directed Reading in Classics. 3 Credit Hours.

This course will address a specific author, topic or text (appearing as a subtitle). Analogous to REL 401-403 courses and to (existing)CLA 491.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

CLA 493. Directed Reading in Classics. 3 Credit Hours.

This course will address a specific author, topic or text (appearing as a subtitle). Analogous to REL 401-403 courses and to (existing) CLA 491.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

CLA 495. Senior Thesis I. 3 Credit Hours.

Components: THE.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

CLA 496. Senior Thesis II. 3 Credit Hours.

Part II of the project or thesis normally completed in the senior year.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

CLA 505. Seminar in Ancient Studies. 3 Credit Hours.

Topics in Greek and Roman studies.

Components: SEM.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

CLA 605. Graduate Seminar in Ancient Studies. 3 Credit Hours.

A graduate-level seminar focused on various topics in Classical history, literature and culture.

Requisite: Graduate Standing.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CLA 691. Direct Readings in Classical Studies for Graduate Students. 3 Credit Hours.

Graduate students will pursue supervised, directed readings on various classical topics.

Requisite: Graduate Standing.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

Clinical and Translational Investigation (CTI)

CTI 602. Writing for Translational and Clinical Science. 2 Credit Hours.

This introductory core course will be taught by the Masters of Science in Clinical and Translational Investigation (MSCTI) Program Directors, as well as various guest lecturers. The focus of the course will be on developing grant and manuscript writing skills in the area of clinical and translational science across the translational science spectrum.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CTI 603. Research Ethics. 3 Credit Hours.

Course focuses on topics related to what is sometimes called the "responsible conduct of research" (RCR). It covers the landscape of "scientific integrity" - both the principles and day-to-day practicalities of research ethics. The course is inter-disciplinary in its approach. Readings and other materials used as part of the course draw on the examples from many academic fields, and are intended to have application to any academic or professional area of study in which research is conducted.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CTI 604. Advanced Independent Study. 1-3 Credit Hours.

Individual work on a special project and/or additional coursework under faculty guidance.

Components: IND.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

CTI 605. Introduction to Team Science and Entrepreneurship. 2 Credit Hours.

This introductory core course will introduce students to fundamental topics in translational science related to team science and entrepreneurship. Through a series of lectures, participatory exercises, and guided discussions, students will learn practical strategies for engaging in team science and for developing a translational research project into an entrepreneurial endeavor.

Components: DIS.

Grading: GRD.

Typically Offered: Fall.

CTI 805. Capstone Project / Master's Thesis. 1-6 Credit Hours.

The Capstone Project is an opportunity for MSCTI students to apply the principles and practices of clinical and translational research, and is a vital component in the training of impactful clinical and translational investigators. Students will engage in research, produce publishable content, and advance their research careers.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

Communication (COM)

COM 101. Mass Media Communication in Society. 3 Credit Hours.

A survey of the history, development, structure, and effects of mass communication media.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

COM 250. Freedom of Expression and Communication Ethics. 3 Credit Hours.

An examination of the concept of freedom of expression, its philosophical roots, its application of contemporary issues in communication, and of the basics of moral philosophy (ethics) and moral reasoning.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

COM 302. Structured Research and Practice at SoC Consultancy. 1-3 Credit Hours.

Students will engage in structured participation in programmatic research and applied practice through the SoC Consultancy.

Requisite: Sophomore or Higher and Min Cumulative GPA 2.5.

Components: PRA.

Grading: GRD.

Typically Offered: Fall.

COM 395. Honors Seminar in Communication. 3 Credit Hours.

An examination of central issues and topics in the field of Communication.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

COM 401. Honors Communication Colloquium. 3 Credit Hours.

An examination of central issues and topics in the field of Communication.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

COM 406. Special Topics in Communication. 3 Credit Hours.

Course subject matter varies according to announced special topic. See class schedule for details.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

COM 499. Senior Honors Project/Thesis. 3 Credit Hours.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

COM 601. Theories of Communication. 3 Credit Hours.

Comparison of theories dealing with the processes and effects of communication is discussed.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

COM 602. Methods of Communication Research. 3 Credit Hours.

A comprehensive survey of communication research methods. Qualitative and quantitative approaches will be explained and practiced.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

COM 603. Qualitative Research Methodologies. 3 Credit Hours.

Research methods and theories for participant-observation, phenomenology, symbolic interactionism, ethnomethodology, content analysis, and historical-critical interpretation.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

COM 604. Advanced Communication Research Methods and Statistics. 3 Credit Hours.

Provides an advanced examination of the problems and methods found in quantitative communication research.

Prerequisites: COM 601, COM 602.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

COM 605. Theories and Methods for Mass Communication Research. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

COM 606. Visual and Narrative Theories. 3 Credit Hours.

This course surveys theories of film, visual communication, design, game and interactive theory, critical analysis, cultural studies.

Prerequisite: COM 601 and Requisite: Doctoral Standing.

Components: SEM.

Grading: GRD.

Typically Offered: Spring.

COM 607. Survey of Media Production. 3 Credit Hours.

This course gives students an overview on how to produce compelling media stories. Students will learn key concepts and design principles used in modern media production. Students will develop a website and a short film using learned key concepts in creating and effective multimedia experience.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

COM 608. Designing and Producing Messages. 3 Credit Hours.

Drawing on message design theories from areas such as persuasion and discourse studies and using creative and secondary research skills, students design and implement a production such as a public service announcement, short documentary, microsite, game prototype, or data visualization project.

Prerequisite: COM 601 and 602 and 607.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

COM 609. Special Topics in Communication. 3 Credit Hours.

This course subject matter varies according to announced special topic. See class schedule for details.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

COM 610. Doctoral Colloquium. 1-3 Credit Hours.

This course will introduce students to the nature and scope of doctoral study. The topics of this course include different aspects of engaging productively with the doctoral program, such as developing a research program, publication, grant writing, and job search dynamics.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

COM 612. Pedagogy. 3 Credit Hours.

This course focuses on the traditions as well as the recent advances in pedagogy, including its historical, theoretical and practical applications with the aim of preparing students to teach at the University level.

Requisite: Graduate Standing.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

COM 615. Social Effects of Mass Communication. 3 Credit Hours.

Roles, functions, and consequences of mass communication in American society.

Prerequisite: COM 601.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

COM 620. Structured Research and Practice in SoC Consultancy. 1-3 Credit Hours.

Students engage in programmatic research and applied practice through structured participation at the SoC Consultancy.

Requisite: Graduate and Min Cumulative 3.0 GPA.

Components: PRA.

Grading: GRD.

Typically Offered: Fall.

COM 672. Seminar in Persuasive Communication. 3 Credit Hours.

This course is designed to provide students with a basic understanding of the role of communication in the persuasion process. This will be achieved by exploring historical and contemporary theories of persuasion as well as examining research that has focused on persuasion.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

COM 695. Directed Readings. 1-3 Credit Hours.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

COM 698. Independent Research. 3 Credit Hours.

An in-depth, hands-on course in which students conduct a research project using the specified research method. May include experimental design, advanced qualitative methods, content analysis, or survey methods. Repeatable up to 6 credits.

Prerequisites: COM 602, COM 603.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

COM 810. Master's Thesis. 1-6 Credit Hours.

The student working on his/her master's thesis enrolls for credit, in most departments not to exceed six, as determined by his/her advisor. Credit is not awarded until the thesis has been accepted.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

COM 820. Research in Residence. 1 Credit Hour.

Used to establish research in residence for the thesis for the master's degree after the student has enrolled for the permissible cumulative total in COM 710 (usually six credits). Credit not granted. May be regarded as full time residence.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

COM 825. Continuous Registration--Master's Study. 1 Credit Hour.

To establish residence for non-thesis master's students who are preparing for major examinations. Credit not granted. Regarded as full time residence.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

COM 830. Doctoral Dissertation. 1-12 Credit Hours.

Required of all candidates for the Ph.D. The student will enroll for credit as determined by his/her advisor, but for not less than a total of 12 hours.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

COM 850. Research in Residence. 1 Credit Hour.

Used to establish research in residence for the Ph.D., after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Credit not granted. May be regarded as full-time residence as determined by the Dean of the Graduate School.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

Communication Studies (COS)

COS 112. Interpersonal Communication. 3 Credit Hours.

Overview of current theories of interpersonal communication. Consideration is given to impression formation, relationship between self-concept and others, function of language in social interaction, and development and maintenance of relationships.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

COS 120. Exploring Human Communication. 3 Credit Hours.

Students learn to read and interpret quantitative and qualitative research methods. Students develop skills in basic qualitative methods (focus groups, observation) and quantitative methods (surveys, polls, comparisons, basic statistical analysis) for use in daily and professional life.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

COS 210. Writing for Communication Studies. 3 Credit Hours.

Principles of writing, reviewing literature, and synthesizing research for communication studies and the social sciences.

Prerequisite: COS 110.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

COS 211. Public Speaking. 3 Credit Hours.

Introduction to effective audience communication including theory and extensive practice in oral presentations.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

COS 212. Interview Skills. 3 Credit Hours.

Study of interview skills, listening techniques, voice and diction.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

COS 220. Communication Theory. 3 Credit Hours.

Survey of basic communication theories and models. Study of processes, functions, levels, and general principles of human communication.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

COS 304. Intercollegiate Debate Theory and Practice. 1 Credit Hour.

A course designed to teach students how to compete successfully in intercollegiate debate, and to reinforce training through practice and competition.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

COS 311. Advanced Oral Advocacy. 3 Credit Hours.

Advanced presentational speaking to persuade including theory and extensive practice.

Prerequisite: COS 211.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

COS 314. The Power of Dialogue. 3 Credit Hours.

Students learn how to engage in and lead constructive dialogue about sensitive, emotional, and controversial issues in the public and private spheres.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

COS 316. Small Group Communication. 3 Credit Hours.

Techniques of discussion applied to goal-oriented, small group situations. Consideration is given to research methods, leadership, and conflict resolution. Theory is applied to active classroom participation.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

COS 318. Nonverbal Communication. 3 Credit Hours.

Theory and application of selected areas of research in nonverbal communication is addressed. Discussion of environment, space, body movement, posture, eye contact, facial expression, vocal cues, and physical appearance is included.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

COS 324. Health Communication. 3 Credit Hours.

This course is designed to provide a broad introduction to human communication in a health-care context. Emphasis will be on issues of social support, patient-health professional/caregiver interaction, organizational culture, planning health promotion campaigns, and cultural conceptions of health and illness.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

COS 325. Communication in Health Organization. 3 Credit Hours.

This course looks at the dyadic, small group, and institutional communication patterns that can affect health outcomes within and between health organizations including hospitals and other allied health services.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

COS 328. Sports As Communication. 3 Credit Hours.

This is a course which introduces students to the study of spectator and participation sports as communication and to communication within sports.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

COS 330. Conflict Management. 3 Credit Hours.

This course provides an understanding of conflict dynamics and strategies for constructive conflict management.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

COS 333. Business Communication. 3 Credit Hours.

Study and practice in the major forms of spoken and written communication in the context of businesses and other professional organizational settings.

Requisite: Sophomore Standing or Higher.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

COS 336. Political Communication. 3 Credit Hours.

A review of the history, strategies, theories and trends in political campaign communication in the United States.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

COS 343. Introduction to Intercultural Communication. 3 Credit Hours.

Introduction to communication among people from diverse cultures. Application of communication theory to intercultural sensitivity and cultural diversity is emphasized.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

COS 347. Advocacy and Action. 3 Credit Hours.

Students will learn a range of communication strategies and tactics to advocate for and effect social change.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

COS 351. Qualitative Research Methods. 3 Credit Hours.

Course is designed to introduce students to a sample of qualitative research methods used in communication.

Prerequisites: COM 110, COS 210.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

COS 352. Critical Research in Communication. 3 Credit Hours.

This is a course in rhetorical criticism. Students will gain an understanding of rhetorical theory as it is applied to the analysis and evaluation of significant public communication events.

Prerequisites: COM 110, COS 210.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

COS 353. Quantitative Communication Research Methods and Analyses. 3 Credit Hours.

Introduction to communication research methods. Application of quantitative measurement techniques and statistical analyses will be discussed as well as the use of microcomputer statistical programs.

Prerequisites: COM 110, COS 210.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

COS 354. Organizing for Action. 3 Credit Hours.

This is a course that will introduce the student to Action Research, with application to communication questions in a variety of settings.

Prerequisites: COM 110, COS 210.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

COS 355. Applied Communication Research Methods. 3 Credit Hours.

Students learn to read and interpret quantitative and qualitative research methods. Students develop skills in basic qualitative methods (focus groups, observation) and quantitative methods (surveys, polls, comparisons, basic statistical analysis) for use in daily and professional life.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

COS 360. Speech Writing. 3 Credit Hours.

This is a course on written speeches, speechwriting, and delivering speeches from manuscripts. Students will write, review and edit their own work, and will work in teams engaging peer review and corporate authorship to produce manuscripts for a variety of types and purposes of speeches employing a broad range of strategies for proof, language, and engagement.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

COS 377. Argumentation and Critical Thinking. 3 Credit Hours.

Argumentation theory and practice are discussed. Rhetorical and philosophical foundations of argumentation and their application in various settings including academic debate are also covered.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

COS 391. Undergraduate Special Topics in Communication Studies. 3 Credit Hours.

Course subject matter varies according to announced special topic. See class schedule for details.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

COS 405. Practicum in Communication Studies. 1-3 Credit Hours.

Structured participation in programmatic research and applied practice in the community.

Requisite: Junior Status.

Components: PRA.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

COS 418. Organizational Communication. 3 Credit Hours.

Introduction to organizational communication theory. Consideration of structure, function, and effects of communication in organizations are analyzed. Emphasis is placed on principles needed for decision making and effective management of organizational communication processes.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

COS 426. Patient-Provider Communication. 3 Credit Hours.

This class focuses on the interpersonal environment of patient-provider interaction. The primary purpose of this course is to describe best practices for coming to shared meaning and decision-making between medical professionals and patients in healthcare settings.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

COS 427. Health Behavior and Risk. 3 Credit Hours.

This course introduces students to different theories and models of health communication that are frequently used to develop persuasive health messages. It draws on health communication messaging theory, as well as literature in public health, psychology, and medicine.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

COS 472. Persuasion. 3 Credit Hours.

A review of theory, research, and practice of the intentional use of symbols to influence attitudes, beliefs, and actions.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

COS 473. Words that Shaped the World. 3 Credit Hours.

A study of great speakers and speeches in important international settings.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

COS 474. Presidential Debates. 3 Credit Hours.

History, impacts, content and strategies of televised presidential campaign debates.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

COS 477. Engaged Communication. 3 Credit Hours.

Capstone course designed for communication studies majors. Provides students opportunities to apply knowledge of communication theory and associated research skills through their personal engagement in community or organizational service and action research.

Prerequisites: COM 110, COS 210, COS 351, COS 354. Requisite: Senior Status or Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

COS 479. Capstone for Communication Studies. 3 Credit Hours.

Capstone course designed for communication studies majors. Provides students with the opportunity to apply knowledge of communication theory and research skills through development of capstone project.

Prerequisites: COM 110 and COS 210 and COS 351 and COS 353. Requisite: Senior Standing.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

COS 498. Communication Studies Internship. 1-3 Credit Hours.

Prescribed study and supervised work with practitioners in organizations.

Requisite: Junior Status.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

COS 499. Projects and Directed Research. 1-3 Credit Hours.

Individual study. No more than three credits may be counted toward a Communication major or minor.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

COS 545. Intercultural Communication: International Perspectives. 3 Credit Hours.

Effects of cultural attitudes, beliefs, and attributions on meaning assignment. Effects of language on the structure of thought. Ethics and process of the diffusion of cultural innovations are analyzed.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

COS 546. Intercultural Communication: Domestic Perspectives. 3 Credit Hours.

Effects of cultural attitudes, beliefs, and attributions on meaning assignment. Diffusion of cultural innovations, prejudice, discrimination, and equality are discussed. Emphasis is placed on intercultural interactions within the United States.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

COS 560. The Executive Communicator. 3 Credit Hours.

Audience analysis, speech writing, delivery in professional presentations, theory, and history of great speeches are covered. Detailed critiques of student speaking styles and performances are also included.

Prerequisite: COS 211. Requisite: Junior Status or Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

COS 591. Advanced Special Topics in Communication Studies. 3 Credit Hours.

This course subject matter varies according to announced special topic. See class schedule for details.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

COS 599. Advanced Projects and Directed Research. 1-6 Credit Hours.

Individual study. Course may be repeated to a maximum of six credits.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

COS 616. Small Group Processes. 3 Credit Hours.

Techniques of discussion applied to goal-oriented, small group situations. Consideration is given to research methods, leadership, and conflict resolution. Theory is applied to active classroom participation.

Components: LEC.

Grading: GRD.

COS 620. Gender Issues in Leadership. 3 Credit Hours.

This course utilizes case studies of innovative executives to analyze different leadership and communication styles between men and women.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

COS 630. Conflict Management. 3 Credit Hours.

This course provides an understanding of conflict dynamics and strategies for constructive conflict management.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

COS 645. Intercultural Communication: International Perspectives. 3 Credit Hours.

Effects of cultural attitudes, beliefs, and attributions on meaning assignment. Effects of language on the structure of thought. Ethics and process of the diffusion of cultural innovations are analyzed.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

COS 646. Intercultural Communication: Domestic Perspectives. 3 Credit Hours.

Effects of cultural attitudes, beliefs, and attributions on meaning assignment. Diffusion of cultural innovations, prejudice, discrimination, and equality are discussed. Emphasis is placed on intercultural interactions within the United States.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

COS 647. Culture and Organizations. 3 Credit Hours.

This course explores the effects of cultural diversity on communication in organizations. Diffusion of innovations, prejudice, discrimination, and equality are discussed.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

COS 651. Survey of Health Communication. 3 Credit Hours.

This course is intended to provide a graduate-level introduction to the study of health communication. Accordingly, it covers a wide range of topic areas informed by an equally diverse range of theories, research paradigms, and applied foci.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

COS 652. Culture and Health. 3 Credit Hours.

This class is designed to give participants an overview of the problems, issues, and processes involved with communicating with people of different cultural and subcultural backgrounds about issues of health and illness.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

COS 653. Organizations, Communication, and Health. 3 Credit Hours.

This class focuses on the organizational, interpersonal and intercultural dimensions of communication in health care settings. It draws on material from the communication discipline as well as work from medical sociology, anthropology, medicine, humanities and discourse studies.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

COS 654. Risk Communication. 3 Credit Hours.

This course will offer a foundational understanding of the psychological and sociological bases of risk perceptions that are necessary for effective risk communication.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

COS 655. Health Communication Interventions. 3 Credit Hours.

This course will focus on the planning, development, and assessment of health communication intervention messages and materials.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

COS 660. The Executive Communicator. 3 Credit Hours.

Audience analysis, speech writing, delivery in professional presentations, theory, and history of great speeches are covered. Detailed critiques of student speaking styles and performances are also included.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

COS 674. Seminar in Interpersonal Communication. 3 Credit Hours.

This course focuses on theoretical approaches to interpersonal communication. Emphasis is placed on current research including fundamentals of relationships, developmental issues, interaction management, and interpersonal competence.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

COS 680. Organizational Training and Development. 3 Credit Hours.

This course is designed to provide an examination of internal organizational communication in order to understand appropriate strategies for training and development of supervisors and employees.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

COS 682. Seminar in Organizational Communication. 3 Credit Hours.

This course explores theoretical perspectives and the impact of communication in organizations. Critical analysis includes management styles, decision-making, group interaction, conflict resolution, and diffusion of innovations.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

COS 690. Communication Studies Practicum. 1-3 Credit Hours.

Prescribed graduate study and supervised work with practitioners in organizations.

Prerequisites: COM 601 and COM 602 and COM 603.

Components: PRA.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

COS 691. Advanced Special Topics in Communication Studies. 3 Credit Hours.

This course subject matter varies according to announced special topic. See class schedule for details.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

COS 699. Advanced Projects and Directed Research. 1-6 Credit Hours.

Individual study. Course may be repeated to a maximum of six credits.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

Computer Science (CSC)

CSC 115. Social and Ethical Issues in Computing. 3 Credit Hours.

History, social context and methods and tools of analysis. Professional and ethical responsibilities. Intellectual property. Privacy and civil liberties.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CSC 116. Cybersecurity: An Introduction to Security in Cyberspace. 3 Credit Hours.

An introduction to cybersecurity. Recent incidents. The Internet. Types of attacks. Tools for defending against attacks on users and networks. Legal, moral, and social aspects.

Components: LEC.

Grading: GRD.

CSC 118. Information Technology and Society. 3 Credit Hours.

A variety of topics on information technology and society through various course activities including research papers, experiments, and by reading articles. The topics covered include but are not limited to: history of computing, hardware mechanisms, algorithms design, software development principles, software tools, security, and artificial intelligence.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Summer.

CSC 119. Computers and Society. 3 Credit Hours.

Basic concepts of computer systems. Installing, configuring, and managing computer software. Internet information retrieval. Application software. HTML, programming for the www in JavaScript. E-commerce, cryptography, computer security. Social, legal, ethical issues and the future.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CSC 120. Computer Programming I. 4 Credit Hours.

History of computing. Fundamental programming constructs. Algorithms and problem solving. Object-oriented programming. Recursion.

Prerequisite: MTH 108. or Corequisite: MTH 140 or Higher or MAS 110.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CSC 210. Computing for Scientists. 3 Credit Hours.

Computing applications in science. Tools and algorithms for applications. Implementation of algorithms. Storage, retrieval analysis and visualization of data in science.

Prerequisite: MTH 141 or MTH 151 or MTH 161 or MTH 171.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CSC 220. Computer Programming II. 4 Credit Hours.

Common APIs including list, priority queue, set, and map, and their efficient implementations in an object-oriented language using fundamental data structures. Sorting and other applications of recursion. Combining asymptotic analysis and experiments to extrapolate running times. Using APIs in a software project.

Prerequisites: CSC 120 or BTE 324 or ECE 218 and MTH 108 or MTH 140 or MTH 141 or MTH 161 or MTH 162 or MTH 171 or MTH 172 or MAS 110.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CSC 314. Computer Organization and Architecture. 3 Credit Hours.

Digital logic and digital systems. Machine level representation of data. Assembly level machine organization. Memory system organization and architecture. Interfacing and communication. Functional organization. Multiprocessing and alternative architectures

Prerequisite: CSC 220. or BTE 324. or ECE 218. and Corequisite: MTH 309.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CSC 317. Data Structures and Algorithm Analysis. 3 Credit Hours.

Basic algorithmic analysis. Algorithmic strategies. Fundamental computing algorithms. Distributed algorithms. Cryptographic algorithms. Geometric algorithms.

Prerequisite: CSC 220 or ECE 318 and MTH 309.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CSC 322. System Programming. 3 Credit Hours.

C programming: Program structure, core language elements, pointers. System tools for C programming. Programming for UNIX: The system call interface, interfaces to the internet. Scripting.

Prerequisite: CSC 220 or ECE 318.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CSC 329. Introduction to Game Programming. 3 Credit Hours.

Fundamental programming issues in game design: Software design; Version control; Basic graphics; GUI programming. Large-scale game project: Team development of a functional game; Graphics and GUI component; Networking component; Core game engine.

Prerequisite: CSC 220 or ECE 318.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CSC 330. Android Programming. 3 Credit Hours.

The android/Eclipse programming environment. The Android execution model. User interfaces. Media. Data storage areas. Sensors and actuators. The Android market.

Prerequisite: CSC 220.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CSC 401. Computer Science Practicum I. 1 Credit Hour.

Implementation of techniques, algorithms, and data structures being taught in a co-requisite computer science course.

Components: PRA.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CSC 402. Computer Science Practicum II. 1 Credit Hour.

Implementation of techniques, algorithms, and data structures being taught in a co-requisite computer science course.

Components: PRA.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CSC 403. Computer Science Practicum III. 1-3 Credit Hours.

Implementation of techniques, algorithms, and data structures being taught in a co-requisite computer science course.

Components: PRA.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CSC 405. Computer Science Seminars. 1 Credit Hour.

A range of topics in Computer Science, as embodied in the seminars hosted by the Department.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

CSC 410. Computer Science Project Planning. 1-3 Credit Hours.

Planning for the implementation of a Computer Science project, including: Problem analysis, System architecture design, Algorithm and data structure selection, User interface design, Verification and validation plan, and Prototyping.

Components: PRA.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CSC 411. Computer Science Project Implementation. 1-3 Credit Hours.

Implementation of a Computer Science project, including: Hardware preparation, Component implementation, System integration, Verification and validation, and Documentation.

Components: PRA.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CSC 412. Computer Science Internship. 1-3 Credit Hours.

A commercial computing environment. Normally 50 internship hours are required per credit earned (the host company must supply documentary evidence of hours worked).

Components: PRA.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CSC 419. Programming Languages. 3 Credit Hours.

Overview of programming languages. Fundamental issues in language design. Virtual machines. Introduction to language translation. Models of execution control. Declaration, modularity, and storage management. Programming language semantics. Programming paradigms.

Prerequisite: CSC 317 or CSC 517.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CSC 421. Principles of Computer Operating Systems. 3 Credit Hours.

Process management. Scheduling and dispatch. Interprocess communication. Memory management. File systems. Device management. Security and protection. System programming for UNIX.

Prerequisite: CSC 314 and CSC 322.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CSC 423. Database Systems. 3 Credit Hours.

Information models and systems. Database systems. Data modeling. Relational databases. Relational database design. Database query languages, Data mining concepts, Web database programming.

Prerequisite: CSC 322 or ECE 322.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CSC 424. Computer Networks. 3 Credit Hours.

Introduction to computer networks and network applications. The protocol stack. Routing, switching and bridging technologies. Models of network computing. Internet standards and protocols.

Prerequisite: CSC 314 and CSC 322.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CSC 427. Theory of Computing. 3 Credit Hours.

Sets, relations, and languages. Automata theory. Basic computability theory. Turing machines. The complexity classes P and NP.

Prerequisite: CSC 220 or ECE 318 and MTH 309.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CSC 431. Introduction to Software Engineering. 3 Credit Hours.

Software processes, requirements and specifications, design, validation, evolution. Project management, tools and environments. Foundations of human-computer interaction. Risks and liabilities of computer-based systems. Intellectual property.

Prerequisite: CSC 317 or CSC 322 or CSC 517.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CSC 481. Teaching Assistant Training in Computer Science. 1-3 Credit Hours.

Training and teaching assistant for a specific course, in computer laboratories. May be taken multiple times, assisting maximally twice for a given course.

Components: PRA.

Grading: GRD.

Typically Offered: Fall & Spring.

CSC 498. Senior Topics in Computer Science. 3 Credit Hours.

Senior Topics in Computer Science - content varies by semester.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CSC 506. Logic. 3 Credit Hours.

Propositional and first order logic: completeness. Computational logic: Robinson's resolution. Formalized theories: arithmetic, Godel's incompleteness theorem, Tarski's theorem on undefinability of truth.

Prerequisite: MTH 230 or PHI 210 or PHI 510.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CSC 507. Data Security and Cryptography. 3 Credit Hours.

Access, information flow, and inference controls. Network security and management. Encryption algorithms. Cryptographic techniques.

Prerequisite: CSC 317 or CSC 427.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CSC 518. Interpreters and Compiler Theory. 3 Credit Hours.

Translation of higher-level languages into machine language. Grammars, parsing, scanners, precedence relations. Run-time storage and symbol table organization. Semantic routines. Chaining and hashing. Code generation and optimization. Macro implementation.

Prerequisite: CSC 419.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CSC 528. Introduction to Parallel Computing. 3 Credit Hours.

Parallel computing systems shared-memory parallel programming, with open MP, distributed-memory parallel programming, software with open MPI software package. Applications: vector and matrix operations, sorting, image processing.

Prerequisite: CSC 317.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CSC 529. Introduction to Computer Graphics. 3 Credit Hours.

Graphic systems. Graphic communication. Geometric modeling (2D and 3D representations). Rendering. Advanced techniques. Display and input devices. Software packages.

Prerequisite: CSC 220. or ECE 318. and MTH 210.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CSC 540. Algorithm Design and Analysis. 3 Credit Hours.

Design techniques include divide-and-conquer, greedy method, dynamic programming, backtracking. Time and space complexity. Sorting, searching, combinatorial and graph algorithms.

Prerequisite: CSC 317.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CSC 545. Introduction to Artificial Intelligence. 3 Credit Hours.

Search and constraint satisfaction. Knowledge representation and reasoning. Natural language processing. Machine learning and neural networks. Game theory. AI programming.

Prerequisite: CSC 317 or ECE 318 and MTH 224 or ECE 310 or IEN 310.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CSC 547. Computational Geometry. 3 Credit Hours.

Algorithms for solving geometric problems arising from application domains including graphics, robotics, and GIS.

Prerequisite: CSC 317.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CSC 548. Bioinformatics Algorithms. 3 Credit Hours.

The complexity of bioinformatics computations. Introduction to perl and bioperl. Pattern matching and sequence homology. Genome assembly. Transcription factor Binding Site recognition and motif finding. Gene prediction. Phylogeny. Micro-array analysis. RNA folding. Gene design and synthesis.

Prerequisite: CSC 120 or CSC 210 and BIL 150 or BIL 104 or BIL 352 or BIL 552 or CSC 552.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CSC 549. Biomedical Data Science. 3 Credit Hours.

The computational skills needed for analysis of genomic and biomedical data sets, including: The basics of a command line interface; programming in (bio-)python; running programs on Pegasus2; writing scripts for downloading, manipulating, and analyzing data; file sharing and version control using github; analyzing a Next Generation Sequencing data set, and interpreting the results; and responsible conduct of Research.

Prerequisite: CSC 120 or BIL 150.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CSC 550. Computational Neuroscience. 3 Credit Hours.

Introduction to computational neuroscience. Analysis and modeling of neural systems. Neurons, populations of neurons, perception, behavior. Connections to machine learning. Tutorials in Matlab.

Prerequisite: MTH 162 and MTH 224.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CSC 552. Bioinformatics Tools. 3 Credit Hours.

Databases and tools of bioinformatics, as relevant to research in genomics and molecular biology. Bioinformatics applications. Information retrieval, analytical tools, BLAST searches, promoter analysis, and protein structure- function analysis, and various applications.

Prerequisite: BIL 250 or BIL 150.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CSC 555. Multimedia Systems. 3 Credit Hours.

Specification and requirements of a multimedia hardware system. Multimedia data technologies. Graphics file formats. Compression and decompression. Multimedia application development.

Prerequisite: CSC 317.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CSC 595. Topics in Computer Science. 1-3 Credit Hours.

Topics in Computer Science - content varies by semester.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CSC 596. Topics in Computer Science. 1-3 Credit Hours.

Topics in Computer Science - content varies by semester.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CSC 597. Topics in Computer Science. 1-3 Credit Hours.

Topics in Computer Science - content varies by semester.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CSC 598. Topics in Computer Science. 1-3 Credit Hours.

Topics in Computer Science - content varies by semester.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CSC 599. Topics in Computer Science. 1-3 Credit Hours.

Topics in Computer Science - content varies by semester.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CSC 607. Logic. 3 Credit Hours.

Propositional and first order logic: completeness. Computational logic: Robinson's resolution. Formalized theories: arithmetic, Godel's incompleteness theorem, Tarski's theorem on undefinability of truth.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CSC 609. Data Security and Cryptography. 3 Credit Hours.

Access, information flow, and inference controls. Network security and management. Encryption algorithms. Cryptographic techniques.

Prerequisite: CSC 317 or CSC 427.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CSC 618. Interpreters and Compiler Theory. 3 Credit Hours.

Translation of higher-level languages into machine language. Grammars, parsing, scanners, precedence relations. Run-time storage and symbol table organization. Semantic routines. Chaining and hashing. Code generation and optimization. Macro implementation.

Prerequisite: CSC 419.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CSC 623. Theory of Relational Databases. 3 Credit Hours.

Relational operators. Functional dependencies. Covers for functional dependencies. Multivalued dependencies. Joint dependencies. Normal Forms, Representation theory. Query systems. Acyclic database schemes.

Prerequisite: CSC 423.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CSC 629. Introduction to Computer Graphics. 3 Credit Hours.

Graphic systems. Graphic communication. Geometric modeling (2D and 3D representations). Rendering. Advanced techniques. Display and input devices. Software packages.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CSC 632. Introduction to Parallel Computing. 3 Credit Hours.

Parallel computing systems shared-memory parallel programming, with open MP, distributed-memory parallel programming, software with open MPI software package. Applications: vector and matrix operations, sorting, image processing.

Prerequisite: CSC 317.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CSC 640. Algorithm Design and Analysis. 3 Credit Hours.

Design techniques include divide-and-conquer, greedy method, dynamic programming, backtracking. Time and space complexity. Sorting, searching, combinatorial and graph algorithms.

Prerequisite: CSC 317.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CSC 645. Introduction to Artificial Intelligence. 3 Credit Hours.

Search and constraint satisfaction. Knowledge representation and reasoning. Natural language processing. Machine learning and neural networks. Game theory. AI programming.

Prerequisite: CSC 545.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CSC 647. Computational Geometry. 3 Credit Hours.

Algorithms for solving geometric problems arising from application domains including graphics, robotics, and GIS.

Prerequisite: CSC 317.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CSC 649. Bioinformatics Algorithms. 3 Credit Hours.

The complexity of bioinformatics computations. Introduction to perl and bioperl. Pattern matching and sequence homology. Genome assembly. Transcription factor Binding Site recognition and motif finding. Gene prediction. Phylogeny. Micro-array analysis. RNA folding. Gene design and synthesis.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CSC 650. Computational Neuroscience. 3 Credit Hours.

Introduction to computational neuroscience. Analysis and modeling of neural systems. Neurons, populations of neurons, perception, behavior. Connections to machine learning. Tutorials in Matlab.

Prerequisite: MTH 162 and MTH 224.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CSC 656. Multimedia Systems. 3 Credit Hours.

Specification and requirements of a multimedia hardware system. Multimedia data technologies. Graphics file formats. Compression and decompression. Multimedia application development.

Prerequisite: CSC 317.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CSC 670. Directed Reading. 2-4 Credit Hours.

Directed reading in Computer Science - content varies by semester.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

CSC 685. Topics in Computer Science. 1-3 Credit Hours.

Topics in Computer Science - content varies by semester.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CSC 686. Topics in Computer Science. 1-3 Credit Hours.

Topics in Computer Science - content varies by semester.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CSC 687. Topics in Computer Science. 1-3 Credit Hours.

Topics in Computer Science - content varies by semester.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CSC 688. Topics in Computer Science. 1-3 Credit Hours.

Topics in Computer Science - content varies by semester.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CSC 689. Topics in Computer Science. 1-3 Credit Hours.

Topics in Computer Science - content varies by semester.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CSC 690. Seminar for Graduate Students I. 1-3 Credit Hours.

Flexible topics of interest to graduate students.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CSC 692. Seminar for Graduate Students II. 1-3 Credit Hours.

Flexible topics of interest to graduate students.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CSC 707. Logic Programming. 3 Credit Hours.

Programming in Prolog, Fix-point semantics, Declarative semantics, Completeness of SLD-resolution, Negation, Implementation of logic programming languages. Deductive databases.

Prerequisite: MTH 506 and CSC 317.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CSC 711. Theory of Computation. 3 Credit Hours.

Recursive functions, Markov algorithms, Turing machines. Unsolvability.

Prerequisite: CSC 317 or CSC 517.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CSC 712. Complexity Theory. 3 Credit Hours.

Models of computations, Blum's axioms, intractability, NP-completeness.

Prerequisite: CSC 427.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CSC 724. Mobile Wireless Systems. 3 Credit Hours.

Cellular Systems, multiple access techniques, wireless networking, mobile IP, power management, user location information management, TDMA, CDMA, and GSM systems, data broadcasting.

Prerequisite: CSC 424.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CSC 732. Parallel Algorithms. 3 Credit Hours.

Parallel computation models; sorting networks; parallel algorithms for sorting, searching, graph problems, prefix computation, pattern matching, and fast Fourier transforms; theory of P-completeness, the class NC.

Prerequisite: CSC 317.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CSC 746. Neural Networks and Deep Learning. 3 Credit Hours.

Fundamentals of artificial neural networks: Perceptrons, Single-layer perceptron classifiers, Multi-Layer feedforward networks, Error back-propagation training. Deep Feedforward Networks: Regularization for deep learning, Optimization for training deep models, Convolution networks. Applications:

Computer vision, speech recognition, Natural language processing.

Prerequisite: CSC 317.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CSC 749. Automated Reasoning. 3 Credit Hours.

Propositional and 1st order logic. Reasoning and resolution. More complex inference rules. Using contemporary ATP systems. Prolog as an ATP system and as a programming language. Applications of ATP in research and industry.

Prerequisite: CSC 317 or CSC 645.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CSC 751. Semantic Web. 3 Credit Hours.

An overview of the underlying semantic web technologies. Ontology construction and implementation using tools and APIs (logic, XML, RDF, RDFS).

Theoretical and practical aspects of knowledge representation (description logic, RDF, RDFS, SPARQL, SROIQ(D)). Designing and debugging ontologies (ontology engineering, entailment tools, project).

Prerequisite: CSC 317 and MTH 309.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CSC 752. Autonomous Robotic Systems. 3 Credit Hours.

Introduction: autonomous systems, autonomous robots, RoboCup, typical components of an autonomous robot. Modeling: perception, noise, modeling, recursive state estimation, Bayes' filter, particle filter, self-localization. Control and motion: PIO-control, calibration of parameters, controlling a wheeled robot, controlling joints, walking motion. Learning (optional, if time permits): overview, different types of learning, reinforcement learning.

Prerequisite: CSC 317 and MTH 210.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CSC 756. Advanced Multimedia Systems. 3 Credit Hours.

Digital-system fundamentals. Digital audio, analog and digital video. Graphics. Data compression algorithms. CD-ROM technology. Implementation of multimedia software development tools. Architecture and issues for distributed multimedia systems. Multimedia communications systems.

Prerequisite: CSC 656.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CSC 785. Advanced Topics in Computer Science. 1-3 Credit Hours.

Advanced Topics in Computer Science

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CSC 786. Advanced Topics in Computer Science. 1-3 Credit Hours.

Advanced Topics in Computer Science

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CSC 787. Advanced Topics in Computer Science. 1-3 Credit Hours.

Advanced Topics in Computer Science

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CSC 788. Advanced Topics in Computer Science. 1-3 Credit Hours.

Advanced Topics in Computer Science

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CSC 789. Advanced Topics in Computer Science. 1-3 Credit Hours.

Advanced Topics in Computer Science

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CSC 793. Research Project. 1-6 Credit Hours.

Supervised research project preceding dissertation research for the Ph.D.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CSC 794. Research Project. 1-6 Credit Hours.

Supervised research project preceding dissertation research for the Ph.D.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CSC 810. Master's Thesis. 1-6 Credit Hours.

The student working on his/her master's thesis enrolls for the number of credit s as determined by his/her advisor. Credit is not awarded until the thesis has been accepted.

Components: THI.

Grading: SUS.

Typically Offered: Fall & Spring.

CSC 825. Continuous Registration--Master's Study. 1 Credit Hour.

To establish residence for non-thesis master's students who are preparing for major examinations. Credit not granted. Regarded as full time residence.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

CSC 830. Pre-Candidacy DOCTORAL DISSERTATION. 1-12 Credit Hours.

Required of all candidates for the Ph.D. The student will enroll for credit as determined by his/her advisor, but for not less than a total of 12 hours. Up to 12 hours may be taken in a regular semester, but not more than six in a summer session.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

CSC 840. Post-Candidacy Doctoral Dissertation. 1-12 Credit Hours.

Required of all candidates for the Ph.D. who have advanced to candidacy. The student will enroll for credit as determined by his/her advisor, but not for less than a total of 12. Not more than 12 hours of CSC 740 may be taken in a regular semester, nor more than six in a summer session.

Components: THI.

Grading: SUS.

Typically Offered: Spring.

CSC 850. Research in Residence. 1 Credit Hour.

Used to establish research in residence for Ph.D. students after the student has enrolled for permissible cumulative total in appropriate doctoral research. Regarded as full-time residence.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

Dance (DAN)

DAN 102. Stretching and Body Work. 1 Credit Hour.

Stretching techniques and examination of various body therapy concepts.

Components: LAB.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

DAN 111. Modern Dance, Level One. 2 Credit Hours.

Introduction to the discipline of modern dance designed to develop understanding and skill in the basic vocabulary. Open to all students..

Components: LAB.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

DAN 121. Ballet, Level One. 2 Credit Hours.

Introduction to the discipline of classical ballet designed to develop understanding and skill in the basic vocabulary. Open to all students.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

DAN 130. Orientation to Dance. 2 Credit Hours.

Introduction to dance as an art form for those interested in career opportunities in dance education. Required for prospective dance minors. Open to all students.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

DAN 140. Theatre Dance Forms. 2 Credit Hours.

Introduction to movement skills and stylistic elements of theatrical forms of dance. Open to all students.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

DAN 190. Improvisation. 2 Credit Hours.

Experience in selective and basic processes of movement involvement both individual and group. Open to all students.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

DAN 211. Modern Dance, Level Two. 3 Credit Hours.

Continuing exploration of modern dance basic techniques and theoretical concepts. Open to all students.

Components: LAB.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

DAN 221. Ballet, Level Two. 3 Credit Hours.

Study of ballet designed to extend technical skill and prepare student for intermediate level work. Open to students with formal ballet training or permission

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

DAN 240. Cultural Dance Forms. 2 Credit Hours.

Introduction to movement skills and stylistic elements of dance forms from various cultures. Open to all students.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

DAN 250. World History of the Dance. 3 Credit Hours.

Introductory exploration of dance history in relation to life, thought, and culture.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

DAN 280. Dance Composition Level 2. 3 Credit Hours.

Introduction to choreography through creative problem solving by exploring and experimenting with the basic elements of dance: space, time, energy, and motion. Emphasis is on compositional studies.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

DAN 285. Creative Dance for Children. 2 Credit Hours.

Introduction to theories and methods of teaching dance to children of elementary school age. Open to all students.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

DAN 286. Teaching Dance to Children. 2 Credit Hours.

Theory and practice of teaching dance to preschool and school age children. Open to all students.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

DAN 290. Introduction to Dance-Movement Therapy. 2 Credit Hours.

Introduction to dance-movement therapy theory and practice.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

DAN 291. Dance Movement Therapy. 3 Credit Hours.

This course will provide a continued investigation into the theoretical and experiential techniques and practices of dance therapy as well as career options for students majoring in education and the healing professions.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

DAN 311. Modern Dance, Level Three. 3 Credit Hours.

Intermediate study of modern dance techniques and theoretical concepts.

Components: LAB.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

DAN 321. Ballet Level Three. 3 Credit Hours.

Study of classical ballet at intermediate/advanced level. Open to students with formal ballet training!

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

DAN 380. Dance Composition Level 3. 3 Credit Hours.

Continuation of creative problem solving by exploring, experimenting, and combining the basic elements of dance: space, time, energy and motion. Emphasis is on expansion of ideas for stage productions.

Components: LAB.

Grading: GRD.

Typically Offered: Spring.

DAN 385. Methods of Teaching Dance (K-12). 3 Credit Hours.

Content for teaching dance in a variety of settings including public school grades K-12. Required for dance minor.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

DAN 411. Modern Dance; Level Four. 3 Credit Hours.

Advanced study of modern dance technique and theatrical concepts.

Components: LAB.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

DAN 421. Ballet, Level Four. 3 Credit Hours.

Study of Classical ballet at an advanced level. Permission of Instructor

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

DAN 450. History of Modern Dance. 3 Credit Hours.

Study of development, philosophies, and theories of American and European modern dance.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

DAN 493. Special Projects in Dance. 1-3 Credit Hours.

Advanced individual instruction pertaining to faculty member's area expertise and student's area of interest. This course includes a culminating project.

Components: IND.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

DAN 494. Special Topics in Dance. 1-3 Credit Hours.

Advanced group/classroom instruction pertaining to faculty to faculty member's expertise and students' areas of interest.

Components: SEM.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

DAN 550. Women in Theatrical Dance. 3 Credit Hours.

Women in Dance; the most prominent dancers and choreographers from the 19th and 20th centuries who helped shape western theatrical dance art.

Components: LEC.

Grading: GRD.

Typically Offered: Spring & Summer.

DAN 585. Methods of Teaching Dance K-12 (Advanced). 3 Credit Hours.

An advanced study of the dance curriculum content in a variety of settings including public schools, grades K-12.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

DAN 593. Special Projects in Dance. 1-3 Credit Hours.

Advanced individual instruction pertaining to faculty member's area expertise and student's area of interest. This course includes a culminating project.

Components: IND.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

DAN 594. Special Topics in Dance. 1-3 Credit Hours.

Advanced group/classroom instruction pertaining to faculty to faculty member's expertise and students' areas of interest.

Components: SEM.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

DAN 650. Women in Theatrical Dance. 3 Credit Hours.

Women in Dance; the most prominent dancers and choreographers from the 19th and 20th centuries who helped shape western theatrical dance art.

Components: STU.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

DAN 693. Special Projects in Dance. 1-3 Credit Hours.

Advanced individual instruction pertaining to faculty member's area of expertise and student's area of interest. This course includes a culminating project.

Components: IND.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

DAN 694. Special Topics in Dance. 1-3 Credit Hours.

Advanced group/classroom instruction pertaining to faculty member's expertise and students' areas of interest.

Components: SEM.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

DAN 793. Special Projects in Dance. 1-3 Credit Hours.

Advanced individual instruction pertaining to faculty member's area of expertise and student's area of interest. This course includes a culminating project.

Components: IND.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

DAN 794. Special Topics in Dance. 1-3 Credit Hours.

Advanced group/classroom instruction pertaining to faculty member's expertise and students' areas of interest.

Components: SEM.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

Economics (ECO)

ECO 211. Principles of Microeconomics. 3 Credit Hours.

Fundamental course devoted to the development and application of basic analytical tools and principles required for an understanding of major economic problems and policy alternatives available for their solution. A particular emphasis is devoted to microeconomic analysis. Topics include the study of markets under varying conditions of competition, including market deficiencies such as pollution, prices, and resource allocation distribution of income, including poverty problems, the economics of the firm and the government, and international economic relations.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ECO 212. Principles of Macroeconomics. 3 Credit Hours.

Fundamental course devoted to macroeconomic analysis. Topics include national income and employment analysis, money and banking, economic growth, and comparison of different economic systems, including the problems of developing the less developed world.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ECO 300. Microeconomic Theory and Applications. 3 Credit Hours.

Intermediate level analysis of the role of price in resource allocation in markets of varying degrees of competition. It focuses on the process of decision-making by individuals and firms, and the welfare consequences. Special attention is devoted to economic applications.

Prerequisite: ECO 211 and MAS 110, or MTH 130 or MTH 141 or higher.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ECO 301. Macroeconomic Theory. 3 Credit Hours.

Intermediate level analysis of the measurement, determination, and control of aggregate economic activity.

Prerequisite: ECO 212, MAS 110, or MTH 130 or MTH 141 or higher.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ECO 302. Microeconomic Theory. 3 Credit Hours.

Intermediate level analysis of the role of price in resource allocation in markets of varying degrees of competition, as well as in the determination of wages, rent, interest, profits, and public policy.

Prerequisite: ECO 211 and MTH 141 or higher.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ECO 303. Macroeconomic Theory. 3 Credit Hours.

Intermediate level analysis of the measurement, determination, and control of aggregate economic activity.

Prerequisite: ECO 212, MAS 110 or MTH 130 or MTH 141 or Higher.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ECO 307. Public Finance and Fiscal Policy. 3 Credit Hours.

The role of local, state, and federal government in attaining an efficient allocation of resources and an equitable distribution of income. Emphasis on criteria for the selection and evaluation of public expenditure and tax programs including the problems of coordinating federal, state, and local finance. Special attention is given to current policy issues.

Prerequisite: ECO 300. Or ECO 302.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECO 311. Labor Economics (I). 3 Credit Hours.

Course surveys the structure and functioning of labor markets. Topics include determinants of labor supply and labor demand, economics of wage differentials, economic impact of labor unions, discrimination in labor markets, and the labor market effects of various government policies such as payroll and income taxes, educational subsidies, and minimum wage laws. The central goal of the course is to provide the student with a framework for analyzing diverse issues related to the labor sector of the economy.

Prerequisite: ECO 300. Or ECO 302.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ECO 333. Industrial Economics and Public Policy. 3 Credit Hours.

This course surveys several topics in industrial economics, regulation, and antitrust; it is designed to be a link between the theory and several applications. Students will acquire the microeconomic tools and techniques to identify, analyze, and solve industrial economics and government competition policy problems, and will learn to apply the theory to many real-world markets and current economic events. Selected topics: price discrimination; product differentiation; advertising; network effects; consumer search and digital markets; auctions; bargaining; vertical restraints and mergers; collusion and cartels; innovation and intellectual property; natural monopolies and regulation; and antitrust policies. This is an elective class addressed to economics majors, minors, and any student with an interest in the topics.

Requisite: ECO 300 OR ECO 302.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECO 345. Environmental Economics. 3 Credit Hours.

This course determines the appropriate way to regulate economic activity so as to achieve an optimal balance between competing environmental and economic goals. Economic reasoning is used to evaluate causes and consequences of environmental problems. The course rigorously evaluates various types of environmental regulation, including "cap-and-trade," command and control mandates, and pollution taxes. Other specific topics include public goods, externalities, cost benefit analysis, non-market valuation, and international trade and development and the environment.

ECO 211.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECO 351. Economics of Development. 3 Credit Hours.

This course studies factors underlying economic development, measures of and goals for development, principles applicable to problems of development, the role of markets and planning in development, social, cultural, and political factors affecting economic development, and comparative rates of progress in different countries.

ECO 211 AND ECO 212.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECO 371. Latin America and the Global Economy. 3 Credit Hours.

An analysis of the historical growth of major Latin American countries, with emphasis on the post World War II period. Topics include industrialization, foreign investment, international trade and regional integration, agrarian reform, inflation, and development strategies and planning within the context of Latin America.

ECO 211 AND ECO 212.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECO 379. The Political Economy of Growth. 3 Credit Hours.

This course studies the causes of economic growth such as geography, culture, institutions, human and physical capital, as well as technology. It examines the role they play in the development process, casting light in their order of importance for growth and into which growth determinants are amenable to policy change.

ECO 211 AND ECO 212.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ECO 386. Health Economics. 3 Credit Hours.

The course applies the tools of microeconomic analysis to the health care sector. It examines how models of demand and supply apply to the health care sector in general, and in particular to the health insurance, the hospital, the physicians, and the pharmaceutical sectors. By examining the actors and issues in this market, students are able to discuss policy issues from an economic perspective.

Prerequisite: ECO 300. Or ECO 302.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECO 403. Monetary Economics. 3 Credit Hours.

Analysis of the role of money in economic affairs. Topics include the determinants of the money supply and interest rates, money and prices, money and stability, and growth. Emphasis is placed on current problems and policies.

Prerequisite: ECO 301 or ECO 303.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ECO 420. Economic Growth. 3 Credit Hours.

Course covers selected topics in economic growth. Topics include stylized facts associated with economic growth, the theoretical study of economic growth, and empirical tests of those theories. Course work is supplemented by case studies of individual countries, particularly developing countries.

Prerequisite: ECO 301 or ECO 303.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ECO 430. Applied Econometrics. 3 Credit Hours.

This course introduces basic econometric techniques for analyzing economic data. The goal is to make students sophisticated consumers and skilled producers of empirical analysis, which will be attained by extensive work on a variety of real-world data like students' test scores, CEO wages, mortgage applications, cigarette demand, stock market capitalization, inflation, GDP and interest rates. Learning how to use econometric analysis software is an integral part of the course.

Prerequisite: ECO 211 and MAS 110, or MTH 130 or MTH 141 or higher.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ECO 441. International Trade Theory. 3 Credit Hours.

Study of the principles of comparative advantage and the gains from international trade. Analysis of tariffs, quotas, and protectionism is included.

Prerequisite: ECO 300. Or ECO 302.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ECO 442. International Monetary Economics. 3 Credit Hours.

Analysis of models of the exchange rate, the balance of payments, and monetary policy in an open economy.

Prerequisite: ECO 301 or ECO 303.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ECO 443. Economic Analysis of Energy and Commodity Markets. 3 Credit Hours.

This course explores the principles of energy economics, commodity markets and advanced macroeconomics. It discusses the main trends in energy production and consumption, the methods of analysis in energy and commodity markets, and the main challenges in the energy sector. The analysis of oil prices and the economics of oil exporting countries is emphasized.

ECO 211 AND ECO 212.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECO 444. Game Theory in Economic Applications.. 3 Credit Hours.

This course is an introduction to the techniques and questions of modern microeconomics. The course will expose you to the techniques of game theory, the workhorse of modern microeconomics, and will apply those techniques to the analysis of a variety of economics situations and institutions.

Prerequisite: MAS110 or MTH 130 or MTH 141 or higher.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ECO 445. Global Economics: Trade and Currencies. 3 Credit Hours.

In this course, students are exposed to two fundamental topics which are primordial to the understanding of any economic, political and/or social circumstance in any given country at any given time: (1) The evolution and meaning of the business cycle and capitalism, and (2) The effect of international trade and currencies. These two themes have sparked debates for centuries as they have great implications in the development of countries. Also, this course challenges students' critical thinking and analytical skills with a wide range of controversial readings on these two topics. This course is divided into four sections. The first one introduces students to the idea of the business cycle. The second section aims at explaining how capitalism was born and how it has evolved in the 19th and 20th centuries. Then, the course centers on explaining capitalism today and presents criticisms. And finally, students analyze how the business cycle and capitalism has unfolded and affected certain countries in Latin America.

Prerequisite: ECO 301 or ECO 303.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ECO 460. Industrial Organization. 3 Credit Hours.

This course shows how microeconomic theory can be used to understand the diverse practices encountered in real-world markets between the extreme cases of perfect competition and monopoly. Topics to be covered include strategic pricing behavior, collusion, advertising and information, vertical integration, vertical restraints, regulation and a review of empirical literature.

Prerequisite: ECO 302.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ECO 496. Directed Studies in Economics. 1-3 Credit Hours.

Supervised readings, individual research project, or independent investigation of selected non-STEM related problems in the discipline. Offered only by special arrangement with supervising faculty member, who approves topic and evaluation process at time of registration.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECO 497. Directed Studies in Economics. 1-3 Credit Hours.

Supervised readings, individual research project or independent investigation of selected STEM-related problems in the discipline. Offered only by special arrangement with supervising faculty member, who approves topic and evaluation process at time of registration.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECO 498. Special Topics in Economics. 3 Credit Hours.

Special topics in selected non-STEM areas of Economics.

Prerequisite: ECO 300. Or ECO 302.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECO 499. Special Topics in Economics. 3 Credit Hours.

Special topics in selected STEM areas of Economics.

Prerequisite: ECO 302.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECO 510. Mathematical Economics and Applications. 3 Credit Hours.

The course will focus on specific applications of microeconomic theory, which may vary each semester. Topics may include choice under uncertainty, game-theoretic models of insurance markets, principal-agents problems, and basic auction theory. The discussion of each application will be preceded by a discussion of the mathematical tools required. The mathematics topics covered may include basic theory of sets and functions, concave / convex functions and their role in optimization, expectations, conditional probability, Bayes rule, and order statistics.

Prerequisite: ECO 211 and MAS 110, or MTH 130 or MTH 141 or higher.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECO 511. Empirical Labor Economics. 3 Credit Hours.

A theoretical and empirical analysis of how labor markets operate. A survey of the literature, problems, and methodology of modern labor economics. Human capital analysis, the wage structure, job search and job-matching models, time-allocation models, the economic impact of labor unions, labor market discrimination, the determinants of labor demand and supply, and the factors affecting government policy relating to the labor sector is also included.

ECO 430.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ECO 512. Topics in Mathematical Economics. 3 Credit Hours.

This course shows how modern economic techniques can be used to identify optimal managerial decisions and industrial developments. Diverse real-world economic applications are examined.

Prerequisite: ECO 211 and MAS 110, or MTH 130 or MTH 141 or higher.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ECO 520. Econometrics. 3 Credit Hours.

Statistical methods of estimating and testing mathematical model of economic relationships.

Prerequisite: ECO 211 and MAS 110, or MTH 130 or MTH 141 or higher.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECO 521. Advanced Macroeconomic Theory. 3 Credit Hours.

The primary objective of this course is to introduce the student to the mathematical presentation of the major Classical, Neo-classical, Keynesian, and Neo-Keynesian macroeconomic models.

Prerequisite: ECO 301 or ECO 303.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ECO 532. History of Economic Thought. 3 Credit Hours.

Historical development of economic doctrines and theory. Topics and individuals discussed include mercantilism, physiocracy, Adam Smith, Thomas Malthus, David Ricardo, J. S. Mill, Karl Marx, marginal analysis, Alfred Marshall, and J. M. Keynes. Special emphasis is placed on the effect of historical insights upon the contemporary core of economic theory.

ECO 211 AND ECO 212.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECO 533. Advanced Microeconomic Theory. 3 Credit Hours.

An introduction to the mathematical approach to microeconomic theory. Topics include consumer/household behavior, the theory of the firm, resource allocation, welfare economics, and uncertainty theory.

Prerequisite: ECO 302.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECO 555. Economics Departmental Honors Research Project. 3 Credit Hours.

Research project to fulfill requirements for Departmental Honors in Economics.

Components: THI.

Grading: SUS.

Typically Offered: Offered by Announcement Only.

ECO 600. Econometrics. 3 Credit Hours.

Statistical methods for estimating and testing mathematical models of economic relationships.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECO 601. Graduate Macroeconomic Theory. 3 Credit Hours.

The primary objective of this course is to introduce the student to the mathematical presentation of the major Classical, Neo-classical, Keynesian, and Neo-Keynesian macroeconomic models.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECO 602. Advanced Microeconomic Theory. 3 Credit Hours.

An introduction to the mathematical approach to microeconomic theory. Topics include consumer/household behavior, the theory of the firm, resource allocation, welfare economics, and uncertainty theory.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECO 603. Monetary Theory and Policy. 3 Credit Hours.

Current monetary theory and its use and application in fiscal and monetary policymaking. Topics include the rational expectations hypothesis, time inconsistency, and the role of the government budget constraint.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECO 604. Topics in Applied Macroeconomics. 3 Credit Hours.

Course acquaints students with current substantive issues in macroeconomics. Topics include consumption determination, savings behavior, bequest behavior, fiscal policy effects on interest rates, consumption, real exchange rates, trade balances, and inflation.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECO 610. Mathematical Economics and Applications. 3 Credit Hours.

The course will focus on specific applications of microeconomic theory, which may vary each semester. Topics may include choice under uncertainty, game-theoretic models of insurance markets, principal-agents problems, and basic auction theory. The discussion of each application will be preceded by a discussion of the mathematical tools required. The mathematics topics covered may include basic theory of sets and functions, concave / convex functions and their role in optimization, expectations, conditional probability, Bayes rule, and order statistics.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECO 611. Labor Economics (III). 3 Credit Hours.

The formulation and testing of models of labor markets. The application of the tools of microeconomics and econometrics to the analysis of labor markets. Leading contributions in the areas of dynamic analysis of labor markets, human capital investment, the determinants of the wage structure, time allocation and search models, dual and internal labor market models, and analysis of government policy are discussed.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECO 612. Economic Strategies for Firms and the Industry. 3 Credit Hours.

This course shows how modern economic techniques can be used to identify optimal managerial decisions and industrial developments. Diverse real-world applications are examined.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ECO 620. Advanced Econometrics. 3 Credit Hours.

Advanced econometric methods including advanced techniques in multiple regression, Bayesian methods, maximum likelihood estimators, distributed lag models, spectral analysis, and Monte Carlo studies are discussed.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ECO 621. Advanced Macro Analysis. 3 Credit Hours.

Theory of the determination of national income, employment, and price levels. Course emphasizes mathematical solutions of Classical, Keynesian, and other economic models.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ECO 625. Applied Econometrics. 3 Credit Hours.

Practical applications of econometrics are surveyed. Computer packages are used to examine economic data. Topics include the series analysis, limited dependent variable modes, pooling cross section and time series data, model selection, and rational expectations models.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECO 633. Advanced Micro Analysis. 3 Credit Hours.

Theory of the behavior of firms and households and the determination of prices and resource allocation in a decentralized economy.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ECO 634. Advanced Micro Analysis II. 3 Credit Hours.

Continuation of ECO 633. Advanced analysis of theory of the household and firm emphasizing recent approaches. Analysis of decisions over time, duality relationships, advanced demand theory, risk and uncertainty, behavioral theories of the firm, and technological change are covered.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECO 645. Regulations Economics. 3 Credit Hours.

This course examines public policies for dealing with problems arising in markets in which competitive forces are weak. The focus is on monopolies, oligopolies, cartels, and other environments where market mechanisms are unlikely to produce outcomes that benefit consumers more than the alternatives involving costly government intervention.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECO 675. Latin America and the Global Economy. 3 Credit Hours.

Analysis of the economic, political, and social forces at work in the changing economies in Latin America.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECO 680. Essentials of Economics. 2 Credit Hours.

This course provides an introduction to the core concepts of economics. Topics include allocation of scarce resources by the laws of supply and demand, use of the market place as the principle organizing and distribution tool of the economy, externalities, and market failure. Pollution of the environment is treated as a needed correction to be done by public regulation through taxation and legislation. The principal forms of firm organization and dissolution are also discussed. Applications of the laws of supply and demand are made to forecasting demand and analyzing cost structure. The entry and exit of firms and the valuation of the firm is also covered.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECO 685. Managerial Decisions in a Global Economy. 2 Credit Hours.

Modern techniques of economic analysis and decision science are applied to the management of the firm in a global environment. Business planning and the determinants of supply and demand are an integral part of the course. The principal forms of business organization and dissolution are reviewed. The major issues confronted by the firm: Principal-agent problem (or how to motivate managers to act in the best interest of the owners, the shareholders), moral hazard, discounting of free cash flow and terminal value, economies of scale and scope, and strategic management decision making are covered.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECO 690. Essentials of Economic Theory. 3 Credit Hours.

An economic study of the environment in which the decision making process takes place in management and the functional areas. Structured especially for students without an undergraduate background in economics. Credit not applicable toward 36-credit professional MBA component.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ECO 691. Managerial Economics. 3 Credit Hours.

Application of economic analysis to the formulation and solving of management problems and the determination of business policy.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ECO 692. Applied Economics. 3 Credit Hours.

This course is to provide practice in applying economic principles for graduate students with a basic understanding of economic theory.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ECO 695. Global Economics. 2 Credit Hours.

This is a course in global economics with focus on economic policies and country risk. We study the aggregate behavior of macroeconomics variables that are relevant for business decisions. We take into account the interaction of the national economy with the rest of the world. In other words, we do global economics and study the roles of monetary and fiscal policies in an open economy, foreign direct investment, and the exchange rate.

Components: LEC.

Grading: GRD.

Typically Offered: Spring & Summer.

ECO 698. Selected Topics. 1-3 Credit Hours.

Topics in selected areas of specialization.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ECO 699. Directed Study. 1-3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

ECO 750. Applied Economics: IO. 3 Credit Hours.

The first part of the course will focus on static analysis of market outcomes. The emphasis will be on empirical work, and there will be a number of places where we take digressions into econometric and computational issues. The second part will focus on related fields (bargaining, auctions and market design), and then move on to dynamic analysis in I.O. (both single and multiple agent dynamic models).

PRE-REQUISITE: ECO 602 AND ECO 633.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ECO 830. Doctoral Dissertation. 1-12 Credit Hours.

Required of all candidates for the Ph.D. The student will enroll for credit as determined by his/her advisor but not for less than a total of 12. Not more than 12 hours of ECO 730 may be taken in a regular semester, nor more than six in a summer session. Where a student has passed his/her (a) qualifying examinations, and (b) is engaged in an assistantship, he/she may still take the maximum allowable credit stated above.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

ECO 860. The Theory of International Trade. 3 Credit Hours.

This course presents rudiments in trade theory and open macroeconomics. International arbitrage as well as determination of the values of currencies and stocks.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

Ecosystem Science and Policy (ECS)

ECS 111. Introduction to the Earth's Ecosystem. 3 Credit Hours.

Earth's ecosystems and the interactions of humans with them. Concepts in ecology, environmental science and policy.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ECS 112. Field Problems in Ecosystem Science and Policy. 2 Credit Hours.

Problem solving in ecology and environmental management. Class projects and case studies providing experience in identifying problems, quantifying scientific issues and considering management options and outcomes. Extensive field experience.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ECS 113. Introduction to Environmental Policy. 3 Credit Hours.

Theories and case studies from various fields, including anthropology, economics, ethics, geography, political science and psychology, will be used to explore the multiple perspectives that influence group and individual perceptions of environmental issues.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECS 195. Studies in Ecosystem Science and Policy. 1-5 Credit Hours.

Courses taken at other institutions but having no direct equivalents here.

Components: LEC.

Grading: GRD.

ECS 196. Studies in Ecosystem Science and Policy. 1-5 Credit Hours.

Courses taken at other institutions but having no direct equivalents here.

Components: LEC.

Grading: GRD.

ECS 197. Studies in Ecosystem Science and Policy. 1-5 Credit Hours.

Courses taken at other institutions but having no direct equivalents here.

Components: LEC.

Grading: GRD.

ECS 198. Studies in Ecosystem Science and Policy. 1-5 Credit Hours.

Courses taken at other institutions but having no direct equivalents here.

Components: LEC.

Grading: GRD.

ECS 199. Studies in Ecosystem Science and Policy. 1-5 Credit Hours.

Courses taken at other institutions but having no direct equivalents here.

Components: LEC.

Grading: GRD.

ECS 201. Seminar Series in Contemporary Environmental Issues I. 1 Credit Hour.

Current environmental topics involving interaction of science and policy.

Components: SEM.

Grading: GRD.

Typically Offered: Fall.

ECS 202. Seminar Series in Contemporary Environmental Issues II. 1 Credit Hour.

Current environmental topics involving interaction of science and policy.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ECS 204. Environmental Statistics. 3 Credit Hours.

An overview of parametric and nonparametric statistics with an emphasis on applications in the analysis of environmental data.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ECS 215. Introduction to Private Urban and Suburban Green Spaces. 1 Credit Hour.

Faculty supervised research & application projects in indoor, urban, and suburban green spaces. Topics of focus include green walls, roof gardening, edible gardening, permaculture, sustainable gardening, composting & vermiculture, gardening for wildlife, and backyard ecology. No previous ecology or gardening experience required.

Components: FLD.

Grading: GRD.

Typically Offered: Fall & Spring.

ECS 232. Ecological Principles and Environmental Applications. 3 Credit Hours.

Overview of the science of ecology and its basic principles. Covers aspects of organismal ecology (including population genetics, structure, growth and regulation; adaptations and responses to the physical environment and biological communities); community ecology; and ecosystems (including energy flow, biogeochemical cycles, and biomes). Students will learn to apply ecological principles to understand and solve environmental problems.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECS 272. Special Topics in Ecosystem Science and Policy. 1-3 Credit Hours.

Content varies by semester and is indicated in parentheses following course number and title in class schedule.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECS 295. Studies in Ecosystem Science and Policy. 1-5 Credit Hours.

For courses taken at other institutions that have no equivalents here.

Components: LEC.

Grading: GRD.

ECS 296. Studies in Ecosystem Science and Policy. 1-5 Credit Hours.

For courses taken at other institutions that have no equivalents here.

Components: LEC.

Grading: GRD.

ECS 297. Studies in Ecosystem Science and Policy. 1-5 Credit Hours.

For courses taken at other institutions that have no equivalents here.

Components: LEC.

Grading: GRD.

ECS 298. Studies in Ecosystem Science and Policy. 1-5 Credit Hours.

For courses taken at other institutions that have no equivalents here.

Components: LEC.

Grading: GRD.

ECS 299. Studies in Ecosystem Science and Policy. 1-5 Credit Hours.

For courses taken at other institutions that have no equivalents here.

Components: LEC.

Grading: GRD.

ECS 301. Tools for Environmental Decision-Making: The Quantitative Perspective. 3 Credit Hours.

Quantitative decision-making techniques and methodologies.

Prerequisite: ECS 111 and ECS 112. or Requisite: Plan of ECS.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECS 302. Perspectives on Environmental Decision Making. 3 Credit Hours.

Techniques for assessing human impacts on the environment. Covers approaches from law, ethics, anthropology and includes cases involving local, regional and global environmental management issues.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ECS 309. Microbes and the Environment. 3 Credit Hours.

This course is designed to provide students in geology, biology and environmental science a fundamental understanding of the role microbes play in shaping the Earth and its environments as well as the basic principles and approaches to studying these interactions in both modern and ancient settings. The metabolic diversity displayed by microbial communities makes them an integral component of global elemental cycles. In this regard, microorganisms have shaped our planet over the past 4 billion years and continue to do so in a very prominent way. The goal of this course is to learn about microbial diversity and metabolism, and the ability of microbes to shape and influence the environment.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECS 310. Sustainable Living. 3 Credit Hours.

Sustainable Living explores ways of living that can be sustained for thousands of years, without further damage to earth, ocean and atmosphere. Topics covered include renewable energy, agricultural practices, water issues, green building, low carbon transportation and healthy living/eating. Students advocate for sustainable practices of their choice in writing and in oral/visual presentations. Frequent field trips.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ECS 312. Environment Assessment. 3 Credit Hours.

Execution of environmental due diligence in the context of property transactions and land and water pollution in a technical, regulatory, and legal framework, including how client advocacy and regulatory detail influence project design.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECS 323. Population, Sustainability, and the Media. 3 Credit Hours.

Explores opposing views of population growth and environmental sustainability through the media and cinema: contrasts "Doomsters" who believe population growth and resource consumption threaten human survival and pro-growth "Boomsters" who believe human ingenuity and technology will continue to allow humankind to prosper.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ECS 325. Hazards and Disasters: The Nature-Society Interface. 3 Credit Hours.

Borrows from themes in Geography, Urban Planning, Anthropology and Policy Studies to explore how human-environmental interactions determine the distribution, causes and consequences of natural hazards and disasters.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ECS 332. Ecology and Land Use in the Galapagos. 3 Credit Hours.

Fundamental principles of ecology manifested on Isla Isabela will be employed to evaluate land usages including subsistence and production agriculture, animal husbandry, fuel wood and timber, and conservation with ecotourism. Habitats, flora, and fauna from the vicinity of Puerto Villamil to the rim of Volcán Sierra Negra; analysis of agricultural practices and problems of the mist zone on this volcano's southeastern flank.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECS 335. Biodiversity in Peru. 3 Credit Hours.

The focus is on developing skills to analyze and value the components of biodiversity, identifying its potentials and the tools to make sustainable use and conservation possible.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ECS 337. Latin America and the Environment. 3 Credit Hours.

Theoretical dimensions of current environmental challenges in Latin America and examines their ecological, social, economic, and political dimensions.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ECS 342. Decision-Making and the Environment. 3 Credit Hours.

Provides a comprehensive overview of the art and science of decision modeling in natural resources policy management. Students learn to understand and develop basic decision models, interpret the results and communicate them to non-analytical decision makers.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ECS 345. Economics of Natural Resources and the Environment. 3 Credit Hours.

A comprehensive overview of the economics of national, international, and global environmental problems. A unifying theme throughout is sustainable development defined as "maximizing the net benefits of economic development while maintaining the services and quality of natural resources over time". We will use economic reasoning to examine causes and consequences of environmental and resource problems, and measures for dealing with them.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ECS 352. Environmental Ethics. 3 Credit Hours.

Theoretical and practical issues in the field of environmental ethics.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECS 357. Global Food: A Hands-On Approach. 3 Credit Hours.

Application of principles of permaculture via designing and creating a small "global farm" on campus to grow perennial food crops which are unique to the South Florida environment. We learn by doing, cultivating plants that hold the solution to world hunger problems.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECS 360. Readings in Ecosystem Science and Policy. 1-3 Credit Hours.

Supervised readings on special topics. Offered by special arrangement with a faculty member. May be repeated for credit.

Components: DIS.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECS 361. Readings in Ecosystem Science and Policy. 1-3 Credit Hours.

Supervised readings on special topics. Offered by special arrangement with a faculty member. May be repeated for credit.

Components: DIS.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECS 362. Readings in Ecosystem Science and Policy. 1-3 Credit Hours.

Supervised readings on special topics. Offered by special arrangement with a faculty member. May be repeated for credit.

Components: DIS.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECS 363. Readings in Ecosystem Science and Policy. 1-3 Credit Hours.

Supervised readings on special topics. Offered by special arrangement with a faculty member. May be repeated for credit.

Components: DIS.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECS 371. Readings in Ecosystem Science and Policy. 1-2 Credit Hours.

Supervised readings on special topics. Offered by special arrangement with a faculty member. May be repeated for credit.

Components: DIS.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECS 372. Special Topics in Ecosystem Science and Policy. 3 Credit Hours.

Content varies by semester and is indicated in parentheses following course number and title in class schedule.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECS 373. Topics in Ecosystem Science. 3 Credit Hours.

Content varies by semester and is indicated in parentheses following course number and title in class schedule.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ECS 374. Topics in Environmental Policy. 3 Credit Hours.

Content varies by semester and is indicated in parentheses following course number and title in class schedule.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ECS 375. Topics in Environment and the Humanities. 3 Credit Hours.

Content varies by semester and is indicated in parentheses following course number and title in class schedule.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECS 376. Topics in Environmental Communication. 3 Credit Hours.

Content varies by semester and is indicated in parentheses following course number and title in class schedule.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECS 377. Topics in Environmental Economics and Development. 3 Credit Hours.

Content varies by semester and is indicated in parentheses following course number and title in class schedule.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECS 379. Special Topics in Ecosystem Science and Policy. 1-4 Credit Hours.

Content varies by semester and is indicated in parentheses following course number and title in class schedule.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECS 380. Field Studies in Ecosystem Science and Policy. 1-4 Credit Hours.

Field course to various U.S. and international regions, focusing on current and historic interactions of humans with the local environment. Includes water, land, and mineral resources as well as impacts on local ecosystems. Emphasis on current management efforts and potential impacts of climate change.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECS 381. Field Studies in Ecosystem Science and Policy. 1-4 Credit Hours.

Field course to various U.S. and international regions, focusing on current and historic interactions of humans with the local environment. Includes water, land, and mineral resources as well as impacts on local ecosystems. Emphasis on current management efforts and potential impacts of climate change.

Components: FLD.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECS 385. Civic Engagement in the Galapagos. 3 Credit Hours.

This course is part of the UGalapagos semester held in the Galapagos and is open only to students who have been accepted by the Department of Biology. This field course offers you a rare chance to examine human interactions in a highly politicized landscape of conservation. You will learn historical development and contemporary issues of Latin America from an interdisciplinary perspective, through the cultural, political and social lens of the Galapagos

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ECS 391. Studies in Ecosystem Science and Policy. 1-4 Credit Hours.

(Not offered: transfer credit only) Courses taken at other institutions but having no direct equivalents here.

Components: LEC.

Grading: GRD.

ECS 392. Studies in Ecosystem Science and Policy. 1-4 Credit Hours.

(Not offered: transfer credit only) Courses taken at other institutions but having no direct equivalents here.

Components: LEC.

Grading: GRD.

ECS 393. Studies in Ecosystem Science and Policy. 1-4 Credit Hours.

(Not offered: transfer credit only) Courses taken at other institutions but having no direct equivalents here.

Components: LEC.

Grading: GRD.

ECS 394. Studies in Ecosystem Science and Policy. 1-4 Credit Hours.

(Not offered: transfer credit only) Courses taken at other institutions but having no direct equivalents here.

Components: LEC.

Grading: GRD.

ECS 395. Studies in Ecosystem Science and Policy. 1-4 Credit Hours.

(Not offered: transfer credit only) Courses taken at other institutions but having no direct equivalents here.

Components: LEC.

Grading: GRD.

ECS 401. Internship. 3 Credit Hours.

Students selecting the internship will be required to spend a minimum of 120 contact hours working in an outside firm or agency whose mission is to address environmental issues where science and policy intersect.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ECS 402. Thesis. 3 Credit Hours.

Individual, original research of independent study supervised by a UM faculty member and concluded by formal thesis preparation, public oral defense and submission of the thesis.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ECS 403. Interdisciplinary Approaches. 3 Credit Hours.

Students with diverse disciplinary backgrounds will design an interdisciplinary study focused on an environmental problem with a major science component and significant societal implications. Students will apply quantitative methods, formulate usable policy, and communicate their results.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ECS 405. Applied Research in Ecosystem Science and Policy. 1-3 Credit Hours.

Faculty-mentored applied research in environmental topics. Projects in natural ecosystems, sustainable design and business, and communication of environmental issues.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ECS 415. Research in Private Urban and Suburban Green Spaces. 1 Credit Hour.

Faculty supervised research & application projects in indoor, urban, and suburban green spaces. Topics of focus include green walls, roof gardening, edible gardening, permaculture, sustainable gardening, composting & vermiculture, gardening for wildlife, and backyard ecology.

Requisite: ECS Major or ECS Minor or Prerequisite: ECS 215.

Components: FLD.

Grading: GRD.

Typically Offered: Fall & Spring.

ECS 432. Ecology in the Galapagos. 3 Credit Hours.

Organisms in relation to their environment, with a focus on interactive hands-on learning experiences that connect empirical nature with abstract thinking. Lectures, discussion and field work will help students begin to understand ecosystem ecology, plant dispersal and colonization, organisms' responses to spatial and temporal variability in their environments, plant/animal interactions. Origins and effects of invasive species and actions of bio-control agents.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECS 433. Conservation in Practice. 3 Credit Hours.

Intersection between economic development, science and conservation in one of the world's most pristine and fragile ecosystems. Exploration of how tourism offers an alternative to unsustainable fisheries that once drove the local economy, yet has created a new set of pressures on the people and the environment. Mitigation efforts, science, and international conservation mesh with an understanding of local politics, customs, and cultures.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECS 485. Political Ecology of the Galapagos. 3 Credit Hours.

This course is part of the UGalapagos semester held in the Galapagos and is open only to students who have been accepted by the Department of Biology. Throughout the term, you will engage in civic activities identified in consultation with the people, government and public health facilities of the small, rural village of Villamil, the sole habitation on Isla Isabella. A major aim is to nurture the mutual respect and understanding across the cultural divide that is necessary to make a difference in the civic life of a community.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ECS 501. Interdisciplinary Environmental Theory. 3 Credit Hours.

Theoretical approaches in environmental and social science fields, including conservation biology, ecology, geography, economics, sociology, anthropology, philosophy, and interdisciplinary approaches. Themes include human ecology, historical ecology, landscape ecology, environmental law and ethics, perception of risk and uncertainty, vulnerability and adaptation, and environmental valuation.

Requisite: Plan of Ecosystem Science and Policy.

Components: DIS.

Grading: GRD.

Typically Offered: Fall.

ECS 503. Interdisciplinary Environmental Methods. 3 Credit Hours.

Environmental methods related to core programmatic themes of Urban Ecology, Global Public Health, Climate and Society, Environment and the Media, Integrated Marine and Terrestrial Management, and Regulatory Regimes. The course focuses on the application of Interdisciplinary approaches and methods for addressing complex environmental problems. Students will learn to design and employ interdisciplinary approaches, using qualitative and quantitative methods and analysis, through lectures, reading assignments, discussion sessions, and assignments.

Requisite: Plan of Ecosystem Science and Policy.

Components: SEM.

Grading: GRD.

Typically Offered: Fall.

ECS 507. Interdisciplinary Environmental Decision Analysis. 3 Credit Hours.

Approaches to studying and interpreting human behavior related to a range of decision making at the level of individual, group, and firm.

Multidisciplinary theories and methods informing work in the decision sciences will be covered from fields of psychology, business, economics, political science, and anthropology.

Requisite: Plan of Ecosystem Science and Policy.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECS 515. Private Green Space Management. 3 Credit Hours.

Students plan and manage ongoing and proposed green space projects. Student managers work with supervising faculty; also organize and educate student volunteers and students concurrently enrolled in ECS 215 and 415.

Prerequisite: ECS 415.

Components: FLD.

Grading: GRD.

Typically Offered: Fall & Spring.

ECS 572. Special Topics in ECS. 3.00 Credit Hours.

Content varies by semester and is indicated in parentheses following course number and title in class schedule.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ECS 580. Field Studies. 1-4 Credit Hours.

This course will provide participants with the opportunity for intensive field research geared toward an interdisciplinary understanding of environmental issues and conservation concerns.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECS 601. Interdisciplinary Environmental Theory. 3 Credit Hours.

Theoretical approaches in environmental and social science fields, including conservation biology, ecology, geography, economics, sociology, anthropology, philosophy, and interdisciplinary approaches. Themes include human ecology, historical ecology, landscape ecology, environmental law and ethics, perception of risk and uncertainty, vulnerability and adaptation, and environmental valuation.

Requisite: Plan of Ecosystem Science and Policy.

Components: DIS.

Grading: GRD.

Typically Offered: Fall.

ECS 603. Interdisciplinary Environmental Methods. 3 Credit Hours.

Environmental methods related to core programmatic themes of Urban Ecology, Global Public Health, Climate and Society, Environment and the Media, Integrated Marine and Terrestrial Management, and Regulatory Regimes. The course focuses on the application of interdisciplinary approaches and methods for addressing complex environmental problems. Students will learn to design and employ interdisciplinary approaches, using qualitative and quantitative methods and analysis, through lectures, reading assignments, discussion sessions, and assignments.

Requisite: Plan of Ecosystem Science and Policy.

Components: SEM.

Grading: GRD.

Typically Offered: Fall.

ECS 605. Interdisciplinary Environmental Law and Policy. 3 Credit Hours.

Analysis of science-based environmental decision-making and policy implementation at the federal and state levels in the United States, with comparative international perspectives, and an introduction to international institutions that fashion and carry out environmental policy. Case studies will cover authorization, appropriations and oversight functions of Congress and state legislatures; the role of the executive, federal and state, in initiating and implementing statutes by regulation and other means; and the role of negotiation, litigation, mediation and consensus-building in resolving disputes and advancing or thwarting environmental policy.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ECS 607. Interdisciplinary Environmental Decision Analysis. 3 Credit Hours.

Approaches to studying and interpreting human behavior related to a range of decision making at the level of individual, group, and firm. Multidisciplinary theories and methods informing work in the decision sciences will be covered from fields of psychology, business, economics, political science, and anthropology.

Requisite: Plan of Ecosystem Science and Policy.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECS 608. Interdisciplinary ECS Seminar. 2 Credit Hours.

Seminar centering on research and case studies illustrating cutting edge human-environment research, and including both qualitative and quantitative methods. Intensive reading and writing related to relevant topics in the field.

Components: SEM.

Grading: GRD.

Typically Offered: Fall.

ECS 609. Contemporary Representations of the Environment. 3 Credit Hours.

This course will combine media studies, environmental studies, and critical theory to give students a broad introduction to ways in which screen media are used today to represent both the natural world and also environmental issues such as climate change, animal extinction, and natural resource use. From more conventional media such as feature fiction films (e.g. Wall-e, The Day After Tomorrow, Avatar), documentary films (e.g. An Inconvenient Truth, HBO's Gasland), and television news coverage, to more niche formats like Google Earth's global mapping and in-dash monitors that depict miles-per-gallon, screen technology has long been and is increasingly used to mediate our relationship with surrounding ecosystems. Students will look at mainstream television channels (e.g. Discover, National Geographic, and the Weather Channel) alongside the digital campaigns of agencies and institutions directly aimed at conservation efforts, including the ecotourism industry, non-profit environmental groups, and governmental bodies such as the National Parks Service. In addition, this course will investigate the increasing role of interactive media in museums and science centers, as well as the rising power of social media in disseminating news regarding environmental issues.

Components: RSC.

Grading: GRD.

Typically Offered: Fall.

ECS 610. Technology and Human Behavior. 3 Credit Hours.

This course will explore the social aspects of technology use and cultural adaptation through cross-cultural ethnographic research on science and traditional beliefs. From the adoption of chainsaws in Amazonian forestry to the use of smart watches in Japanese cities, technological choice will be examined through psychological theories of behavior, socio-cultural perspectives, and institutional and economic forces. Reflecting the rising social, cultural, scientific, and political importance of emerging digital culture (e.g. virtual reality, smart devices, artificial intelligence), a key focus of the second half of the course will focus on philosophical notions of post-human cyborgism. Students will be introduced to recent research on the cognitive issues of social media use and consumption, including social media addiction and other neurological impacts of chronic screen use. Coursework will connect historical understandings and larger social analysis of digital media use and encourage students to participate in an ongoing exploration of their own technological choices and media practices. Students will also be exposed to multidisciplinary theories and research on risk perception and the psychology and effectiveness of environmental messaging in order to address how various media technologies impact individual and collective thinking and action.

Components: RSC.

Grading: GRD.

Typically Offered: Fall.

ECS 611. Nature, the Anthropocene, and Visual Culture. 3 Credit Hours.

Different cultural and historical contexts have conceived of humanity's relationship to the natural world in vastly different ways, from 'sacred and part of' to 'separate from' and 'steward over.' A culture's techniques of representation, use of imagery, and ways of seeing are a key part of the shaping of its worldview and cognitive framework of shared ideas and beliefs. This course is an opportunity for students to use an anthropologist's eye to actively engage with the human production of knowledge about the natural world through visual culture. Rather than approaching visual anthropology with its usual divide between 'anthropological content' and 'aesthetic composition,' this course will foster both approaches as it examines human perceptions of the environment from prehistoric cave paintings to modern day street art. Key elements of visual anthropology will be introduced, including symbols and symbolism, reflexivity, visual data of everyday life, art analysis, ethics, society-as-text paradigm, urban visual data, and ways of conceiving systems of visual representation. Representations of Other will be analyzed through theories of the exotic, gender, race, post-colonialism, nationalism, and heritage studies.

Components: RSC.

Grading: GRD.

Typically Offered: Spring.

ECS 612. Environmental Communication, New Media, and Policy. 3 Credit Hours.

Facebook and Twitter to the rhetorical film essay documentaries that have waged ideological wars over the past twenty years, screen and new media are an increasingly powerful force in the shaping of policy, political awareness, and popular ideological views of the environment. This course will draw on critical approaches of media theory, rhetoric, and political science to study and interpret the political use of visual media. Just as FDR's WPA used film to propagandize the agricultural importance of public works, and Hollywood has been harnessed for ecological causes from natural conservation to climate change, today screen and digital media (e.g. television commercials, podcasts, social media blasts) are the driving force of PR campaigns for both governmental bodies and private companies that greatly impact environmental understanding and policy. From information to misinformation, viral content streams constantly onto screens across the world, whose apps are also used for activism and citizen science—students will look at what strategies of circulation and rhetoric are used to wage digital campaigns to communicate and shape ecological values and policy.

Components: RSC.

Grading: GRD.

Typically Offered: Spring.

ECS 614. Environment, Culture, and Media Thesis. 3-6 Credit Hours.

This course is for research culminating in a Master's thesis. Students will enroll in 3-6 credits while researching and writing their final project for the ECM Masters of Arts.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

ECS 615. Environment, Culture, and Media Internship. 3-6 Credit Hours.

This course is for hands-on experience and research culminating in a final Master's internship report. Students will enroll in 3-6 credits while completing their internship and researching their final project for the ECM Masters of Professional Science.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

ECS 672. Special Topics in ECS. 3.00 Credit Hours.

Content varies by semester and is indicated in parentheses following course number and title in class schedule.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ECS 680. Field Studies. 1-4 Credit Hours.

This course will provide participants with the opportunity for intensive field research geared toward an interdisciplinary understanding of environmental issues and conservation concerns.

Components: LEC.

Grading: GRD.

Typically Offered: Spring & Summer.

ECS 725. Problems in Environmental Science and Policy. 1-6 Credit Hours.

Content and prerequisites announced when offered. Course may be repeated for credit if content varies.

Requisite: Plan of Ecosystem Science and Policy.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ECS 790. Directed Readings. 1-3 Credit Hours.

Individually supervised readings on special topics. Offered by arrangement with the instructor. May be retaken for credit.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

ECS 820. Master's Research. 9.00 Credit Hours.

Individual study for students exiting the doctoral program without a successful dissertation proposal.

Components: THI.

Grading: SUS.

Typically Offered: Fall & Spring.

ECS 830. Pre-Candidacy Research. 1-9 Credit Hours.

Research for ECS Ph.D. students who have not attained candidacy.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ECS 840. Doctoral Dissertation. 1-12 Credit Hours.

Required for all candidates for the Ph.D. The student will enroll for credit as determined by his/her advisor but not for less than a total of 13 credits total. No more than 12 hours of ECS 730 may be taken in a regular semester, nor more than six in a summer session.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

ECS 850. Research in Residence. 1 Credit Hour.

Used to establish research in residence for the Ph.D., after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. May be regarded as full-time residence as determined by the Dean of the Graduate School.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

Educational and Psychological Studies (EPS)

EPS 201. Psychosocial Change and Well-being. 3 Credit Hours.

Introduction to personal and interpersonal approaches to well-being. Includes theoretical, historical, philosophical, and psychological bases of well-being. Emphasis will be placed on real-life applications of theory and practice to the promotion of psychosocial change and well-being.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

EPS 270. Lifespan Human Development. 3 Credit Hours.

Processes and theories of human development from birth to old age are explored. Areas to be covered include: physical development, cognitive development, social and personality development, moral development, and language development. Emphasis is placed on development as a life-long process and its importance in understanding human behavior.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

EPS 280. Introduction to Family Studies: Dating, Coupling, Parenting. 3 Credit Hours.

Theory and practice of romantic relationships and parent-child relationships, including discussion and skills building. Research based information on how to maximize the quality of these interpersonal relationships will be examined.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

EPS 291. Community and Character Development. 3 Credit Hours.

The course covers moral and psychological dimensions pertaining to character development as it occurs in communities. Topics include contemporary theory and research regarding perspectives on virtue and morality, states of character, ethical decision making, and character development. The reciprocal relationships between character and community will be a central theme in exploring ethical issues that arise in working with individuals, institutions, and communities. Theory and research will be linked to relevant applications.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

EPS 306. Insanity and Humanity: Mental Illness, Society, Stigma and Services. 3 Credit Hours.

The genesis for this course was the generally poor, inaccurate and stigmatized understanding of mental illness in society based on portrayals in popular media including Hollywood produced films. However, over the past several years the depth and accuracy of awareness and knowledge has changed, as the depiction of mental illness and treatment services in films has improved and the availability of narrative accounts has increased. This course is designed to allow Human and Social Development majors, with a particular interest in wellness and human services, to explore varying portrayals of mental illnesses in popular media. The course will foster critical analysis of narrative and film depictions of illness, as well as connect these depictions to a broader narrative on stigma, social determinants of illness and wellness, prevention and intervention.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

EPS 311. Group Processes and Development. 3 Credit Hours.

Research findings concerning the nature of small groups and patterns of behavior associated with them are explored. Students experience an ongoing group process to which theories and concepts can be applied. Emphasis is placed on learning to be a participant observer of group behavior and processes, learning about one's own behavior in groups, and developing skills to be a more effective member and leader in task groups.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

EPS 321. Understanding Human Service Organizations. 3 Credit Hours.

Focus on unique role of community-based human services organizations in society with an overview and history of community organizations, which provide services, support, advocacy, and organizing in today's communities. Review of the systems, cultures, structures, and processes of community organizations with a special emphasis on promoting well-being in communities. This course has a 10 hours field research experience requirement. This course is a designated Upper Level Communication Requirement; advanced written, digital and/or oral communication proficiencies will be emphasized in this course. Credit for ENG 105 and ENG 106 (or equivalent), is required for this course.

Prerequisite: EPS 201 or Co-requisite: EPS 311.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

EPS 340. Psychology and Sociology of Sexual Identity. 3 Credit Hours.

History, psychology, and sociology of gay, lesbian, and transgendered populations.

Prerequisite: PSY 110 or SOC 101.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

EPS 351. Introduction to Statistics and Research Design. 3 Credit Hours.

The course will cover basic statistics relevant to the social sciences (e.g., central tendency, variation, t-tests, correlations), with emphasis on real world applications employing commonly used research designs. Students will acquire the tools necessary to interpret elementary statistical analyses and a foundation in the basic analytic methods used in conducting quantitative research in the behavioral sciences.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

EPS 360. Educational Psychology. 3 Credit Hours.

A review of basic educational psychology principles including cognitive and language development, personal, social and moral development, learning theories, and motivation. A review of basic concepts that contribute to effective learning and other aspects of education.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

EPS 361. Community Psychology and Development. 3 Credit Hours.

Community psychology is about the prevention of psychosocial problems and the promotion of mental health and well being through the creation of equitable and just social settings, neighborhoods, communities, and societies. Course topics include: stress and social support; oppression and human diversity; primary prevention, social intervention and health promotion; self-help; mediating structures; community mental health; alternative settings; community development and social change.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

EPS 365. Psychological Study of Children, Families, and the Law. 3 Credit Hours.

This course will introduce students to the psychological research and practice that has a bearing on legal policy and practice. Psychological research (social, clinical, developmental, and community) will be emphasized along with legal rulings, especially from the Supreme Court. Throughout the course, the underlying question will be, "How can psychological research and theory inform the law in matters that relate to children, families, and communities?"

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

EPS 371. Applied Social Research Methods. 3 Credit Hours.

The study of the ethics, philosophies, designs, methods and techniques of research in the behavioral and social sciences. This course provides a brief orientation to quantitative, qualitative, mixed-methods, and participatory research designs and approaches used in the collection, analysis and interpretation of social research data. This course is a designated Upper Level Communication Requirement; advanced written, digital and/or oral communication proficiencies will be emphasized in this course. Credit for ENG 105 and ENG 106 (or equivalent), is required for this course.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

EPS 411. The Psychology of Diversity. 3 Credit Hours.

This course critically examines how diversity and social justice issues impact everyday life. The focus is on how personal, group, and cultural identities (race, ethnicity, gender, sexual orientation, age, disability, religion, immigration status, and social class), and the intersections of these identities influence individuals' lives and experiences. This is primarily a survey course, designed to introduce major concepts, models, theories, and research that emanate from the literature on diversity and multicultural psychology. This is a critical backdrop to prepare students to be multiculturally responsive in this increasingly global society. Borrowing from history, cultural anthropology, social psychology, indigenous psychology, counseling psychology, and general psychology, the curriculum will engage students in theoretical, research-based, and experiential exercises in order to develop a comprehensive understanding that will lead to culturally responsive and ethical mindsets and practice.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

EPS 412. Migration, Well Being, and Human Development. 3 Credit Hours.

This course explores the social and psychological processes involved in migration and issues relevant to well-being of diverse immigrant groups including immigration policies, the psychology of immigration and acculturation, ethnic identities, issues in immigrant families, immigrant communities, educational, health, and mental health issues.

Prerequisite: EPS 201.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

EPS 420. Introduction to Counseling and Psychotherapy. 3 Credit Hours.

This course is a survey of the theories and practical applications of counseling and psychotherapy. Students will acquire an understanding of a variety of theories of psychotherapy, the basic requirements and skills for effective, ethical counseling, and an appreciation for the role of values and human differences in counseling and psychotherapy. This course does not prepare students for practice in mental health professions.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

EPS 440. Listening and Helping Skills.. 3 Credit Hours.

Listening and Helping Skills is an introductory course to the foundational skills used in helping relationships. Through lectures, discussions and role-plays, students will learn the rationale behind basic helping skills and their application to diverse settings and contexts.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

EPS 452. Community Program Development and Evaluation. 3 Credit Hours.

This course addresses the theoretical and practical principles of designing, planning, implementing, and evaluating programs in community-based settings. The students will learn about prevention, effective program development, program approaches, program components, program evaluation, and cultural proficiency in program development and evaluation. Students will acquire and practice skills for becoming effective workers and leaders in community-based agencies. The course will consist of readings, presentations, and applied knowledge.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

EPS 462. Community Consultation and Leadership. 3 Credit Hours.

This course will cover strength based, preventive, empowering approaches to institutional and community change, and will address related skills, stages, processes and outcomes; Conflict resolution, facilitation, strategic planning, visioning, advocacy, change management, and community mobilization will be studied and practiced in class.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

EPS 504. Mentored Research Studies. 1-3 Credit Hours.

Under the guidance of EPS faculty and graduate students, undergraduate students, will have an opportunity to get involved in various components of research study; gain valuable knowledge and research experience; and expand their undergraduate academic experience.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

EPS 533. Organization and Administration of Higher Education I. 3 Credit Hours.

Theoretical approaches from organizational analysis. Applications to problems, processes, and patterns of higher education institutions.

Consideration given to legal status, governance patterns, and external relations. Administrator, faculty, trustee, and student roles are also explored.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

EPS 578. Human and Social Development Practicum. 3-6 Credit Hours.

The practicum serves an integrative function: it allows students to apply their academic training, to further develop their career goals, and to hone their skills while gaining experience in real-world settings. Practica are unpaid, supervised experiences. Students choose from a menu of settings that have been approved as HSD practicum sites and spend a minimum of 120 hours (3 credits) or 250 hours (6 credits) at their chosen setting over the course of the semester. Must be taken concurrently with EPS 481.

Components: PRA.

Grading: GRD.

Typically Offered: Spring.

EPS 579. Human and Social Development Practicum Seminar. 3 Credit Hours.

The Practicum Seminar brings theory and research to bear on the student's practicum experiences, and provides a forum for further professional skill development and growth. Students will complete a major project integrating their experiences. This course is a designated Upper Level Communication Requirement; advanced written, digital and/or oral communication proficiencies will be emphasized in this course. Credit for ENG 105 and ENG 106 (or equivalent), is required for this course.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

EPS 587. Special Topics in Human and Social Development. 1-3 Credit Hours.

This course is designed for students wishing to focus on a specific area of study within the umbrella of Human and Social Development. Topics will be offered based on current trends in the field as well as student and faculty interest. Students will be given supervision and support in a structured seminar setting.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

EPS 589. Individual Study. 1-3 Credit Hours.

Individual work on a special project under faculty guidance.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

EPS 592. Workshop in Education. 1-3 Credit Hours.

Study in special interest areas in education.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

EPS 593. Workshop in Education. 3 Credit Hours.

Study in special interest areas in education.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

EPS 595. Research Project I. 2 Credit Hours.

This course is restricted to students in the SEHD who have been accepted into the Research Honors Program and are working with a Faculty mentor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

EPS 596. Research Project II. 2 Credit Hours.

This course is restricted to students in the SEHD who have been accepted into the Research Honors Program and are working with a Faculty mentor.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

EPS 598. Research Project - Seminar. 1 Credit Hour.

This course is restricted to students in the SEHD who have been accepted into the Research Honors Program and are working with a Faculty mentor. Students are required to present at the undergraduate Research, Creativity, and Innovation Forum.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

EPS 599. Individual Study. 1-3 Credit Hours.

Individual work on a special project under faculty guidance.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

EPS 600. Field Exper Edu Res. 2-6 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

EPS 601. Field Studies in Education. 1-6 Credit Hours.

Individual study of a school or school system, identifying its strengths and weaknesses, and making positive recommendations.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

EPS 605. Regression Methods. 3 Credit Hours.

The aim of this course is to provide a solid foundation in the basic concepts of multivariate statistics, and its application to practical research questions. This course extends the content of EPS 671 (ANOVA methods) and EPS 672 (regression methods) to cover methods used when there are multiple dependent variables to be modeled simultaneously. This course focuses on the traditional multivariate methods (as opposed to the contemporary models of structure equation modeling) that see wide use in the behavioral sciences. The general topics covered in the course include, but are not limited to: introductory matrix algebra, multivariate analysis of variance (MANOVA), factorial MANOVA, discriminant function analysis, and exploratory factor analysis. In all cases, this course is intended to provide a solid conceptual background of these topics, as well as a thorough description/practice of the application of these topics to real data scenarios.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

EPS 620. Workshop in Education. 3 Credit Hours.

Study in special interest areas in education.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

EPS 622. Community Well-being and Change: Theory and Practice. 3 Credit Hours.

This course is designed to promote an understanding of the factors associated with healthy communities. It provides a comprehensive overview of the relevant skills and theories including: ecological/systems theory/models; community theories (sense of community, social capital, environmental psychology); and critical social theory, social justice, and social determinants of well-being.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

EPS 623. Development and Change in Community Organizations: Theory and Practice. 3 Credit Hours.

This course focuses on the unique role of non-profit, community-based organizations in promoting human and community development. Students will engage in an analysis of the range of functions that organizations serve and the various organizational strategies used in community settings.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

EPS 624. Essentials of Research in Social and Behavioral Sciences. 3 Credit Hours.

Study of the standards methods and techniques of research in the behavioral and social sciences. Brief orientation to quantitative and qualitative procedures used in the analysis and interpretation of research data are emphasized.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

EPS 625. Program Evaluation. 3 Credit Hours.

Terminology, models, standards, practices, and common problems associated with program evaluation in Educational and Social Service settings.

Prerequisite: EPS 670 and 553 or equivalents.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

EPS 626. Multicultural Communities in a Globalized Society. 3 Credit Hours.

This course examines the relationship between multiculturalism and globalization and how these concepts impact education and the world at large.

Topics include dimensions of human diversity, identities and acculturation; race and class; gender and power; children and youth; social inclusion and social justice; health disparities; poverty and work; racism and inequality.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

EPS 627. Community Youth Development. 3 Credit Hours.

This course in community youth development (CYD) will focus on the philosophical, sociological, and educational foundations of a youth development perspective that highlights youth as powerful catalysts for change and positive forces in shaping communities. We reflect on how youth development is inextricably linked with family and community development. After reviewing and critiquing traditional adolescent development theories, students will engage with theories and practices of CYD, youth empowerment, youth civic engagement, youth organizing, social justice youth development, youth activism, and critical youth engagement.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

EPS 628. Social Change Praxis. 3 Credit Hours.

In this course, we will explore the meaning of social change and the nature of power, examine past and present social movements, and learn about the strategies and methods groups have used to build community and deploy collective power in their efforts to change minds, systems, institutions, policies, communities, and nations. Together, we will learn more about critical theories of power, collaboration, systems, and social mobilization, and look at real-life cases to see how theory can be applied in practice. The concept of praxis was chosen as the organizing framework because it requires students to develop an intellectual relationship to their activism. Praxis, simply put, means action informed by theory. In addition to reflecting on our own values and assumptions as agents of change, we will develop skills for facilitating engaging discussions, recruiting and motivating community members, developing a shared social analysis, mobilizing resources, and building coalitions for social change. We will identify common strategies used in successful campaigns and analyze the choices groups have made in their pursuit of the collective power necessary to achieve their social change goals.

Prerequisite: EPS 622. And EPS 623. And EPS 624. And EPS 625. And EPS 626.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

EPS 629. Seminar in Community and Social Change. 3 Credit Hours.

This course is a combination of self-directed and guided elements aiming to build your skills as a reflective, theory and science-based practitioner. To this end, the course provides in-depth exploration and application of core readings and theories in community and social change. The purpose of this course is to apply these core concepts to your practicum and provide a space for critical reflection on your practicum experience (student placement in an organization or a foreign culture). Thus, the course includes both didactic and practicum elements throughout the semester. The didactic aspect focuses on intervention theory and method from a community psychology perspective; the student placement represents a structured opportunity to learn about intervention theory as applied to a particular setting.

Components: PRA.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

EPS 635. Special Topics in Educational and Psychological Studies. 1-3 Credit Hours.

Review of emerging policy, practice, empirical research and scholarly writing on important educational issues for which formal course title and syllabus have not been developed and formalized in the UM Bulletin. Allows for experimental instructional formats. This course is designed for students wishing to focus on a specific area of study within the umbrella of Educational and Psychological Studies. Topics will be offered based on current trends in the field as well as student and faculty interest. Students will be given supervision and support.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

EPS 667. Professional, Legal and Ethical Issues in Counseling. 3 Credit Hours.

Professional, legal, ethical, and licensing issues in the counseling profession.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

EPS 668. Social and Cultural Diversity and Counseling. 3 Credit Hours.

Interrelationship between psychology and sociology in understanding development of diversity in human social systems. Implications for counseling and therapy.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

EPS 669. Psychopathology for Counselors. 3 Credit Hours.

In depth introduction to abnormal human behavior patterns of concern to mental health professionals. Clinical conditions will be examined within the context of currently most viable theory and research relating to etiology, assessment, diagnosis and treatment.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

EPS 670. Dynamics of Marriage and Family Systems. 3 Credit Hours.

Introduction to the history and development of marriage and family systems theory as a method for understanding individuals' behavior and functioning. Introduction to several modes of family therapy. Throughout the course, lectures will also be integrated with other topics including race, culture, gender, sexual orientation, ability.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

EPS 671. Family Therapy. 3 Credit Hours.

Concentrated study of several approaches to family therapy including systemic and psychosocial perspectives. Theory and techniques of family therapy are taught in lecture, videotape, and simulation.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

EPS 672. Therapy for Couples. 3 Credit Hours.

Theory and technique linked to working with couples, in marriage and in other relationships.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

EPS 673. Counseling in Community Settings. 3 Credit Hours.

Exploration of a variety of perspectives on community services relevant to mental health counselors. Topics include: the variety of community settings; community, national, and international diversity in mental health services; diversity of clients (e.g., cultures, religions, GLBT, elderly, social classes, disabilities); mental health funding; the role of politics, policy, advocacy, and research; interviewing across cultures.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

EPS 674. Lifestyle and Career Counseling. 3 Credit Hours.

An introductory course in career development and career counseling, focusing on theories of career development, counseling tools, strategies, and sociological, economic, and psychological influences on the American worker.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

EPS 675. Therapeutic Group Procedures. 3 Credit Hours.

This course examines both the theory and practice of group counseling. The course covers therapist issues, patient selection criteria, group structuring as well as basic therapeutic techniques. The course prepares students to design structured counseling groups, to prepare group counseling materials, and to lead counseling groups of various types.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

EPS 676. Counseling Process and Practice. 3 Credit Hours.

The development of basic communication and clinical skills necessary for establishing the counseling relationship and conducting therapy.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

EPS 677. Assessment Strategies for Counselors I. 3 Credit Hours.

This course places emphasis on diagnosis, appraisal, assessment, and testing for individual and interpersonal disorders. It addresses statistical procedures and psychometric principles necessary for responsible test use and exposes the student to a variety of test and non-test assessment techniques in marriage and family, and mental health counseling.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

EPS 678. Counseling Theories and Practice. 3 Credit Hours.

Study of theories and concomitant practices in counseling and therapy.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

EPS 679. Lifespan Human Development. 3 Credit Hours.

Theories and research relating to the biophysical, cognitive, and psychosocial domains of human lifespan development.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

EPS 680. Theory and Practice with Children and Adolescents. 3 Credit Hours.

Course prepares students to provide preventive and therapeutic interventions with children and adolescents including theory, research, and practice.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

EPS 681. Counseling and Sexuality. 3 Credit Hours.

Emphasis is placed on self-awareness and acceptance of all dimensions of human sexuality. Readings and classroom activities focus on biological aspects of sexuality, an understanding of sexual dysfunctions, and their treatment.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

EPS 682. Practicum in Counseling I. 1-4 Credit Hours.

Supervised Practicum at the Institute for Individual and Family counseling and other appropriated clinical settings relating theoretical formulations to intervention strategies appropriate to specialization.

Corequisite: EPS 619.

Components: PRA.

Grading: GRD.

Typically Offered: Fall & Spring.

EPS 683. Practicum Laboratory I. 1-4 Credit Hours.

Individual, dyad, and small group supervision at approved Practicum sites.

Components: PRA.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

EPS 684. Research and Program Evaluation in Counseling. 3 Credit Hours.

Course focuses on the interpretation and application of research data as applied to clinical practice. Skills in using behavioral research-based literature to identify, evaluate and interpret appropriate interventions are also emphasized.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

EPS 685. Substance Abuse and Addictions: Theories and Counseling. 3 Credit Hours.

Theories and research on individual, systemic causes, and outcomes of substance abuse, and concomitant practices in counseling and therapy.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

EPS 686. Working with Black Clients: Treatment and Assessment Considerations. 3 Credit Hours.

This course presents three core content areas with respect to the treatment and assessment of Black populations. The first content area addresses historical aspects of the development of Black psychology. Additionally, it will review ethnocentrism, the misuse of Western psychology to marginalize African Americans and reasons for scientific abuses against people of color, such as the Tuskegee Syphilis Study. Lastly the first content area will focus on topics such as the Black family, racism, cultural mistrust, stereotype threat, Black/White relations, and Black mental health. Concomitant aspects of Black culture including; racial identity development, spirituality, sexuality, common misconceptions about Black populations, and within group differences related to gender, class, age, and sexual orientation will be peripherally addressed. The second content area presents a culturally-informed perspective on the psychological assessment and treatment of African Americans. It will focus on topics such as ethnic/racial identity models, cultural variables that may affect DSM 5 diagnoses, epidemiological mental health data across ethno-racial groups, biased measures, culturally specific interventions, and important factors to consider during the delivery of treatment. The third module will focus largely on the infusion and integration of the first two modules in therapeutic practice with Black populations.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

EPS 687. Latino Youth and Families. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

EPS 688. Spanish for Mental Health Professionals. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

EPS 689. Psychological Interventions with Hispanic/Latino Populations. 3 Credit Hours.

Explores the diversity of experiences among Hispanics and their implications for therapy. Topics include: racial diversity among Hispanics, sociopolitical factors in mental health, the impact of immigration on mental health, special psychological treatments: trauma treatment, family interventions and bilingual counseling.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

EPS 693. Bereavement and Attachment Factors for Children and Families. 1-3 Credit Hours.

This course will focus on attachment and development of factors as they relate to the bereavement and loss experience of children, adolescents, young adults, and families. Effective methodology in the care of these populations will be explored. Content will include the trajectory of grief in childhood development, manifestation of loss and grief, risk factors in the loss experience, attachment issues, types of loss, popular notions of loss and treatment, and best practice in bereavement work.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

EPS 698. Continuous Registration--Master's Study. 1 Credit Hour.

To establish residence for non-thesis master's students who are preparing for major examinations. Credit not granted. Regarded as full time residence.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

EPS 699. Advanced Individual Study. 1-6 Credit Hours.

Individual work on a special project under faculty guidance.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

EPS 700. Quantitative Methods I. 3 Credit Hours.

This course provides an introduction to data analysis and statistical inference. Students learn to describe data (quantitatively and graphically), to select and compute statistical estimates and hypothesis tests, to use computer packages (SPSS) to accomplish these tasks, and to interpret and write about the results of the estimates and tests. Knowledge of basic algebra is needed. Higher mathematics (e.g., trigonometry, calculus) is not used.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Summer.

EPS 701. Introduction to Research Methods. 3 Credit Hours.

The nature of disciplined inquiry in behavioral and social sciences. Includes philosophy of science, quantitative and qualitative research, basic concepts in sampling and measurement, and systematic searches of the research literature. Students required to complete literature search on a topic of their interest and submit a report of their findings.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

EPS 702. Quantitative Methods II. 3 Credit Hours.

This course introduces students to techniques of data analysis and statistical inference based on the General Linear Model (GLM). The major topics covered in this class include simple/multiple regression, one- and two-way Analysis of Variance (ANOVA) followed by multiple comparisons, Analysis of Covariance (ANCOVA), and Repeated Measures ANOVA. This course aims to provide a solid conceptual background of these topics, as well as the analytic skills for conducting educational and psychological research in practice. Knowledge of basic algebra and SPSS is required, as is an understanding of the fundamental principles of descriptive statistics and hypothesis testing (as taught, for example, in EPS 700 or equivalent). Knowledge of calculus is not required. Students will conduct statistical analyses using real datasets.

Prerequisite: EPS 700.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

EPS 703. Applied Multivariate Statistics. 3 Credit Hours.

This course will provide: (1) a conceptually-oriented introduction to regression methods and (2) opportunities to learn related data-analytic techniques.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

EPS 704. Computer Applications in Educational and Behavioral Science Research. 3 Credit Hours.

This course introduces the use of statistical software packages R for acquiring, managing, and preparing datasets that are required to produce reliable and valid statistical inferences. With a special focus on R, the course will cover a broad range of hands-on activities in the data analytic process including data coding, file manipulation tasks, data screening, and statistical analysis, and also provide a brief introduction to R programming.

Components: LSN.

Grading: GRD.

Typically Offered: Summer.

EPS 705. Measurement and Psychometric Theory. 3 Credit Hours.

EPS 705 (Measurement and Psychometric Theory) is a first component of a sequence of classes in order to acquaint students with cutting edge models in test theory and with the application of computer software with which to implement those theories. This sequence of classes provides an introduction to contemporary measurement principles implicated in the design and analysis of scales, tests, and psychological inventories. EPS 705 covers the essentials of classical test theory, factor models of test items, generalizability theory, and a brief introduction of item response theory. After completing the course, students should be provided foundations for further study of measurement theory and be prepared to take a course for item response theory.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

EPS 706. Categorical Data Analysis. 3 Credit Hours.

Categorical data is abundant in many different fields such as education, psychology, and marketing. The use of statistical methods for categorical data has increased dramatically in recent years. Categorical data can be numeric or character, but it is always a discrete number of levels. Virtually every research project categorizes some of its observations: male or female, marital status, political or religious affiliation, race of patient, and so on. Prerequisite: EPS 553 and EPS 671.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

EPS 707. Item Response Theory. 3 Credit Hours.

The purpose of the course is to provide training in the theory and application of item response theory (IRT) as it pertains to educational and psychological measurements. Focus will be given to discussing IRT as a measurement model used to measure the properties of items and individuals. Particular attention will be given to contrasting the properties of the IRT model to the classical test theory, and the application of IRT to actual data sets.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

EPS 708. An Introduction to Structural Equation Modeling for Multivariable Data. 3 Credit Hours.

This course will provide (1) a conceptually-oriented introduction to Structural Equation Modeling for multivariate data and (2) opportunities to learn related data-analytic techniques.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

EPS 709. Introduction to Multilevel Modeling. 3 Credit Hours.

This course will provide: (1) a conceptually-oriented introduction to multilevel modeling and (2) opportunities to learn related data-analytic techniques.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

EPS 710. Meta-analytic methods for research synthesis.. 3 Credit Hours.

Meta-analysis is the general practice of combining, comparing, and interpreting statistics across a set of studies that investigate the same (or similar) phenomena using a properly motivated theoretical framework. Meta-analysis has become a popular tool in a variety of research disciplines, including the social sciences, education, medicine, and business. This course provides a thorough introduction to the theoretical foundations of meta-analysis, discusses commonly used statistical techniques, and analyzes several examples of the existing meta-analysis. Emphasis is placed on application, so that students are trained to independently perform a meta-analysis, from start to finish, in whatever substantive area interests students the most.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

EPS 711. Advanced Topics in Research, Measurement, and Evaluation. 3 Credit Hours.

Review of emerging quantitative methodological advances relevant to educational research for which formal course title and syllabus have not been developed and formalized in the UM Bulletin. Allow for experimental instructional formats. See Course Notes for specific topic.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

EPS 712. Field Experience in Educational Research. 2-6 Credit Hours.

A total of 125 hours of supervised practical experiences in educational research. Emphasis is placed on actual participation in a wide variety of ongoing research projects through associations with an approved educational R & D center. Normally taken in two or three credit blocks.

Components: PRA.

Grading: GRD.

Typically Offered: Fall & Spring.

EPS 714. Qualitative Methods I. 3 Credit Hours.

An overview of the history, nature, characteristics, strategies, and ethics of qualitative research methods. Critical analysis and evaluation of various types of qualitative studies, including design, sampling, processes of data collection and analysis, and reporting results.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

EPS 715. Qualitative Methods II: Case Studies and Grounded Theory. 3 Credit Hours.

Types and designs of case studies, development of protocol, field work, data analysis, and report writing. Practical procedures and techniques for conducting grounded theory studies, including data coding and analysis, and reporting of results.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

EPS 716. Qualitative Methods II: Interviews and Content Analysis. 3 Credit Hours.

Sociological and oral history interview methods, including methodological issues, computer-based coding, decoding, and interpreting data. Visual and text based content analysis, scoring schemas, and inter-rated reliability are also covered.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

EPS 717. Survey Research Methods. 3 Credit Hours.

Focus on standards and practical strategies for designing different types of survey instruments and conducting survey research. Students are required to develop a proposal for survey research, develop a survey instrument, and conduct small pilot study by collecting, analyzing, and reporting survey data.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

EPS 725. Seminar in Community Well-Being. 1-6 Credit Hours.

This course provides an overview of the field of community psychology. We will examine the conceptual and theoretical developments in community psychology since the 1965 Swampscott Conference (the 'birthplace' of community psychology) through reading primary sources—articles, monographs and book chapters—by those who have shaped the field. The readings will include some empirical research studies, but our key focus is the conceptual writings. The goal of this course is to understand and critique different theoretical perspectives in the field of community psychology.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

EPS 731. Theories of Community Research and Action. 3 Credit Hours.

This course provides an overview of theoretical perspectives and how they are applied to social and psychological issues in the field of community psychology. The course examines the conceptual and theoretical developments in community psychology since the 1965 Swampscott Conference (the 'birthplace' of the field) through reading primary sources – articles, monographs and book chapters – by those who have shaped the field. Readings also include empirical articles that illustrate the application of these concepts to research. Class discussions are central to this course. In addition, course assignments include the following: (1) brief reflections on readings 3 times during the course of the semester; (2) an interview with a community psychologist and a short essay based on the interview; (3) the final paper is a systematic critical literature review on the topic of interest to students. In this paper, students critique a body of empirical work using theoretical perspectives in community psychology.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

EPS 732. Community Based Participatory Action Research. 3 Credit Hours.

The purpose of this course is to introduce students to several traditions of community based participatory action research (CBP AR). CBP AR is carried out in collaboration between academic researchers and members of communities, and involves an iterative process of developing research questions, designing methods, implementing data collection, interpreting results, and often developing interventions. Students will begin by reviewing different intellectual traditions in participatory research including Community Based Participatory Research (CBPR), Participatory Action Research (PAR), Critical PAR and others. We will also stress the ways that participatory research has developed within the traditions of Community Psychology, such as Ecological Inquiry and Participatory Evaluation. While all these three traditions are related and overlapping, students will be encouraged to critique and contrast these approaches.

Prerequisite: EPS 670.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

EPS 737. Organization and Administration of Higher Education I. 3 Credit Hours.

Theoretical approaches from organizational analysis. Applications to problems, processes, and patterns of higher education institutions. Consideration given to legal status, governance patterns, and external relations. Administrator, faculty, trustee, and student roles are also explored.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

EPS 738. Effective Teaching, Learning, Assessment, and Curriculum in Higher Education. 3 Credit Hours.

Provides an overview of current theories, research, and best practices in effective teaching, learning, assessment, and curricular design.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Summer.

EPS 739. The Community College. 3 Credit Hours.

An overview of American community colleges including historical evolution, purposes and functions, characteristics of students and faculty, organization and administration, curricula, current issues, and trends.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

EPS 740. Administration of Student Affairs. 3 Credit Hours.

History and philosophy of student affairs will be addressed as well as principles and organization of student affairs administration, current problems, procedures, and recent developments.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

EPS 741. Basic skills in Counseling and Interviewing. 3 Credit Hours.

Introductory course on essential skills used in counseling and interviewing. Through lectures, discussions, and small group exercises, students will explore their natural style of helping and learn effective listening and communication skills. This course is not intended to train students to become a professional counselor.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

EPS 742. Higher Education in the United States: From Harvard to Present. 3 Credit Hours.

Broad view of issues and problems in higher education. Fundamental ideas and significant literature are analyzed from historical, philosophical, and societal perspectives.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

EPS 743. Psychological Bases of Education. 3 Credit Hours.

Review and extension of basic principles of psychology underlying educational practice. Basic concepts of educational psychology which contribute to effective education will be discussed.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

EPS 744. Student Diversity in American Higher Education. 3 Credit Hours.

Emphasis on the diversity of today's undergraduate students. An examination of the sociological context and philosophical orientation of contemporary college students is included.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

EPS 745. Organization of Higher Education II: Governance, Leadership and Finance. 3 Credit Hours.

Provides an overview of selected topics in governance, administrative leadership and finance in higher education.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

EPS 746. College Student Development: Theory, Research and Practice. 3 Credit Hours.

Emphasis on student growth and development during college and an analysis of the factors which affect development along cognitive and affective dimensions. An in-depth examination of college student development theories is included.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

EPS 747. Critical Issues in Student Affairs. 3 Credit Hours.

Emphasis on the most pressing issues facing the profession of student affairs today including diversity, funding, staff retention and the law and student affairs.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

EPS 748. Enrollment Management: Theory and Practice. 3 Credit Hours.

Comprehensive overview of principles and practices of a strategic process that begins with recruitment and continues through graduation.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

EPS 749. Advanced Seminar in Enrollment Management. 3 Credit Hours.

In-depth exploration of topics in enrollment management, including market research, market testing, pricing strategies, strategic planning, and development of a future vision.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

EPS 750. Seminar in Higher Education/Enrollment Management: Contemporary Issues. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

EPS 751. Seminar in Higher Education Administration: Contemporary Issues. 3 Credit Hours.

A review of recent developments, research findings, changing issues, and problems in contemporary American higher education.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

EPS 752. Dissertation Seminar. 3 Credit Hours.

The development and analysis of dissertation proposals will be required. Detailed coverage of the research process, proposal elements, dissertation writing and all aspects of doctoral research will be emphasized. Extensive feedback on research ideas and writing is involved.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

EPS 753. Internship in College Teaching. 3 Credit Hours.

A program in observation and supervised teaching in the community junior or liberal arts college. The student spends 15-20 hours per week. Included is a seminar held with the college supervisor which meets several times during the semester.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

EPS 754. Practicum: Administration of Higher Education. 1-6 Credit Hours.

This course is designed to provide students with an opportunity to develop professional competencies while they apply theory to practice.

Opportunities can be pursued in enrollment management or student affairs related offices either on campus or at other higher education institutions.

Students will contract for the type of experience desired and a formal research paper and presentation will culminate this activity.

Components: PRA.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

EPS 755. Group Dynamics and Communication Skills. 3 Credit Hours.

Emphasis on group dynamics, group procedures and communication skills.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

EPS 764. Workshop in Education. 1-3 Credit Hours.

Study in special interest areas in education.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

EPS 765. Workshop in Education. 1-3 Credit Hours.

Study in special interest areas in education.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

EPS 766. Workshop in Education. 3 Credit Hours.

Study in special interest areas in education.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

EPS 767. Counseling Psychology: Theory, Research and Practice I. 3 Credit Hours.

Orientation to counseling psychology as a discipline including theories, research methodology, contemporary research, lifestyle and career development theory, and professional issues. Required of all first year counseling psychology students. May be taken for 3 or 6 credits to a maximum of 12 credits.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

EPS 768. Counseling Psychology: Theory, Research and Practice II. 3 Credit Hours.

Orientation to counseling psychology as a discipline including theories, research methodology, contemporary research, lifestyle and career development theory, and professional issues. Required of all first year counseling psychology students. May be taken for 3 or 6 credits to a maximum of 12 credits.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

EPS 770. Psychological Appraisal I. 3 Credit Hours.

Orientation to psychological appraisal with emphasis on development of skill in assessment of intellectual functioning.

Components: SEM.

Grading: GRD.

Typically Offered: Fall.

EPS 771. Psychological Appraisal II. 3 Credit Hours.

Orientation to psychological appraisal with emphasis on use of procedures which facilitate preparation for, and evaluation of, intervention efforts in the personality and social-behavioral areas.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

EPS 772. Vocational Psychology and Career Development. 3 Credit Hours.

This course is a doctoral level seminar on vocational psychology and career counseling. This course will consist of a critical review of the major approaches to understanding traditional career behavior and development and the empirical support for prevailing theoretical constructs. We will also explore how various aspects of identity may affect career development, including race, ethnicity, age, gender, sexual orientation, disability, religion, and social class. Considerable attention will be devoted as well to the application of work-related issues in psychological practice. The course seeks to integrate research, theory, practice, public policy, and social justice.

Academic Plan Equal Counseling.

Components: SEM.

Grading: GRD.

Typically Offered: Fall.

EPS 775. Doctoral Practicum I. 1-9 Credit Hours.

Supervised counseling experiences with clients at the Institute for Individual and Family Counseling. Individual and small group supervision by program faculty.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

EPS 776. Doctoral Practicum II. 1-9 Credit Hours.

This course is a combination of self-directed and guided elements aiming to build your skills as a reflective, theory and science-based practitioner. To this end, the course provides in-depth exploration and application of core readings and theories in community and social change. The purpose of this course is to apply these core concepts to your practicum and provide a space for critical reflection on your practicum experience (student placement in an organization or a foreign culture). Thus, the course includes both didactic and practicum elements throughout the semester. The didactic aspect focuses on intervention theory and method from a community psychology perspective; the student placement represents a structured opportunity to learn about intervention theory as applied to a particular setting.

Components: PRA.

Grading: GRD.

Typically Offered: Fall & Spring.

EPS 777. Advanced Practicum in Counseling Psychology. 1-9 Credit Hours.

Supervised experience appropriate to the work of the counseling psychologist.

Components: PRA.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

EPS 779. Vocational Psychology and Career Development. 3 Credit Hours.

This course is a doctoral level seminar on vocational psychology and career counseling. This course will consist of a critical review of the major approaches to understanding traditional career behavior and development and the empirical support for prevailing theoretical constructs. We will also explore how various aspects of identity may affect career development, including race, ethnicity, age, gender, sexual orientation, disability, religion, and social class. Considerable attention will be devoted as well to the application of work-related issues in psychological practice. The course seeks to integrate research, theory, practice, public policy, and social justice.

Requisite: Restricted to Doctoral Students in the Counseling Psychology program.

Components: SEM.

Grading: GRD.

Typically Offered: Fall.

EPS 780. Cultural Diversity and Mental Health. 3 Credit Hours.

This seminar course provides advanced training in conceptualizing the individual within cultural and sociopolitical contexts. Emphasis is placed on the 'state of the science' on multicultural empirical research as well as on the 'state of the art' in translating scientific findings to applied clinical contexts.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

EPS 781. The Social Bases of Human Activity and Flourishing. 3 Credit Hours.

Human beings are the most intensely social animals, and this course explores the evolutionary, developmental, and social domains in which that social nature is expressed. Topics include attachment processes, imitation learning, identity formation, social norms, intergroup processes, aggression, and social hierarchy. The course has an evolutionary framework, and explores developmental and social domains of human behavior. These domains point to what makes it possible for humans to flourish as the social creatures we are

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

EPS 782. Supervision in Counseling Psychology. 3 Credit Hours.

This seminar course provides an overview and discussion of theories, research, and practice of supervision and consultation.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

EPS 785. Preparing Future Faculty Seminar. 1-3 Credit Hours.

The goal of this course is to introduce you to the larger role of university professor. The class is designed to give you some general sense of university structure and of the breadth of opportunities in higher education, to think through your own vision of "being a professor" particularly the part of that role that focuses on teaching, and to help you on the job search by preparing a professional portfolio that will help you get that first job and, hopefully, set you on a smooth career path. The PFF seminar will provide you with contextual and interdisciplinary knowledge of professoriate. Each seminar will be designed to aid you in your goal to become an outstanding faculty member. PFF will give you an overview of life on the academic job market and the pre-tenure years. It is your responsibility to tailor that information to fit your needs. It is expected that you take the information you learn in PFF and speak with mentors in your discipline to glean further insights into faculty life.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

EPS 789. Special Topics in Counseling Psychology. 3 Credit Hours.

This graduate course will examine research and practice in a specialty area within counseling psychology. Content may vary from term to term. Probable topics include psychopathology and consultation. Readings will include articles, books, and/or book chapters by key scholars who have shaped and/or are shaping the field. A focus will be placed both on empirical research studies and conceptual writings. The goal of this course is for students to gain key counseling psychology competencies in a specialty area within the field.

Components: SEM.

Grading: GRD.

Typically Offered: Fall.

EPS 798. Advanced Individual Study. 1-3 Credit Hours.

Individual work on a special project under faculty guidance.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

EPS 799. Advanced Individual Study. 1-3 Credit Hours.

Individual work on a special project under faculty guidance.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

EPS 803. Internship in Counseling Psychology. 1-6 Credit Hours.

Supervised internship in Counseling Psychology in an approved facility.

Components: PRA.

Grading: GRD.

Typically Offered: Fall & Spring.

EPS 810. Master's Thesis. 1-6 Credit Hours.

The student working on his/her master's thesis enrolls for credit, in most departments not to exceed six, as determined by his/her adviser. Credit is not awarded until the thesis has been accepted.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

EPS 820. Research in Residence. 0 Credit Hours.

Used to establish research in residence for the thesis for the master's degree after the student has enrolled for the permissible cumulative total in EPS 710 (usually six credits). Credit not granted. May be regarded as full time residence.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

EPS 825. Continuous Registration Master's Study. 1 Credit Hour.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

EPS 830. Pre-Candidacy Dissertation Research. 1-12 Credit Hours.

Required of all candidates for the Ph.D. The student will enroll for credit as determined by his/her advisor but not for less than a total of 24. Not more than 12 hours of EPS 730 may be taken in a regular semester, nor more than six in a summer session. Where a student has passed his/her (a) qualifying examinations, and (b) is engaged in an assistantship, he/she may still take the maximum allowable credit stated above.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

EPS 835. Doctor of Education Dissertation. 1-12 Credit Hours.

Required of all candidates for the Ed.D. The student enrolls for credit as determined by his/her advisor. Credit is not awarded until the doctoral project has been accepted. Total enrollment may not exceed 12 credits.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

EPS 840. Post-Candidacy Dissertation Research. 1-12 Credit Hours.

Post-Candidacy Dissertation Research. 1-12 Credit Hours. Doctoral students enrolled for credit as determined by advisor. This course will be graded each term.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

EPS 850. Research in Residence. 1 Credit Hour.

Used to establish research in residence for the Ph.D. and Ed.D., after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Credit not granted. May be regarded as full-time residence as determined by the Dean of the Graduate school.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

Electrical & Computer Engineering (ECE)

ECE 100. Introduction to Electrical and Computer Engineering. 3 Credit Hours.

Introduction to Electrical and Computer Engineering (ECE) for high school students interested in science and technology. The course covers important thematic units of the discipline: electronics, digital design, computer programming and signal processing. Emphasis on hands-on experience in the use of laboratory instrumentation, circuit construction and computer simulation.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

ECE 110. Introduction to Innovation: Learning About Innovation by Innovating. 3 Credit Hours.

Introduction to diverse methods and tools that promote and nurture student creativity, entrepreneurship, team-work, and skills for creating business plans that consider ethical, global and financial issues. Students will learn to use the Maker Space facility to implement their design ideas.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ECE 111. Introduction to Engineering I. 3 Credit Hours.

Use of engineering tools and computer techniques for problem solving, data acquisition, analysis, presentation, software design, and computer aided drafting. Development of design skills through several design and building competitions is included as well as an introduction to professional ethics, intellectual property rights, the use of MATLAB, AutoCAD, and programming in C++.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ECE 112. Introduction to Engineering II. 2 Credit Hours.

Course is designed to provide first-year undergraduate students with an introduction to some key electrical and computer engineering concepts and topics by discussing their roles in some of the commonly used electrical and computer engineering systems. Numerical examples, circuit simulations, and computer programming are introduced through the use of MATLAB, microcontroller programming languages, and PSpice. Hands-on experience are provided through a project where the students design, assemble, program, and test a microcontroller-based mobile robot with a variety of sensing devices. Should be taken as a freshman only; otherwise to be replaced by a technical elective.

Prerequisite: ECE 111.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ECE 118. Introduction to Programming. 3 Credit Hours.

Introduction to computing, problem solving, program design, C++ language fundamentals, and software engineering principles. Software design projects are included.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ECE 123. Explorations in Engineering. 3 Credit Hours.

Introduction to engineering for non-engineers with emphasis on real-world engineering systems and services which are changing the way we live, communicate, learn, play, and care for ourselves, our communities and our planet. Students will learn how to use modern tools to observe and design simple engineering systems.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECE 201. Electrical Circuit Theory. 3 Credit Hours.

Fundamentals of DC-AC circuit laws, including steady state and transient analysis. Lecture, 3 hours.

Prerequisite: MTH 162.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ECE 202. Electronics I. 3 Credit Hours.

Semiconductor physics and devices. Diodes, bipolar-junction transistors (BJT). Introduction to field-effect transistors (FETs) and Operational Amplifiers. Emphasis on dc and ac analysis of electronic circuits. Use of CAD tools such as PSpice.

Pre-requisite: ECE 201.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ECE 203. Electrical Circuits Laboratory. 1 Credit Hour.

Laboratory work employing the techniques of circuit theory to physical components, devices, and circuits. Use of electronic computing techniques to relate analytical and empirical investigations. Laboratory, 3 hours.

Pre-requisite: ECE 201.

Components: LAB.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ECE 204. Electrical Circuits Laboratory. 1 Credit Hour.

Laboratory work employing the techniques of circuit theory to physical components, devices, and circuits. Use of electronic computing techniques to relate analytical and empirical investigations. Laboratory, 3 hours.

Prerequisite: ECE 201.

Components: LAB.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ECE 205. Principles of Electrical Engineering--I. 3 Credit Hours.

Fundamentals of DC and AC Circuits and a survey of Electrical Machinery and Electronics. Not open to students with credits in ECE 201. Lecture, 3 hours.

Prerequisite: MTH 162.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ECE 206. Circuits, Signals, and Systems. 3 Credit Hours.

This course teaches the basics of continuous-time signals and systems with an emphasis on circuits as motivating examples. Topics include signals and linear time-invariant systems, convolution, stability, Laplace Transform, transfer function, poles and zeros, s-domain circuit analysis, feedback control, Fourier Series and Transform, Bode plots, analog filters.

Pre-requisite: ECE 201 And MTH 311.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ECE 211. Logic Design. 3 Credit Hours.

Boolean algebra and its applications in analysis and design of logic circuits. Introduction to SSI and MSI circuits as building blocks, memory elements, and analysis and synthesis of synchronous and asynchronous sequential systems are discussed.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ECE 212. Processors: Hardware, Software, and Interfacing. 3 Credit Hours.

Architecture and operation of modern microprocessor based computer systems and microcontrollers. Assembly language and applications with hands on experience. Lecture, 3 hours; laboratory, 3 hours.

Prerequisite: ECE 118 and ECE 211/304.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ECE 218. Data Structures. 3 Credit Hours.

Continuation of Programming with emphasis on C++ and the skills required of a capable programmer. Essential data structures and algorithms, and introducing algorithm analysis. Basic sorting, searching, and data management. Dynamic and static memory management. Object oriented programming.

Prerequisite: ECE 118.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ECE 301. Electromagnetic Field Theory. 3 Credit Hours.

Vector analysis, static and time-varying fields, Maxwell's equations, propagation of electromagnetic waves, and transmission line theory and applications are discussed.

Prerequisite: PHY 207 and MTH 210.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECE 302. Electronics II. 3 Credit Hours.

Continuation of ECE 202. Emphasis on integrated circuits. Field-effect transistors (FETs). Application of operational amplifiers and other integrated circuits. Frequency response of amplifiers. Use of CAD tools as PSpice.

Prerequisite: ECE 305 Or ECE 202.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ECE 303. Electronics Laboratory. 1 Credit Hour.

Laboratory course in conjunction with courses ECE 202 and 302.

Prerequisite: ECE 203 or 204. Or Pre/Corequisite: ECE 302 or 306.

Components: LAB.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ECE 304. Logic Design. 3 Credit Hours.

Boolean algebra and its applications in analysis and design of logic circuits. Introduction to SSI and MSI circuits as building blocks, memory elements, and analysis and synthesis of synchronous and asynchronous sequential systems are discussed.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ECE 305. Electronics I. 3 Credit Hours.

Semiconductor physics and devices. Diodes, bipolar-junction transistors (BJT). Introduction to field-effect transistors (FETs) and Operational Amplifiers. Emphasis on dc and ac analysis of electronic circuits. Use of CAD tools such as PSpice.

Pre-requisite: ECE 201.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ECE 306. Electronics II. 3 Credit Hours.

Continuation of ECE 305. Emphasis on integrated circuits. Field-effect transistors (FETs). Application of operational amplifiers and other integrated circuits. Frequency response of amplifiers. Use of CAD tools as PSpice.

Prerequisite: ECE 202 or 305.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ECE 307. Circuits, Signals, and Systems. 3 Credit Hours.

This course teaches the basics of continuous-time signals and systems with an emphasis on circuits as motivating examples. Topics include signals and linear time-invariant systems, convolution, stability, Laplace Transform, transfer function, poles and zeros, s-domain circuit analysis, feedback control, Fourier Series and Transform, Bode plots, analog filters.

Prerequisite: ECE 201 and MTH 311.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ECE 308. Linear Control Systems. 3 Credit Hours.

Introduction to system theory, transfer function and state variable modeling of linear continuous time systems, root locus, Bode plot, Nyquist criterion, analysis and controller design using root locus and frequency domain techniques, proportional-integral-derivative controllers.

Prerequisite: ECE 206/307 and ECE 303/311 and MTH 210.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECE 310. Introduction to Engineering Probability. 3 Credit Hours.

Axioms of probability, discrete and continuous random variables, probability density functions. Expectation, conditioning, independence, functions of random variables, characteristic functions, multiple random variables. Sums of random variables, limit theorems, probability bounds, convergence concepts. Introduction to statistical analysis, estimation, and hypothesis testing. Cross-listed with IEN 310.

Prerequisite: MTH 162 and Requisite: Junior Standing.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ECE 311. Electronics Laboratory. 1 Credit Hour.

Laboratory course in conjunction with courses ECE 305 and 306.

Prerequisite: ECE 203 or 204. Or Pre/Corequisite: ECE 302 or 306.

Components: LAB.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ECE 312. Processors: Hardware, Software, and Interfacing. 3 Credit Hours.

Architecture and operation of modern microprocessor based computer systems and microcontrollers. Assembly language and applications with hands on experience. Lecture, 3 hours; laboratory, 3 hours.

Prerequisite: ECE 118 and ECE 211/304.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ECE 315. Digital Design Laboratory. 1 Credit Hour.

Familiarization with properties and use of logic gates, flip-flops, digital standard components, and programmable logic devices. Design and implementation of combinational and synchronous digital systems and Computer Aided Engineering (CAE) tools for design and simulation of digital systems are also included.

Prerequisite: ECE 304 Or ECE 211.

Components: LAB.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ECE 316. Structured Digital Design. 1 Credit Hour.

VHDL ((VHSIC (very high speed integrated circuits) hardware description language)) introduction and syntax. Functional and behavioral models of VHDL for design, testing, and simulation of digital circuits and programmable logic devices. Design and implementation of combinational and sequential digital systems using VHDL is also included.

Prerequisite: ECE 315.

Components: LAB.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ECE 318. Algorithms. 3 Credit Hours.

Continuation of the programming sequence. Object oriented programming with C++, emphasizing the skills required of a professional programmer.

Essential data structures and algorithms: trees, graphs, hash tables, parsing and text processing. Advanced sorting and data management algorithms. Advanced features of C++; effective programming with C.

Prerequisite: ECE 218.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECE 322. Systems Programming. 3 Credit Hours.

Practical hands-on experience with UNIX systems programming and administration. Programming using C and shell scripting languages. File systems features, multiprocessing, inter-process communication, and systems programming fundamentals are discussed.

Prerequisite: ECE 218.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECE 336. Discrete-Time Signals and Systems. 3 Credit Hours.

This course provides the basics connecting continuous-time (CT) and discrete-time (DT) signal processing, and an introduction to discrete-time signals and systems and applications. Topics include communication, sampling, discrete-time linear time-invariant (LTI) signals and systems, difference equations, z Transform, transform domain analysis of DT systems, DT Fourier transform (DTFT), digital filters, applications to audio, and image processing.

Prerequisite: ECE 307 Or ECE 206.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECE 368. Internet Computing I. 3 Credit Hours.

Principles and practices used in creating interactive Internet sites. Extensive object oriented programming in Java is taught. Use of eXtensible Markup Language (XML) to provide content description. Use of GUI components and graphics to create web based applications.

Prerequisite: ECE 218.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ECE 395. Undergraduate Research in Electrical and Computer Engineering. 1-3 Credit Hours.

Research and/or design projects consisting of an individual investigation of real-world contemporary problems. Offered by special arrangement and under the supervision of a faculty member.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ECE 399. Cooperative Education. 1 Credit Hour.

Practical application of classroom theory through alternating semester or summer employment with firms offering positions consistent with the student's field of study. Course may be repeated.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ECE 404. Communication Systems. 3 Credit Hours.

Introduction to digital communication, including binary and M-ary baseband and bandpass modulation over additive white Gaussian noise channels. Optimal receivers, pulse shaping for bandlimited channels, synchronization, multiple access.

Prerequisite: ECE 336 and ECE 310 or IEN 310.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ECE 405. Solid-State Electronics. 3 Credit Hours.

Principles of semiconductor electronics, energy bands of semiconductors, Fermi level, carrier distribution, and transport mechanisms are discussed. Application of semiconductor theory to various junction and field effect devices are included.

Prerequisite: ECE 301 and PHY 207.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ECE 412. Software Engineering and Architecture. 3 Credit Hours.

Examination of the building blocks of software systems. Requirements and specifications. Model driven architecture. Architectural and design patterns. Design and analysis for functionality and quality. Computer aided software engineering tools.

Prerequisite: ECE 318.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ECE 413. Software Design and Verification. 3 Credit Hours.

Design for testability. Software testing methods and tools. Formal review techniques. Functional and structured testing methods and test generation. Unit-level testing. Integration, acceptance, regression, performance and stress testing. Verification methods.

Prerequisite: ECE 412/512.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ECE 414. Computer Organization and Design. 3 Credit Hours.

Hardware structure, organization and design of computers. Design of computer arithmetic and control units, data, and instruction paths. Modern hardware description language (HDL) based design methodology. Register transfer level design of computers and digital systems. Algorithmic state machine (ASM) charts, instruction set architecture, control unit implementation, microprogramming, memory organization, pipelining, I/O system organization and high speed arithmetic units are discussed.

Prerequisite: ECE 312 Or ECE 212.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECE 415. Senior Project I. 1 Credit Hour.

Topics cover tasks in project planning including scheduling, documentation, communication (written and oral), financial constraints, and ethics. Students are required to present project proposals to serve as the basis for the follow-up course, ECE 416.

Requisite: Senior Status.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ECE 416. Senior Project II. 2 Credit Hours.

The capstone design course for Electrical Engineering majors. An electrical system is designed, implemented, and documented.

Prerequisite: ECE 415.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

ECE 417. Embedded Microprocessor System Design. 3 Credit Hours.

Study of microcomputer system design, scientific methods for quantifying system performance, embedded controller applications using high level languages, and debugging strategies. Lecture, 1 hour; laboratory, 3 hours.

Prerequisite: ECE 218. And ECE 315. And ECE 414.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECE 418. Senior Project Planning. 1 Credit Hour.

The creative process of devising a product to meet customers needs including an overview of the design process, analysis of requirements, project planning, scheduling, evaluation, and documentation. Students are required to present project proposals to serve as the basis for the follow-up senior design project.

Requisite: Senior Status.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ECE 419. Senior Project. 2 Credit Hours.

The purpose of this course is to integrate the student's knowledge in hardware, software, and project management. A major digital system is designed, implemented, debugged, and documented.

Prerequisite: ECE 418.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

ECE 421. Computer Operating Systems. 3 Credit Hours.

The design and implementation of operating systems. Virtual memory and memory management, resource allocation, device drivers, process creation, control, communications and scheduling, file systems, data protection, security, parallel processing and time-sharing. The class includes a significant operating system implementation project.

Prerequisite: ECE 318.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECE 436. Digital Signal Processing. 3 Credit Hours.

Topics include finite length transforms (e.g., discrete Fourier transform, discrete sine and cosine transforms) and their fast computation, finite impulse response (FIR) and infinite impulse response (IIR) digital filter design, digital filter structures, finite wordlength effects on filter performance, and multirate signal processing fundamentals.

Prerequisite: ECE 336.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECE 437. Real-Time Digital Signal Processing Laboratory. 1 Credit Hour.

Digital signal processing hardware for real-time operation, software development tools, instruction set, and DSP experiments with audio and speech application are discussed.

Prerequisite: ECE 436. Or Corequisite: ECE 436.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

ECE 454. Digital System Design and Testing. 3 Credit Hours.

Functional building blocks and concepts of control and timing in digital design. Descriptive techniques for digital systems and design for testability.

Prerequisite: ECE 315 and 316. Corequisite: ECE 455.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ECE 455. Design-for-Testability Laboratory. 1 Credit Hour.

Project laboratory demonstrating the techniques necessary to design, implement, and debug and test a large system. The process is carried through from conceptual design, implementation, integration, simulation, and synthesis on a FPGA chip.

Prerequisite: ECE 454. Or Corequisite: ECE 454.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ECE 467. Database Design and Management. 3 Credit Hours.

Database systems design, modeling, implementation, management methodologies, and techniques. Different database systems are addressed including relational, object-oriented, object-relational, and distributed database systems. Internet (WWW) technology, data warehousing, and online analytical processing applications of database management systems and hands-on experience with commercial database systems is also included.

Prerequisite: ECE 322 or CSC 322.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ECE 470. Network Client-Server Programming. 3 Credit Hours.

Introduction to server-client systems and programming. Advanced server-client design and implementation based on distributed component object model in Windows and UNIX.

Prerequisite: ECE 218.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ECE 481. Senior Project I. 1 Credit Hour.

The creative process of devising a product to meet customers' needs including an overview of the design process, analysis of requirements, project planning, scheduling, evaluation, and documentation. Students are required to present project proposals to serve as the basis for the follow-up senior design project.

Requisite: Senior Status.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ECE 482. Senior Project II. 2 Credit Hours.

The capstone design course for Electrical Engineering and Computer Engineering majors. A major electrical and/or computer engineering system is designed, implemented, and documented.

Pre-requisite: ECE 481.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

ECE 499. Senior-Junior Cooperative Education. 1-3 Credit Hours.

Analysis and design experience obtained in industry or government. Approved project jointly supervised and assessed by department faculty and external partner. Note: A maximum of three credits could be used to satisfy degree requirement as Technical Elective. See Bulletin for more information.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ECE 500. Engineering Analytical Techniques. 3 Credit Hours.

Complex variables, analytic functions, power series, residue theorem, conformal mappings, series solution, Bessel functions, Legendre polynomials. singular value decomposition, vector, and matrix norms are discussed.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECE 502. Engineering Acoustics. 3 Credit Hours.

Introduction to basic principles of acoustics, methods of sound measurement, physiological, psychological acoustics, the acoustics of the major classes of musical instruments and speech, fundamentals of transducers, architectural acoustics, and the effects and control of noise are covered.

Prerequisite: ECE 336.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECE 503. Laser Communications. 3 Credit Hours.

Principles of optics, optical fibers, electro-optics, light wave propagation in anisotropic and periodic media, guided waves, and integrated optics are discussed. Electro-optic devices including sources and detectors, optical fiber communication, and optics for medical and biomedical applications are also covered.

Prerequisites: PHY 206 and PHY 207 and ECE 301.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECE 504. Fundamentals of Optical. 3 Credit Hours.

Introduction to optics and fiber communication, light propagation in free space and waveguides, imaging, wave phenomena and diffraction, interferometer, spectrometer, holography, fiber coupling, and fiber communication are covered.

Prerequisites: ECE 301 or BME 545.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ECE 505. Semiconductor Photonic Devices. 3 Credit Hours.

Principles of semiconductor electronics: energy bands of semiconductors; Fermi level; carrier distribution and transport mechanisms. Application of semiconductor theory to various junction and field effect devices.

Prerequisite: ECE 302, 306, 405.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECE 506. Microfabrication. 3 Credit Hours.

Principles of operation, properties and applications of semiconductor devices, junction, metal-semiconductor, metal-oxide-semiconductor, optoelectronic, bulk-effect, and charge-coupled are covered.

Prerequisite: ECE 505.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ECE 511. Computability, Complexity, and Algorithms. 3 Credit Hours.

Advanced programming techniques: dynamic programming, fast data retrieval and sorting, enumerators, data structures, and data management. The limits of software engineering, computability and models of computation, complexity analysis.

Prerequisite: ECE 318.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ECE 512. Software Engineering and Architecture. 3 Credit Hours.

Examination of the building blocks of software systems. Requirements and specifications. Model driven Architecture. Architectural and Design Patterns. Design and analysis for functionality and quality. Computer Aided Software Engineering tools.

Prerequisite: ECE 318.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ECE 513. Software Design and Verification. 3 Credit Hours.

Design for testability. Software testing methods and tools. Formal review techniques. Functional and structured testing methods and test generation. Unit-level testing. Integration, acceptance, regression, performance and stress testing. Verification methods.

Prerequisite: ECE 412/512.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ECE 514. Computer Architecture. 3 Credit Hours.

Computer data and instruction types, survey of existing architectures, and the interaction between hardware and software sub-systems are discussed. Advanced topics in computer architecture.

Prerequisite: ECE 414.

Components: LEC.

Grading: GRD.

Typically Offered: Spring & Summer.

ECE 519. Design of Computing Languages. 3 Credit Hours.

Major features of modern programming languages with emphasis on design and software efficiency. Interaction between language design and the design of its compiler are included.

Prerequisite: ECE 218.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECE 521. Computer Operating Systems. 3 Credit Hours.

The design and implementation of operating systems. Virtual memory and memory management, resource allocation, device drivers, process creation, control, communications and scheduling, file systems, data protection, security, parallel processing and time-sharing. The class includes a significant operating system implementation project.

Prerequisite: ECE 318.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECE 532. VLSI Systems. 3 Credit Hours.

Fundamentals of MOS Technology in VLSI. System data, control flow, structures, design, layout, maskmaking, fabrication, packaging, and testing of VLSI chips are discussed. Highly concurrent Very Large Scale Integration computational systems are also covered.

Prerequisite: ECE 202. Or ECE 305. And ECE 211. Or ECE 304.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECE 533. Random Signals and Noise. 3 Credit Hours.

Probability models, Bayes' theorem, Limit theorems of Laplace and Poisson, functions of random variables, Central limit theorem, conditional expectation and estimation, Stochastic processes, stationarity and ergodicity, cross-spectral analysis, filtering, and prediction are discussed.

Prerequisite: ECE 310. Or IEN 310.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECE 534. Communication Networks. 3 Credit Hours.

Principles of digital communications, Local Area Networks (LANs), Wide Area Networks (WANs), Open systems Intercommunication (OSI), Internet reference models, internet architecture and protocols, packet switching and routing, and network performance are discussed.

Prerequisite: ECE 212. Or ECE 312. And ECE 310. Or IEN 310.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECE 537. Principles of Artificial Intelligence. 3 Credit Hours.

Search techniques, game trees, use of heuristics, logic, representation of knowledge, algorithms for automated reasoning including automated reasoning under imperfect information, some advanced approaches to AI-Problems such as planning.

Prerequisite: ECE 218.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECE 538. Introduction to Digital Image Processing. 3 Credit Hours.

Digital image representation. Image smoothing, sharpening, and transformations. Color image processing. Encoding of digital images. High level image segmentation and description techniques. Processing of image sequences.

Prerequisite: ECE 206. Or ECE 307. And MTH 210.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECE 539. Digital Communications. 3 Credit Hours.

Principles for the analysis and design of digital communications systems. Nyquist sampling, signal space representation, digital modulation techniques and optimal receiver design, ISI channels, error control coding, convolutional codes, Viterbi decoder, and wireless applications.

Prerequisite: ECE 404.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECE 540. Digital Speech and Audio Processing. 3 Credit Hours.

Introduction to human speech production, hearing, and perception. Digital speech and audio signal analysis in time and frequency, speech and audio coding, speech synthesis and recognition, language modeling, design of systems for human-machine interaction are also covered.

Prerequisite: ECE 336.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ECE 542. MEMS: Sensors and Electronics. 3 Credit Hours.

This course will introduce the fundamentals of Microelectromechanical Systems (MEMS). An introductory foundation of MEMS concepts will be established through lectures on sensors, actuators, readout electronics, and noise. Physical principles of electromechanical, piezoresistive, capacitive, and piezoelectric sensing will be introduced. Based on these design and analysis principles the course will focus on commercial applications such as accelerometers, biochemical sensors, RF components, microfluidics, and optical devices. Sensor electronics will be discussed with a focus on integration with Complementary Metal Oxide Semiconductor (CMOS) technology.

Prerequisite: ECE 532.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ECE 543. BioNanotechnology. 3 Credit Hours.

Introduction on the fundamentals of nanotechnology with a focus on Biomedical Applications. A foundation of nanotechnology concepts will be established through lectures on nanometrology with quantum physics basics, nano manufacturing tools, physical, chemical properties of nanomaterials. Application of these principles in electronics, magnetics, mechanics and optics will be discussed. Use of these nanoengineering principles and concepts to focus on biomedical technology applications such as biosensors, biomaterials, biomimetics and therapeutics

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ECE 548. Machine Learning. 3 Credit Hours.

Fundamentals approaches to classifier induction, probabilistic and instance-based approaches, linear and polynomial classifiers, neural networks, decision trees, boosting techniques, performance evaluation, cluster analysis, reinforcement learning, fundamentals of computational learning theory.

Prerequisite: ECE 218. Or MTH 309.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECE 553. Neural Networks. 3 Credit Hours.

Artificial neural network algorithms and structures, learning process, perceptron, least-mean-square algorithms, multilayer perceptron, error back-propagation, radial-basis function networks, the Hopfield network, and self-organizing systems are discussed.

Prerequisite: ECE 218. Or MTH 309.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECE 562. Wireless and Cellular Communication. 3 Credit Hours.

Wireless Channel Characterization: path loss, shadowing, fading, frequency-selective channels, Doppler spread, and delay spread. Diversity techniques: frequency, time and space diversity. Multiple Antenna Systems: space-time coding, beamforming and layered space-time system. Digital Modulation: adaptive modulations and Orthogonal Frequency Division Multiplexing (OFDM). Cellular Concept: frequency reuse, co-channel interference and handoff. Multiple Access Methods: Frequency Division Multiple Access (FDMA), Time Division Multiple Access (TDMA), Code Division Multiple Access (CDMA) and random access. CDMA: spreading codes, RAKE receiver, multiuser detection and power control.

Prerequisite: ECE 404.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECE 563. Wireless Communication Lab. 1 Credit Hour.

Computer simulation of path loss, shadowing and fading in wireless channels, performance of various digital modulation methods in both Gaussian and wireless channels, diversity methods, equalization methods including zero-forcing, minimum mean-square error (MMSE) and decision-feedback equalization (DFE), co-channel interfacing in cellular systems, space-time coding. Orthogonal Frequency Division Multiplexing (OFDM) systems, spreading codes for Code Division Multiple Access (CDMA) systems, and matched-filter receiver and multiuser detector for CDMA systems. Measurement of wireless signals in various environments.

Prerequisite: ECE 562.

Components: LAB.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECE 564. Wireless Networks. 3 Credit Hours.

Introduction of wireless channels and network. Introduction of medium access control: Frequency Division Multiple Access (FDMA), Time Division Multiple Access (TDMA), Code Division Multiple Access (CDMA) and Carrier Sense Multiple Access. Wireless data networks: IEEE 802.11 (WiFi), IEEE 802.16 (WiMax) and Bluetooth. Wireless network layer: mobile IP and mobile ad-hoc networks. Wireless transport layer: mobile TCP. Wireless Cellular systems: network structure and call processing of GSM and CDMA systems.

Pre or Corequisite: ECE 534.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ECE 567. Database Design and Management. 3 Credit Hours.

Database systems design, modeling, implementation, management methodologies, and techniques. Different database systems are addressed including relational, object-oriented, object-relational, and distributed database systems. Internet (WWW) technology, data warehousing, and online analytical processing applications of database management systems and hands-on experience with commercial database systems is also included.

Prerequisite: ECE 322 or CSC 322.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ECE 570. Network Client-Server Programming. 3 Credit Hours.

Introduction to server-client systems and programming. Advanced server-client design and implementation based on distributed component object model in Windows and UNIX.

Prerequisite: ECE 218.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ECE 572. Object-Oriented and Distributed Database Management Systems. 3 Credit Hours.

Object-Oriented modeling concepts in languages and database systems. Object-Oriented database systems. Semantic data models, nested-relational, object-relational databases. Distributed database system. Federated Databases. Application to engineering design problems.

Prerequisite: ECE 467 Or ECE 567.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECE 574. Agent Technology. 3 Credit Hours.

Agent definition and applications, agent modeling, theories, agent representation using KIF (Knowledge Interchange Format), agent behavior, ethical and emotional agents, agent communication languages (KQML (Knowledge Query and Manipulation Language)), agent development environments and tools, agent systems (cooperative agents, interface agents, information agents, learning agents, believable agents, agents for workgroups, mobile agents), and agent case studies are covered.

Prerequisite: ECE 537 Or ECE 637.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECE 576. Internet and Intranet Security. 3 Credit Hours.

Security issues and applications for securing internet and intranet-based information exchange. Secure information models, security tools, security services, security protocols, electronic commerce, virtual private networks, firewalls, and security versus cost tradeoffs are covered.

ECE 218 Or CSC 322 Or Equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECE 577. Data Mining. 3 Credit Hours.

Introduction to the general principles of inferring useful knowledge from large data sets. Data mining algorithms, including inferring rules, linear regression, decision trees, association rules, and predictive models. Evaluation of data mining algorithms, including training, testing, prediction, comparison, cost, and cross-validation. Data mining applications.

Prerequisite: ECE 467 Or ECE 567.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECE 579. Mobile Computing. 3 Credit Hours.

Mobile computing and proxy architectures, mobile web protocols, mobile user interfaces, applications, systems-ware adaptations, mobile databases, transactions, data synchronization, privacy, authentication, and security are covered.

Prerequisite: ECE 368.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECE 581. Special Problems. 1-3 Credit Hours.

Project course introducing methods of research through an individual investigation of current problems. Offered by special arrangement only.

Components: THI.

Grading: GRD.

Typically Offered: Fall.

ECE 582. Special Problems. 1-3 Credit Hours.

Project course introducing methods of research through an individual investigation of current problems. Offered by special arrangement only.

Components: THI.

Grading: GRD.

Typically Offered: Spring.

ECE 583. Special Problems. 1-3 Credit Hours.

Project course introducing methods of research through an individual investigation of current problems. Offered by special arrangement only.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

ECE 584. Special Problems. 1-3 Credit Hours.

Project course introducing methods of research through an individual investigation of current problems. Offered by special arrangement only.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

ECE 590. Special Topics in Information Technology. 1-3 Credit Hours.

Lecture courses in selected areas of specialization within Information Technology.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECE 591. Special Topics in Information Technology. 1-3 Credit Hours.

Lecture courses in selected areas of specialization within Information Technology.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECE 594. Special Topics in Computer Engineering. 1-3 Credit Hours.

Lecture courses in selected areas of specialization within Computer Engineering.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECE 595. Special Topics in Computer Engineering. 1-3 Credit Hours.

Lecture courses in selected areas of specialization within Computer Engineering.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECE 596. Special Topics in Computer Engineering. 1-3 Credit Hours.

Lecture courses in selected areas of specialization within Computer Engineering.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECE 597. Special Topics in Electrical Engineering. 1-3 Credit Hours.

Lecture courses in selected areas of specialization within Electrical Engineering.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECE 598. Special Topics in Electrical Engineering. 1-3 Credit Hours.

Lecture courses in selected areas of specialization within Electrical Engineering.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECE 599. Special Topics in Electrical Engineering. 1-3 Credit Hours.

Lecture courses in selected areas of specialization within Electrical Engineering.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECE 600. Engineering Analytical Techniques. 3 Credit Hours.

Complex variables, analytic functions, power series, residue theorem, conformal mappings, series solution, Bessel functions, Legendre polynomials. singular value decomposition, vector, and matrix norms are discussed.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECE 602. Engineering Acoustics. 3 Credit Hours.

Introduction to basic principles of acoustics, methods of sound measurement, physiological, psychological acoustics, the acoustics of the major classes of musical instruments and speech, fundamentals of transducers, architectural acoustics, and the effects and control of noise are covered.

Prerequisite: ECE 336.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECE 603. Laser Communications. 3 Credit Hours.

Prerequisites: PHY 206 and PHY 207 and ECE 301.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECE 604. Fundamentals of Optical. 3 Credit Hours.

Prerequisites: ECE 301 or BME 545.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ECE 605. Semiconductor Photonic Devices. 3 Credit Hours.

Principles of semiconductor electronics: energy bands of semiconductors; Fermi level; carrier distribution and transport mechanisms. Application of semiconductor theory to various junction and field effect devices.

Prerequisite: ECE 302, 306, 405.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECE 606. Microfabrication. 3 Credit Hours.

Principles of operation, properties and applications of semiconductor devices, junction, metal-semiconductor, metal-oxide-semiconductor, optoelectronic, bulk-effect, and charge-coupled are covered

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ECE 632. VLSI Systems. 3 Credit Hours.

Fundamentals of MOS Technology in VLSI. System data, control flow, structures, design, layout, maskmaking, fabrication, packaging, and testing of VLSI chips are discussed. Highly concurrent Very Large Scale Integration computational systems are also covered. * For students who are taking it as ECE 632 there will be a separate advanced final project that will include the use of all digital circuit library that will be developed in the lab exercises and in addition include an analog component to achieve a mixed signal system integration. This will require additional research study as well as comprehension of more advanced topics in VLSI. Supplemental material and additional project instruction will be delivered in the lab.

Prerequisite: ECE 202. Or ECE 305. And ECE 211. Or ECE 304.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECE 633. Random Signals and Noise. 3 Credit Hours.

Probability models, Bayes' theorem, Limit theorems of Laplace and Poisson, functions of random variables, Central limit theorem, conditional expectation and estimation, Stochastic processes, stationarity and ergodicity, cross-spectral analysis, filtering, and prediction are discussed.

Prerequisite: ECE 310. Or IEN 310.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECE 634. Communication Networks. 3 Credit Hours.

Principles of digital communications, Local Area Networks (LANs), Wide Area Networks(WANs), Open systems Intercommunication (OSI), Internet reference models, internet architecture and protocols, packet switching and routing, and network performance are discussed. * For students who are taking it as ECE 634 there will be a separate requirement.

Prerequisite: ECE 212. Or ECE 312. And ECE 310. Or IEN 310.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECE 636. Adaptive Filters and Signal Processing. 3 Credit Hours.

Topics include linear models and estimation, orthogonality principle, Wiener filters, stochastic gradient methods, LMS and RLS algorithms, mean square error and tracking performance and applications.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECE 637. Principles of Artificial Intelligence. 3 Credit Hours.

Search techniques, game trees, use of heuristics, logic, representation of knowledge, algorithms for automated reasoning including automated reasoning under imperfect information, some advanced approaches to AI-Problems such as planning.

Prerequisite: ECE 218.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECE 638. Introduction to Digital Image Processing. 3 Credit Hours.

Digital image representation. Image smoothing, sharpening, and transformations. Color image processing. Encoding of digital images. High level image segmentation and description techniques. Processing of image sequences.

Prerequisite: ECE 206. Or ECE 307. And MTH 210.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECE 639. Digital Communications. 3 Credit Hours.

Principles for the analysis and design of digital communications systems. Nyquist sampling, signal space representation, digital modulation techniques and optimal receiver design, ISI channels, error control coding, convolutional codes, Viterbi decoder, and wireless applications.

Prerequisite: ECE 404.

Components: LEC.

Grading: GRD.

ECE 640. Digital Speech and Audio Processing. 3 Credit Hours.

Introduction to human speech production, hearing, and perception. Digital speech and audio signal analysis in time and frequency, speech and audio coding, speech synthesis and recognition, language modeling, design of systems for human-machine interaction are also covered.

Prerequisite: ECE 336.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ECE 642. MEMS: Sensors and Electronics. 3 Credit Hours.

This course will introduce the fundamentals of Microelectromechanical Systems (MEMS). An introductory foundation of MEMS concepts will be established through lectures on sensors, actuators, readout electronics, and noise. Physical principles of electromechanical, piezoresistive, capacitive, and piezoelectric sensing will be introduced. Based on these design and analysis principles the course will focus on commercial applications such as accelerometers, biochemical sensors, RF components, microfluidics, and optical devices. Sensor electronics will be discussed with a focus on integration with Complementary Metal Oxide Semiconductor (CMOS) technology.

Prerequisite: ECE 532.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ECE 643. BioNanotechnology. 3 Credit Hours.

Introduction on the fundamentals of nanotechnology with a focus on Biomedical Applications. A foundation of nanotechnology concepts will be established through lectures on nanometrology with quantum physics basics, nano manufacturing tools, physical, chemical properties of nanomaterials. Application of these principles in electronics, magnetics, mechanics and optics will be discussed. Use of these nanoengineering principles and concepts to focus on biomedical technology applications such as biosensors, biomaterials, biomimetics and therapeutics

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ECE 646. Reliable Digital System Design. 3 Credit Hours.

Topics include descriptive technique for digital systems, synchronizer failure and metastability estimation, design for testability, and estimating digital system reliability. Computer-Aided Engineering (CAE) tools are also covered. Not open to students with credit in ECE 454. Offered only for Graduate students.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECE 648. Machine Learning. 3 Credit Hours.

Fundamentals of intelligent system design and strategies of learning capability simulation. Selected case studies of learning systems for engineering applications are included.

Prerequisite: ECE 218. Or MTH 309.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECE 653. Neural Networks. 3 Credit Hours.

Artificial neural network algorithms and structures, learning process, perceptron, least-mean-square algorithms, multilayer perceptron, error back-propagation, radial-basis function networks, the Hopfield network, and self-organizing systems are discussed.

Prerequisite: ECE 218. Or MTH 309.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECE 662. Wireless and Cellular Communication. 3 Credit Hours.

Wireless Channel Characterization: path loss, shadowing, fading, frequency-selective channels, Doppler spread, and delay spread. Diversity techniques: frequency, time and space diversity. Multiple Antenna Systems: space-time coding, beamforming and layered space-time system. Digital Modulation: adaptive modulations and Orthogonal Frequency Division Multiplexing (OFDM). Cellular Concept: frequency reuse, co-channel interference and handoff. Multiple Access Methods: Frequency Division Multiple Access (FDMA), Time Division Multiple Access (TDMA), Code Division Multiple Access (CDMA) and random access. CDMA: spreading codes, RAKE receiver, multiuser detection and power control.

Prerequisite: ECE 404.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECE 664. Wireless Networks. 3 Credit Hours.

Introduction of wireless channels and network. Introduction of medium access control: Frequency Division Multiple Access (FDMA), Time Division Multiple Access (TDMA), Code Division Multiple Access (CDMA) and Carrier Sense Multiple Access. Wireless data networks: IEEE 802.11 (WiFi), IEEE 802.16 (WiMax) and Bluetooth. Wireless network layer: mobile IP and mobile ad-hoc networks. Wireless transport layer: mobile TCP. Wireless Cellular systems: network structure and call processing of GSM and CDMA systems.

Pre or Corequisite: ECE 634.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ECE 672. Object-Oriented and Distributed Database Management Systems. 3 Credit Hours.

Object-Oriented modeling concepts in languages and database systems. Object-Oriented database systems. Semantic data models, nested-relational, object-relational databases. Distributed database system. Federated Databases. Application to engineering design problems.

Prerequisite: ECE 467 Or ECE 567.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECE 673. Information Assurance. 3 Credit Hours.

Assurance as the basis for believing an information system will behave as expected. Security design fundamentals that help create systems that are fit for their purpose and worthy of being trusted. The concepts of information assurance fundamentals. Vulnerabilities and Risk Management assessment. Security Life-Cycle, Mechanisms, Frameworks and Emerging Threats.

Prerequisite: ECE 634.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ECE 674. Agent Technology. 3 Credit Hours.

Agent definition and applications, agent modeling, theories, agent representation using KIF (Knowledge Interchange Format), agent behavior, ethical and emotional agents, agent communication languages (KQML (Knowledge Query and Manipulation Language)), agent development environments and tools, agent systems (cooperative agents, interface agents, information agents, learning agents, believable agents, agents for workgroups, mobile agents), and agent case studies are covered.

Prerequisite: ECE 537 Or ECE 637.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECE 675. Digital Forensics. 3 Credit Hours.

The techniques and skills to apply forensics techniques throughout an investigation life cycle while complying with legal requirements. Preservation, identification, extraction and documentation of computer evidence stored on a computer. Application of forensics techniques to investigate and analyze a host in a network, devices including mobile, and techniques to investigate and analyze network traffic.

Prerequisite: ECE 634.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ECE 676. Internet and Intranet Security. 3 Credit Hours.

Security issues and applications for securing internet and Intranet-based information exchange. Secure information models, security tools, security services, security protocols, electronic commerce, virtual private networks, firewalls, and security versus cost tradeoffs are covered.

ECE 218 Or CSC 322 Or Equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECE 677. Data Mining. 3 Credit Hours.

Introduction to the general principles of inferring useful knowledge from large data sets. Data mining algorithms, including inferring rules, linear regression, decision trees, association rules, and predictive models. Evaluation of data mining algorithms, including training, testing, prediction, comparison, cost, and cross-validation. Data mining applications.

Prerequisite: ECE 467 Or ECE 567.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECE 678. Network Security. 3 Credit Hours.

Information about the threats that may be present in the cyber realm and the techniques that can be taken to protect a network and communication assets from cyber threats. Threat examination and application of security measures. Implementation of network defense measures and adjustments for cloud and hybrid applications.

Prerequisite: ECE 673 and 676.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECE 680. Electrical and Computer Engineering Internship. 1-3 Credit Hours.

Analysis, design, and research experience obtained at an operating and recognized industry. Approved project jointly supervised and assessed by departmental faculty and industrial partner.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

ECE 681. Special Problems. 1-3 Credit Hours.

Project course introducing methods of research through an individual investigation of current problems. Offered by special arrangement only.

Components: THI.

Grading: GRD.

Typically Offered: Fall.

ECE 682. Special Problems. 1-3 Credit Hours.

Project course introducing methods of research through an individual investigation of current problems. Offered by special arrangement only.

Components: THI.

Grading: GRD.

Typically Offered: Spring.

ECE 683. Special Problems. 1-3 Credit Hours.

Project course introducing methods of research through an individual investigation of current problems. Offered by special arrangement only.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

ECE 684. Special Problems. 1-3 Credit Hours.

Project course introducing methods of research through an individual investigation of current problems. Offered by special arrangement only.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

ECE 694. Special Topics in Computer Engineering. 1-3 Credit Hours.

Lecture courses in selected areas of specialization within Computer Engineering.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECE 695. Special Topics in Computer Engineering. 1-3 Credit Hours.

Lecture courses in selected areas of specialization within Computer Engineering.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECE 696. Special Topics in Computer Engineering. 1-3 Credit Hours.

Lecture courses in selected areas of specialization within Computer Engineering.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECE 697. Special Topics in Electrical Engineering. 1-3 Credit Hours.

Lecture courses in selected areas of specialization within Electrical Engineering.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECE 698. Special Topics in Electrical Engineering. 1-3 Credit Hours.

Lecture courses in selected areas of specialization within Electrical Engineering.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECE 699. Special Topics in Electrical Engineering. 1-3 Credit Hours.

Lecture courses in selected areas of specialization within Electrical Engineering.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECE 715. M.S. Design Project I. 3 Credit Hours.

Comprehensive M.S. design project in electrical or computer engineering. Open only to students in the BS/MS dual-degree program.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

ECE 716. M.S. Design Project II. 3 Credit Hours.

Continuation of ECE 715. Open only to students in the BS/MS dual-degree program.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

ECE 720. Convex Optimization. 3 Credit Hours.

This course aims to give students the tools and training to recognize convex optimization problems that arise in scientific and engineering applications, presenting the basic theory, and concentrating on modeling aspects and results that are useful in applications. Topics include convex sets, convex functions, optimization problems, optimality condition and duality, and algorithms. Applications to signal processing, machine learning and wireless communications are presented.

Prerequisite: MTH 210.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECE 725. Statistical Signal Processing. 3 Credit Hours.

Fundamentals of statistical signal processing, focusing on detection and estimation. Detection: hypothesis testing, Neyman-Pearson criterion, Bayes risk, generalized likelihood ratio tests. Estimation: minimum variance, maximum likelihood, maximum a-posteriori, and minimum mean squared error methods, Cramer-Rao and Bayesian bounds, expectation maximization, least squares, Kalman filter, sparse solutions, applications. Students should have completed basic courses on linear algebra and probability prior to taking this course.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECE 730. Statistical Learning. 3 Credit Hours.

Statistical learning theory, high-dimensional data models, regression, classification, sparse kernel machines, mixture models, graphical models, Markov chain Monte Carlo simulation, model assessment and selection, model inference and combining.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECE 735. Fundamentals of Network Science. 3 Credit Hours.

Mathematics of networks; network measures and metrics; power laws and scale-free networks; Erdos-Renyi random networks; random networks with general degree distributions; models of network formation, including preferential attachment models.

Prerequisite: MTH 210.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECE 738. Computer Vision. 3 Credit Hours.

Principles of computer vision. Segmentation, shape and texture analysis, 3D scene analysis, polyhedral scenes, time-varying image analysis, parallel processing algorithms, matching, and recognition are covered.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ECE 753. Pattern Recognition and Neural Networks. 3 Credit Hours.

Statistical pattern classification, feature extraction, cluster analysis, neural net models, Hopfield net, competitive learning, multi-layer perceptron, and the Boltzmann machine are discussed.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECE 756. Information Theory. 3 Credit Hours.

Measure of uncertainty and entropy, two dimensional sources, noisy channels, mutual and transinformation, equivocation, efficiency and channel capacity, minimum redundancy coding, error-detecting, error-correcting codes, continuous channel without memory. Gaussian additive noise, sampling theorem, and vector space are covered.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECE 781. Advanced Problems. 1-3 Credit Hours.

Research and/or design projects through an individual investigation of current problems. Offered by special arrangement only.

Components: THI.

Grading: GRD.

Typically Offered: Fall.

ECE 782. Advanced Problems. 1-3 Credit Hours.

Research and/or design projects through an individual investigation of of current problems. Offered by special arrangement only.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ECE 783. Advanced Problems. 1-3 Credit Hours.

Research and/or design projects through an individual investigation of of current problems. Offered by special arrangement only.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

ECE 784. Advanced Problems. 1-3 Credit Hours.

Research and/or design projects through an individual investigation of current problems. Offered by special arrangement only.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

ECE 785. Advanced Problems in CyberSecurity. 3 Credit Hours.

Comprehensive M.S. capstone project in CyberSecurity.

Prerequisite: ECE 678.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ECE 792. Professional Communications Skills for Engineering Grad Students. 0 Credit Hours.

This course covers fundamental areas in professional communication for Engineering graduate students. Topic areas include: presenting research at conferences, writing manuscripts for publication, preparing the dissertation, the PhD comprehensive exams, effective teaching and mentoring, and obtaining positions in academia. Through interactive workshops, in- class exercises, brief presentations and assignments, students will have an opportunity to practice and strengthen necessary communication skills, developing collaborations, and developing effective presentation skills.

Components: MOD.

Grading: SUS.

Typically Offered: Fall & Spring.

ECE 795. Advanced Topics in Computer Engineering. 1-3 Credit Hours.

Subject matter offerings in computer engineering based upon student demand and availability of faculty. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title "Advanced Topics".

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECE 796. Advanced Topics in Computer Engineering. 1-3 Credit Hours.

Subject matter offerings in computer engineering based upon student demand and availability of faculty. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title "Advanced Topics".

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECE 797. Advanced Topics in Electrical Engineering. 1-3 Credit Hours.

Subject matter offerings in electrical engineering based upon student demand and availability of faculty. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title "Advanced Topics".

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECE 798. Advanced Topics in Electrical Engineering. 1-3 Credit Hours.

Subject matter offerings in electrical engineering based upon student demand and availability of faculty. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title "Advanced Topics".

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECE 799. Advanced Topics. 1-3 Credit Hours.

Subject matter offerings based upon student demand and availability of faculty. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title "Advanced Topics".

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECE 810. Master's Thesis. 1-6 Credit Hours.

The student working on his/her master's thesis enrolls for credit, in most departments not to exceed six, as determined by his/her advisor. Credit is not awarded until the thesis has been accepted.

Components: THI.

Grading: SUS.

Typically Offered: Fall & Spring.

ECE 820. Research in Residence. 1 Credit Hour.

Used to establish research in residence for the thesis for the master's degree after the student has enrolled for the permissible cumulative total in ECE 810 (usually six credits). Credit not granted. May be regarded as full time residence.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

ECE 825. Continuous Registration--Master's Study. 1 Credit Hour.

To establish residence for non-thesis master's students who are preparing for major examinations. Credit not granted. Regarded as full time residence.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ECE 830. Pre-Candidacy Doctoral Dissertation. 1-12 Credit Hours.

Doctoral dissertation credits taken prior to Ph.D. student's candidacy. The student will enroll for credit as determined by his/her advisor. No more than 12 hours of ECE 830 may be taken in a regular semester; no more than six in a summer session.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

ECE 840. Post-Candidacy Doctoral Dissertation. 1-12 Credit Hours.

Doctoral dissertation credits taken after Ph.D. student has been admitted to candidacy. The student will enroll for credit as determined by his/her advisor. No more than 12 credits in ECE 840 may be taken in a regular semester; no more than six credits in a summer session.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

ECE 850. Research in Residence. 1 Credit Hour.

Used to establish research in residence for the Ph.D., after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Credit not granted. May be regarded as full-time residence as determined by the Dean of the Graduate School.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

English (ENG)

ENG 103. Basic Academic Writing. 3 Credit Hours.

Intensive approach to the basics of academic writing with emphasis on building written fluency, using conventions of standard written English, and editing for precision and correctness. Intended for students who need extra preparation before entering ENG 105. Not for credit toward graduation.

Requisite: ACT English score below 18; or SAT Evidence-Based Reading and Writing or Critical Reading score below 430; or TOEFL iBT Writing score below 18.

Components: LEC.

Grading: CNC.

Typically Offered: Fall & Spring.

ENG 105. English Composition I. 3 Credit Hours.

Introduction to written academic argument and inquiry. Not for major or minor. Cannot be taken on credit-only option.

Requisite: ACT English score 18-31; or SAT Evidence-Based Reading and Writing or Critical Reading score 430-690; or TOEFL iBT Writing score 18 or above.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ENG 106. English Composition II. 3 Credit Hours.

Advanced approaches to written academic argument, with emphasis on textual analysis and incorporation of secondary sources. Not for major or minor. Cannot be taken on credit-only option.

Requisite: ENG 105 OR ACT English score 32 or above; or SAT Evidence-Based Reading and Writing or Critical Reading score 700 or above.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ENG 107. English Composition II: Science and Technology. 3 Credit Hours.

Advanced approaches to written academic argument, with emphasis on textual analysis and incorporating source material using readings and approaches connected to science and technology. Alternative to ENG 106. Not for major or minor. Cannot be taken on credit-only option.

Requisite: ACT English score 32 or above; or SAT Evidence-Based Reading and Writing or Critical Reading score 700 or above.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ENG 201. World Literary Masterpieces I. 3 Credit Hours.

Comparative study of literary masterpieces from ancient times through the Renaissance. Satisfies writing requirement.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ENG 202. World Literary Masterpieces II. 3 Credit Hours.

Comparative study of literary masterpieces from the Renaissance to the present. Satisfies writing requirement.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ENG 205. Jewish Literature. 3 Credit Hours.

Selections from the Bible, the Talmud, the Kabbalah, medieval poetry and prose, Yiddish and Sephardic literature, and contemporary American and Israeli writers.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 208. Advanced Academic Writing for Transfer Students. 3 Credit Hours.

Review of research techniques and revision strategies. Completes the university composition requirement for those students who transfer into UM with credit for one composition course from another institution. Open only to transfer students who have received transfer credit for either English 105 or English 106. Not open to students who have taken either English 105 and/or 106 at UM.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ENG 209. Creative Writing. 3 Credit Hours.

Analysis and writing of Short stories and poems. Cannot be taken for credit only.

Components: SEM.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ENG 210. Literary Themes and Topics. 3 Credit Hours.

Literary analysis and practice in critical writing through the study of selected works; themes and topics vary by semester.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 211. English Literature I. 3 Credit Hours.

Selected readings from the middle ages to the late 18th century. Satisfies writing requirement.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ENG 212. English Literature II. 3 Credit Hours.

Selected readings from the late 18th century to the present. Satisfies writing requirement.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ENG 213. American Literature I. 3 Credit Hours.

Selected American authors prior to the Civil War. Satisfies writing requirement.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ENG 214. American Literature II. 3 Credit Hours.

Selected American authors from the Civil War to the present. Satisfies writing requirement.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ENG 215. English and American Literature by Women. 3 Credit Hours.

A survey of women writers from the Middle Ages to the present; explores the female literary tradition and women's relationship to culture and society.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 219. CW Beginning Mixed Genre Workshop. 3 Credit Hours.

A multi-genre workshop that will focus on developing practical issues of craft and technique presented in ENG 209 with an emphasis on form and narrative. Classes feature writing exercises and discussions of both student work and readings from contemporary fiction, poetry and a third genre (e.g., playwriting, nonfiction or screenplay).

ENG 209 may not be taken in the same term with another creative writing course (i.e., ENG 209, ENG 290, ENG 292, ENG 390, ENG 391, ENG 392, ENG 404, ENG 406 Or ENG 408).

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

ENG 220. Introduction to Poetry. 3 Credit Hours.

Introduction to the forms of poetry through the analysis of representative poems.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 221. Introduction to Fiction. 3 Credit Hours.

Forms of prose fiction and the analysis of representative short stories and novels.

Pre/Corequisite: ENG 106.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 230. Advanced Professional Communication. 3 Credit Hours.

Professional writing with critical attention to complex rhetorical situations. Practice in formal and informal written communication styles.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ENG 231. Advanced Writing for Arts and Humanities. 3 Credit Hours.

Advanced instruction in writing for specialist and non-specialist audiences on topics in the Arts and Humanities disciplines, with an emphasis on essay and multimodal forms of communication.

Prerequisite: ENG 106 or ENG 107 or ENG 208.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 232. Advanced Writing for People and Society. 3 Credit Hours.

Advanced instruction in writing for specialist and non-specialist audiences on topics in the People and Society disciplines, with an emphasis on essay and multimodal forms of communication.

Prerequisite: ENG 106 or ENG 107 or ENG 208.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 233. Advanced Writing for STEM. 3 Credit Hours.

Advanced instruction in writing for specialist and non-specialist audiences on topics in the STEM disciplines, with an emphasis on essay and multimodal forms of communication.

Prerequisite: ENG 106 or ENG 107 or ENG 208.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 240. Literature and Medicine. 3 Credit Hours.

Patients, doctors, and disease itself offer writers avenues to explore ultimate questions. In this course we will examine medicine—and these ultimate questions—as represented in fiction, drama, poetry, and non-fiction. We will consider the works in terms of both the implications for medicine and the literary uses to which medicine can be put.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 241. Art of the Con: Con Artists, Tricksters, and Card Sharks in U.S. Literature and Culture. 3 Credit Hours.

Students will read novels, examine archival materials, review graphic novels, and watch films and TV shows about con artists and tricksters in American culture. In addition to writing essays, this course will provide students with the opportunity to learn how to annotate films in multimedia formats. Students will also learn about actual confidence games and frauds that rely upon narrative structures.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 242. Literature and Law. 3 Credit Hours.

In this course we will study literary works, from a number of different historical periods, that focus on law and legal systems as a major theme. We will examine the ways in which authors represent the nature of law, the actual workings of law, and the relationship between law and ideals of justice. We will also consider other intersections between literature and law, such as legal efforts to censor literary works on political or moral grounds, and the connection between legal and literary interpretation. Authors to be studied will include writers such as Sophocles, Plato, Shakespeare, Balzac, Melville, Kafka, and Ginsberg.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 245. The Circle of Knowledge: Science and the Humanities. 3 Credit Hours.

Major works in the debate over the arts and sciences from the classical Greeks and the humanistic Renaissance to the Scientific Revolution, the impact of Darwin, the cognitive revolution in science, and postmodern interdisciplinarity.

Components: LEC.

Grading: CNC.

Typically Offered: Fall.

ENG 250. Studies in English. 1-5 Credit Hours.

Courses taken at other institutions with no direct equivalents.

Components: LEC.

Grading: GRD.

ENG 251. Studies in English. 1-5 Credit Hours.

Courses taken at other institutions with no direct equivalents.

Components: LEC.

Grading: GRD.

ENG 252. Studies in English. 1-5 Credit Hours.

Courses taken at other institutions with no direct equivalents.

Components: LEC.

Grading: GRD.

ENG 253. Studies in English. 1-5 Credit Hours.

Courses taken at other institutions with no direct equivalents.

Components: LEC.

Grading: GRD.

ENG 254. Studies in English. 1-5 Credit Hours.

Courses taken at other institutions with no direct equivalents.

Components: LEC.

Grading: GRD.

ENG 255. Studies in English. 1-5 Credit Hours.

Courses taken at other institutions with no direct equivalents.

Components: LEC.

Grading: GRD.

ENG 257. Studies in English. 1-5 Credit Hours.

Courses taken at other institutions with no direct equivalents.

Components: LEC.

Grading: GRD.

ENG 258. Studies in English. 1-5 Credit Hours.

Courses taken at other institutions with no direct equivalents.

Components: LEC.

Grading: GRD.

ENG 259. Studies in English. 1-5 Credit Hours.

Courses taken at other institutions with no direct equivalents.

Components: LEC.

Grading: GRD.

ENG 260. African-American Literature. 3 Credit Hours.

Selected readings of the eighteenth century to the present.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 261. Literature of the Americas. 3 Credit Hours.

Selected readings from North, Central, and South American, and Caribbean literature from their origins to the present.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 290. Beginning Fiction Workshop. 3 Credit Hours.

Frequent exercises in workshop environment, with readings in contemporary fiction. Attention to tense and points of view; reviews of grammar and punctuation. 30-40 pages of creative writing, including development and revision of one full-length short story (12-20 pages).

Prerequisite: ENG 209. or Requisite: Creative Writing Majors.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

ENG 292. Beginning Poetry Workshop. 3 Credit Hours.

Emphasis of creation and critique of new student poetry in workshop setting; continued reading in genre. Variety of styles and techniques presented, including line, image and metaphor. 12-15 new poems, plus revisions, required.

Prerequisite: ENG 209. or Requisite: Creative Writing Majors.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

ENG 301. The Study of Language. 3 Credit Hours.

Language itself as an object of study; broad linguistic issues of language types, processes of language change, and language variation. Emphasis on language in "real world" applications such as law, folk culture, poetry, education, and computers.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 306. Advanced Composition. 3 Credit Hours.

Composition and analysis of English prose. Topics vary. May be repeated if topics are different.

Prerequisite: ENG 106 or ENG 107.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 310. Literature and Culture in Classical Greece and Rome, I. 3 Credit Hours.

Major pre-classical and classical Greek writers, including Homer, Sappho, Pindar, Aeschylus, Herodotus, and Sophocles, treated by close analysis, and attention to connecting themes; Greek art and archeology in reference to specific texts.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 311. Literature and Culture in Classical Greece and Rome, II. 3 Credit Hours.

Thucydides on the Peloponnesian War; the drama of Euripides and Aristophanes; the dialogues of Plato on Socrates' trial and death; Aristotle's Poetics. Early Roman tradition; Rome and its relation to Greek culture; Livy on Roman history; Cicero, Virgil's Aeneid, Marcus Aurelius.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 312. The European Middle Ages. 3 Credit Hours.

British and continental literature and thought from the 5th through the 15th centuries.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 313. The European Renaissance. 3 Credit Hours.

Major writers of the European Renaissance, such as Petrarch, Machiavelli, Castiglione, Erasmus, More, Rabelais, Montaigne, Marguerite de Navarre.

Prerequisite: ENG 106 or ENG 107.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 314. The European Enlightenment. 3 Credit Hours.

Major writers of the European Enlightenment, such as Locke, Montesquieu, Vico, Hume, Voltaire, Rousseau, Diderot, Lessing, Smith, and Kant.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 315. The Classical Epic Tradition. 3 Credit Hours.

The rise and development of the Western epic tradition from Homer, Lucretius, and Virgil in the classical world, through Dante in the Middle Ages, Milton in the Renaissance, and Wordsworth and Eliot in modernity.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 316. Early Celtic Literature. 3 Credit Hours.

Study in translation of literary, hagiographic, and historiographic sources, principally from Irish, Welsh, and Latin, dating from 800 to 1800, with an introduction to source languages and to Celtic cultures beginning in the prehistoric era.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 319. Shakespeare. 3 Credit Hours.

Representative comedies, histories, tragedies and romances. Not for students who have taken ENG 430 or 431; may not be taken concurrently with ENG 430 or 431.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 321. Major American Novelists. 3 Credit Hours.

Works by selected American novelists.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 323. Major British Novelists. 3 Credit Hours.

Works by selected British novelists.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 325. Major European Novelists. 3 Credit Hours.

Works by selected European novelists.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 331. Legal Writing. 3 Credit Hours.

A study of the composition of legal arguments in court opinions, legal briefs, oral arguments before the Supreme Court, and social-legal documents. Emphasis on analysis of issues, structure and style of legal writing, and the function of logic in persuasion.

Prerequisite: ENG 106 or ENG 107.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 332. Writing for and About Community Service. 3 Credit Hours.

Writing on social issues from sociological and literary sources, supplemented with community service activities (minimum 12 hours per semester).

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 333. Writing the Research Paper. 3 Credit Hours.

Advanced techniques in conducting research and writing the research paper. Use of traditional library resources, on-line searches, the Internet, and other research methods. Strategies for effective presentation of research findings. Students not in the Bachelor of General Studies program need permission of instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 334. Legal Rhetoric. 3 Credit Hours.

Legal texts and the rhetoric of legal discourse.

Prerequisite: ENG 106 or ENG 107.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 340. Forms of the Novel. 3 Credit Hours.

Techniques and esthetics of the novel form; emphasis on major tendencies in the evolution of long prose fiction rather than on chronological development.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 341. Modern British and American Poetry. 3 Credit Hours.

Representative poets and critics of poetry since 1900; attention to the basic principles of poetics.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 342. Lyric Voices and Traditions. 3 Credit Hours.

Major figures and trends in the history of lyric poetry.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 345. Edgar Allan Poe and the U.S. Gothic. 3 Credit Hours.

In this course, we will read most of Edgar Allan Poe's short stories, his only novel, and many of his poems. We will also watch TV shows and films inspired by his gothic vision.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 350. Studies in English. 3 Credit Hours.

Courses taken at other institutions with no direct equivalents.

Components: LEC.

Grading: GRD.

ENG 351. Studies in English. 1-5 Credit Hours.

Courses taken at other institutions with no direct equivalents.

Components: LEC.

Grading: GRD.

ENG 352. Studies in English. 1-5 Credit Hours.

Courses taken at other institutions with no direct equivalents.

Components: LEC.

Grading: GRD.

ENG 353. Studies in English. 1-5 Credit Hours.

Courses taken at other institutions with no direct equivalents.

Components: LEC.

Grading: GRD.

ENG 354. Studies in English. 1-5 Credit Hours.

Courses taken at other institutions with no direct equivalents.

Components: LEC.

Grading: GRD.

ENG 355. Studies in English. 1-5 Credit Hours.

Courses taken at other institutions with no direct equivalents.

Components: LEC.

Grading: GRD.

ENG 356. Studies in English. 1-5 Credit Hours.

Courses taken at other institutions with no direct equivalents.

Components: LEC.

Grading: GRD.

ENG 357. Studies in English. 1-5 Credit Hours.

Courses taken at other institutions with no direct equivalents.

Components: LEC.

Grading: GRD.

ENG 358. Studies in English. 1-5 Credit Hours.

Courses taken at other institutions with no direct equivalents.

Components: LEC.

Grading: GRD.

ENG 359. Studies in English. 1-5 Credit Hours.

Courses taken at other institutions with no direct equivalents.

Components: LEC.

Grading: GRD.

ENG 360. Comparative Literature of the Black World. 3 Credit Hours.

Oral and written Black literature in Africa, the United States, the Caribbean, and South America.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 361. Caribbean Literature. 3 Credit Hours.

Introduction to twentieth-century literature with special emphasis on the regional preoccupation with a distinctly Caribbean aesthetic.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 363. Jewish American Literature. 3 Credit Hours.

Twentieth-century Jewish writers in the United States such as Singer, Bellow, Roth, Ozick, and Malamud.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ENG 364. Sephardic Literature. 3 Credit Hours.

Judeo-Spanish culture and literature from medieval times to the present.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 365. Literature of the Holocaust. 3 Credit Hours.

Literature relating to the Nazi genocide and its aftermath.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 366. Asian American Literature. 3 Credit Hours.

Literature by Asian immigrants and exiles in the United States.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 368. Representations of Arabs and Jews in Israeli and Palestinian Literature and Film. 3 Credit Hours.

Literary narratives and films, by both Arabs and Jews, discussing the relationship between the portrayal of Arabs and Jews within Israeli and Palestinian society. The core question we will address concerns the writer's emphatic response to the identity and history of the other. Other issues to be examined include the influence of the literary imagination on empathy and the role of dissent and protest in society.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 372. Women Writing: Theory and Practice. 3 Credit Hours.

Women writers, emphasizing the role of gender in literary creation.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 373. Literary Representations of Women. 3 Credit Hours.

The portrayal of women in literature from ancient times to the present.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 374. Women Writers. 3 Credit Hours.

A study of women's writings and feminist criticism from 1930 to the present.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 375. Modern Drama. 3 Credit Hours.

The major dramatists of the modern world: Ibsen, Chekhov, Strindberg, Shaw, Pirandello, and O'Neill.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 376. Contemporary Drama. 3 Credit Hours.

The dramatists of our time: Albee, Miller, Williams, Becket, Sartre, Genet, Pinter, Osborne, Stoppard, Durenmatt, and others.

Prerequisite: ENG 106 or ENG 107.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 378. Animals and Humans in Literature, Art, and Philosophy. 3 Credit Hours.

Investigates the representation of animals and humans from ancient to contemporary times in literature, philosophy, and art, primarily in the West.

Topics may include: the human treatment of animals (as subjects of experimentation, as companions, as food, as entertainment); evidence of animal subjectivity and morality; and continuities between humans and other animals.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 379. Modern Literature. 3 Credit Hours.

Western literature of the modern era. emphasizing roots, traditions, practices.

Prerequisite: ENG 106 or ENG 107.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 380. Contemporary Literature. 3 Credit Hours.

Fiction, drama, and poetry from World War II to the present.

Prerequisite: ENG 106 or ENG 107.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 383. The Literature of Science Fiction. 3 Credit Hours.

A general survey of the literature of science fiction, with emphasis on writings of the twentieth century.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 384. The Bible as Literature. 3 Credit Hours.

Selected readings from the Bible.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 385. Myth and Literature. 3 Credit Hours.

A study of myth and ritual and their relation to literary works, from the early epic to contemporary literature.

Prerequisite: ENG 106 or ENG 107.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 386. King Arthur in Literature. 3 Credit Hours.

King Arthur in literature from the fifteenth to the twentieth century in England and America.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 387. Literature and Imperialism. 3 Credit Hours.

Relationships between empire and literary expression. Works by authors such as Shakespeare, Behn, Defoe, Bronte, Conrad, Kipling, Melville, Yeats, Twain, and Forster.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 388. Literature and Popular Culture. 3 Credit Hours.

Literary forms of popular expression, considered in relation to politics, ideology, gender, or race; comparison to other forms of popular culture in print, music, or the visual media.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 389. The Sixties: Literature, History, and Culture of the 1960s. 3 Credit Hours.

1960s culture in the United States through literature, film, and oral accounts of experience of the period.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 390. Intermediate Fiction Workshop. 3 Credit Hours.

Review of craft issues presented in 290, with emphasis on development of structure and contemporary use of point of view.

Prerequisite: ENG 219 or ENG 290.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

ENG 391. CW Intermediate Mixed-Genre Workshop. 3 Credit Hours.

A multi-genre workshop that will focus on developing practical issues of craft and technique presented in ENG 219 with an emphasis on exploring point of view in fiction, poetry and nonfiction. 12-30 pages of original work will be submitted and revised in workshop. In addition, the student will submit a final craft essay (10-12 pages) on a topic relevant to student's writing interests and challenges.

Prerequisite: ENG 219.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

ENG 392. Intermediate Poetry Workshop. 3 Credit Hours.

Review of craft issues presented in 292, integrating formal strategies with research topics.

ENG 219 Or ENG 292.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

ENG 395. Special Topics. 3 Credit Hours.

Content varies by semester and is indicated in parentheses following course number and title in Class Schedule.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 396. Special Topics. 3 Credit Hours.

Content varies by semester and is indicated in parentheses following course number and title in Class Schedule.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 397. Special Topics. 3 Credit Hours.

Content varies by semester and is indicated in parentheses following course number and title in Class Schedule.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 398. Directed Readings/Directed Research. 3 Credit Hours.

By arrangement with instructor. Content varies.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 401. Senior Seminar in Literature. 3 Credit Hours.

An intensive study of a literary topic or figure.

Components: SEM.

Grading: GRD.

Typically Offered: Spring.

ENG 402. Independent Study. 1 Credit Hour.

An intensive study of a literary topic or figure.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 404. Creative Writing (Prose Fiction). 3 Credit Hours.

Work toward professional standards primarily in prose fiction. Student fiction is considered in workshop sessions with comment by members of the class and instructors.

ENG 390.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 406. Creative Writing (Poetry). 3 Credit Hours.

Work toward professional standards in poetry. Student poetry is considered in workshop sessions with comment by members of the class and by instructor.

ENG 392.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 407. Creative Writing Special Topics, Advanced Workshop. 3 Credit Hours.

Advanced skills and processes essential to producing compelling fiction, poetry, or nonfiction in designated genre and form. A portfolio of writing in specified genre and form to result from broad readings and research.

Prerequisite: ENG 390 or ENG 392. May not be taken in the same term with another Creative Writing course (i.e., ENG 209, ENG 219, ENG 290, ENG 292, ENG 390, ENG 391, ENG 392, ENG 404 Or ENG 406).

Components: WKS.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 408. Writing Autobiography. 3 Credit Hours.

Literary style and method using student autobiography as a resource.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 410. Old English Language and Literature. 3 Credit Hours.

The grammar, syntax, and phonology of Old English language; readings in Old English poetry and prose.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 411. Old English Literature. 3 Credit Hours.

Translation and Close analysis of Beowulf or other major poetic texts of Old English literature.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 420. Chaucer. 3 Credit Hours.

Chaucer's major works.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 430. Shakespeare: The Early Plays. 3 Credit Hours.

Shakespeare's plays from the period 1583-1600. May not be taken concurrently with ENG 319.

MAY NOT BE TAKEN IN THE SAME TERM WITH ENG 319.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 431. Shakespeare: The Later Plays. 3 Credit Hours.

A study of the second half of Shakespeare's canon, read in chronological sequence. The plays will be selected from those composed in the period

1600-1611. May not be taken concurrently with ENG 319.

MAY NOT BE TAKEN IN THE SAME TERM WITH ENG 319.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 432. English Renaissance Poetry and Prose. 3 Credit Hours.

A study of such figures as Wyatt, Sidney, Spenser, Nashe, Marlowe, Shakespeare, Jonson, Donne, Bacon, Milton.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 433. English Renaissance Drama. 3 Credit Hours.

English drama during the sixteenth and seventeenth centuries.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 434. Seventeenth-Century Poetry and Prose. 3 Credit Hours.

Seventeenth-century writers and forms, including work by major and minor writers such as James I, Jonson, Donne, Bacon, Lovelace, Carew, Herrick,

Andrewes, Herbert, Milton, Marvell, Clarendon, Dryden, Rochester, Behn, and Bunyan.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 435. Milton. 3 Credit Hours.

Selected readings in the poetry and prose of John Milton.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 440. Restoration and Eighteenth-Century Literature. 3 Credit Hours.

English poetry and prose, exclusive of the novel, from Dryden to Burns.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 441. 18th-Century British Novel. 3 Credit Hours.

The British novel through the late eighteenth century.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 442. Politics and Literature. 3 Credit Hours.

Relations between political theories and forms of literary expression.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 450. The Early Romantic Period. 3 Credit Hours.

The rise of Romanticism in England and the first generation of writers, Blake, Wordsworth, Coleridge, and their contemporaries.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 451. The Late Romantic Period. 3 Credit Hours.

The second generation of English Romantic writers: Byron, Shelley, Keats, and their contemporaries.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 452. Jane Austen and Literary Criticism. 3 Credit Hours.

Jane Austen is both an influential, critically celebrated novelist and a cult figure. In this discussion course we will read five of Austen's six novels, employing some of the most illuminating criticism and responses to develop our understanding of Austen's work, her place in literature, and her place in popular culture. We will also consider the assumptions and purposes of the criticism and theory we read.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 455. Victorian Poetry and Prose. 3 Credit Hours.

Selected English poetry and prose of the period, exclusive of the novel.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 456. Nineteenth-Century English Novel. 3 Credit Hours.

Studies in the development of the English novel from Scott to Conrad.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 460. Modern British Literature. 3 Credit Hours.

Studies in Edwardian and Modern literature. Modernist theory and techniques will be illustrated by reference to the work of selected major figures since 1900.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 461. Contemporary British Literature. 3 Credit Hours.

British literature from World War II to the present.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 465. Irish Literature. 3 Credit Hours.

Twentieth-century Irish writers such as Yeats, Synge, Joyce, Stephens, O'Casey, Beckett, and Lavin. Consideration of Irish history, mythology, politics, and culture.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 466. Joyce. 3 Credit Hours.

The major works of James Joyce.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 470. Contemporary British and American Poetry. 3 Credit Hours.

The poetry of the contemporary period, 1945 to the present.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 472. Literature and Psychoanalytic Theory. 3 Credit Hours.

A study of the ways in which Literature, Literary Criticism, and Psychoanalytic Theory interact.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 473. Twentieth-Century Literary Theory. 3 Credit Hours.

An introduction to the major theories of the past century (e.g., psychoanalytic, formalist, materialist, feminist, new historicist).

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 479. Storied Pasts: Nineteenth-Century U.S. History and Literature. 3 Credit Hours.

This interdisciplinary course explores 19th-century American intellectual and cultural history through the lens of literature. Analyzing key works of fiction, poetry, and philosophy as both literary texts and historical sources, we will seek to discover how the changing themes and forms of nineteenth-century literature shaped and/or reflected larger intellectual, political, and social currents. Students will read novels by authors such as Hawthorne, Melville, Twain, Jewett, Gilman, James, Wharton, and Crane alongside historical material.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 480. Early American Literature. 3 Credit Hours.

American writing before 1800. Topics such as colonialism, ethnicity, nationalism, and the ideology of individualism.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 482. American Literature: 1800-1865. 3 Credit Hours.

Topics such as individualism, slavery, class and gender relations. Works by Emerson, Poe, Hawthorne, Melville, Douglass, Stowe, and others.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 483. American Literature: 1865-1915. 3 Credit Hours.

The works of such writers as Twain, Howells, James, Dickinson, Robinson, Crane, Norris, London, and Dreiser.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 484. American Literature: 1915 to 1945. 3 Credit Hours.

The works of such writers as Pound, Eliot, H.D., Stein, Frost, Stevens, e.e. cummings, Ransom, Tate, Fitzgerald, Hemingway, Djuna Barnes, Faulkner, O'Neill.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 485. American Literature: 1945 to the Present. 3 Credit Hours.

An intensive inquiry into the works of such writers as Albee, Bellow, Ferlinghetti, Ginsberg, Kerouac, Mailer, Miller, O'Connor, Plath, Welty.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 486. Early African-American Literature. 3 Credit Hours.

African-American literature from the beginnings to the Harlem Renaissance of the nineteen twenties.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 487. Modern African-American Literature. 3 Credit Hours.

African-American literature from the Harlem Renaissance to the present.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 488. Race, Ethnicity, and Literature. 3 Credit Hours.

Topic varies by semester. The Construction of racial and ethnic difference in literature, focusing on the politics of group affiliation and identity.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 489. Queer Sexualities: Literature and Theory. 3 Credit Hours.

This class will examine a wide variety of texts in order to think about how sexuality has been represented in different historical periods, from different cultural locations, and through different literary genres and forms. We will start with the contemporary coming-out narrative of modern Western lesbian and gay identity, and then look at a series of texts that challenge us to think about desire, gender, bodies, family, and language in new ways.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 490. Studies in Women and Literature. 3 Credit Hours.

Content varies by semester. Topics such as women in classical antiquity, women in the middle ages, women in the Renaissance, women in the Restoration and eighteenth century, women in the Romantic and Victorian period.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 491. Russian and Soviet Classics in English. 3 Credit Hours.

Survey of Russian literature in translation from the late 19th century to the present.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 492. Postcolonial Literature and Theory. 3 Credit Hours.

The legacy of colonialism as expressed in the works of Gordimer, Rushdie, Achebe, Walcott, Césaire, Naipaul, Mukherjee, Crow Dog, Menchu, and others. Readings will address theoretical issues such as national formation, cultural hybridity, and globalization.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 493. History of Literary Criticism. 3 Credit Hours.

Content varies by semester.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 494. Feminist Literary Theory. 3 Credit Hours.

Examination of women's contributions to literary theory.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 495. Special Topics. 3 Credit Hours.

Content varies by semester and is indicated parenthetically following the title in the class schedule.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 496. Independent Study. 1-3 Credit Hours.

By arrangement with instructor. Content varies by semester. May be used for single semester thesis.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 497. Senior Thesis I. 3 Credit Hours.

Partial requirement for Departmental Honors in English Literature or Creative Writing. Research and preparation for writing senior thesis or creative project. To complete thesis, student must register for ENG 498 in following semester. Student will participate in a series of 3-4 pre-arranged workshops over the course of the two semesters.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 498. Senior Thesis II. 3 Credit Hours.

Partial requirement for Departmental Honors in English Literature or Creative Writing. Writing of either a documented essay on a literary subject or project in prose fiction or poetry, to be written under the direction of a member of the faculty. Student will participate in a series of 3-4 pre-arranged workshops over the course of the two semesters.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 499. Senior Creative Writing Project. 3 Credit Hours.

Partial requirement for Departmental Honors in Creative Writing. Project, in prose fiction or poetry, to be written under the direction of a member of the creative writing faculty.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 504. Form in Poetry. 3 Credit Hours.

Poetic works as literary objects, with attention to poetic trends and the creative process.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 505. Form in Fiction. 3 Credit Hours.

Fictional works as literary objects with attention to individual styles, Fictional Trends and the creative process.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 595. Special Topics. 3 Credit Hours.

Content varies by semester.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 601. Creative Writing: Fiction III. 3-6 Credit Hours.

Advanced M.F.A. workshop in the techniques of writing fiction.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 602. Creative Writing: Poetry II. 3-6 Credit Hours.

Advanced M.F.A. workshop in the techniques of writing poetry.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 604. Form in Poetry. 3 Credit Hours.

Poetic works as literary objects, with attention to poetic trends and the creative process.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 605. Form in Fiction. 3 Credit Hours.

Fictional works as literary objects with attention to individual styles, Fictional Trends and the creative process.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 607. Studies in Renaissance Drama. 3 Credit Hours.

Components: LEC.

Grading: GRD.

ENG 610. Studies in Old English Language and Literature. 3 Credit Hours.

Content varies by semester.

Components: DIS.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 611. Introduction to Digital Humanities. 3 Credit Hours.

An introduction to the theory and practice of the digital humanities from a literary and cultural studies perspective. It introduces major types of digital humanities work and central debates and concerns in the field. The course is taught in English and is open to graduate students from all humanities departments. No experience in the digital humanities or with digital tools or methods is required.

Components: SEM.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ENG 612. Topics in Digital Humanities and Media Studies. 3 Credit Hours.

A survey of Media Studies. Students will approach a broad range of texts in the field, and outline both its historical development and present state, with a particular focus on emerging theories and practices within Media Studies and Digital Humanities in the academy. The course is taught in English and is open to graduate students from all humanities departments.

Components: SEM.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ENG 613. Practicum in Digital Humanities. 3 Credit Hours.

Offers students the possibility to apply their learning in the field of Digital Humanities and move forward on their personal Digital Humanities research project. Students will carry out many practical exercises with programming languages and digital tools, and work towards a final digital project. This course is taught in English and is open to graduate students from all humanities departments.

Components: SEM.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ENG 614. Stu Neocl Poet Prose. 3 Credit Hours.

Components: LEC.

Grading: GRD.

ENG 615. Studies in Chaucer. 3 Credit Hours.

Studies in Chaucer.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 616. Studies in Middle English Language and Literature. 3 Credit Hours.

Studies in Middle English Language & Literature.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 620. Studies in Shakespeare. 3 Credit Hours.

Studies in Shakespeare.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 621. Studies in Elizabethan and Jacobean Drama. 3 Credit Hours.

Studies in Elizabethan and Jacobean Drama.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 622. Studies in 16th Century Literature. 3 Credit Hours.

A survey of predominantly non-dramatic Renaissance literature, with an emphasis on the Sixteenth Century.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 623. Studies in Spenser. 3 Credit Hours.

Studies in Spenser.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 624. Studies in 17th Century Literature. 3 Credit Hours.

Studies in 17th century literature.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 625. Studies in Milton. 3 Credit Hours.

Studies in Milton.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 630. Restoration and 18th-Century Drama. 3 Credit Hours.

Studies in Restoration and 18th Century Drama.

Components: DIS.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 631. Studies in Restoration and 18th Century Literature. 3 Credit Hours.

Special topics in British Literature from 1660-1800.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 633. The Eighteenth-Century British Novel. 3 Credit Hours.

Survey of the British novel from Defoe to Austen.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 640. Studies in Romanticism. 3 Credit Hours.

A study of writers and genres between the late eighteenth and the mid-nineteenth century, through an investigation of questions of canonicity, epistemological orientation, colonialism, and the revolutionary context.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 645. Studies in Victorian Poetry and Prose. 3 Credit Hours.

Victorian poetry and prose exclusive of the novel. Poems by Tennyson, Browning, Arnold, Rossetti, and others. Prose works by writers such as Carlyle, Newman, Mill, Ruskin, and Pater.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 646. Nineteenth-Century British Novel. 3 Credit Hours.

Survey of the British novel from Austen to Conrad.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 648. Studies in the Novel. 3 Credit Hours.

Topics in eighteenth-, nineteenth-, and twentieth-century fiction.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 650. Studies in Modern British Literature. 3 Credit Hours.

Intensive coverage of a limited topic in twentieth-century British or Irish literature.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 651. Studies in Joyce. 3 Credit Hours.

Close readings of *Dubliners*, *A Portrait of the Artist as a Young Man*, *Ulysses*, and *Finnegans Wake*; extensive review of Joyce criticism.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 652. Studies in Irish Literature. 3 Credit Hours.

Intensive coverage of a selected topic in Irish Literature.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 654. Contemporary British Literature. 3 Credit Hours.

Studies in British prose, poetry, and drama since 1939.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 655. Contemporary American Poetry and Poetics. 3 Credit Hours.

Poetry and poetics from 1945 to present, focusing on Black Mountain Poetics, the New York School, the Black Arts Movement, Language Poetry and more recent writers and movements.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 658. Studies in Transatlantic Literature. 3 Credit Hours.

Literature on transatlantic themes and/or by transatlantic writers. Border crossing; ships; sailors; and other travelers; movement of people, things, and ideas in the Atlantic world.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 660. Studies in American Literature: Beginnings to 1800. 3 Credit Hours.

Studies in American Literature: Beginnings to 1800.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 661. Studies in American Literature: 1800-1865. 3 Credit Hours.

Studies in American Literature: 1800-1865.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 662. Studies in American Literature: 1865-1914. 3 Credit Hours.

Studies in American Literature: 1865-1914.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 663. Studies in American Literature: 1914 to 1950. 3 Credit Hours.

Studies in American Literature: 1914-1950.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 664. Studies in American Literature: 1950 to the present. 3 Credit Hours.

Studies in American Literature: 1950 to the present.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 665. Studies in African-American Literature. 3 Credit Hours.

Studies in African-American Literature.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 666. Caribbean Literature. 3 Credit Hours.

Caribbean literature and cultural theory; Caribbean aesthetic.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 667. Caribbean Popular Culture. 3 Credit Hours.

Special topics on the relations among politics, popular culture, and literature in the Caribbean region.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 668. Studies in Race and Diasporic Literatures. 3 Credit Hours.

Analysis of race, ethnicity, immigration, and transnationalism in literature and cultural theory.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 669. Studies in Women's Literature. 3 Credit Hours.

Topic varies by semester. Analysis of gender issues and literary production by women.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 670. The Classical Tradition and English Literature. 3 Credit Hours.

A study of classical authors such as Homer, Aeschylus, Sophocles, Euripides, Virgil, Ovid, Horace, and Catullus, who have been seminal for English writers from the Middle Ages to the present.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 672. Comparative Studies in Renaissance and Baroque Literature. 3 Credit Hours.

Topic varies by semester: e.g., The Renaissance Lyric, The Renaissance Epic, The Rise of Humanism, Baroque Drama.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 673. Eighteenth-Century European Literature. 3 Credit Hours.

Major literary and aesthetic works of the European Enlightenment.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 674. The Romantic Movement in Europe. 3 Credit Hours.

A study of the forces and influences of the Romantic Movement in Europe as these intersect English Romanticism.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 675. European Novel. 3 Credit Hours.

Major authors and trends in the development of the European novel as a unified literary tradition.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 677. Studies in Modern Literature. 3 Credit Hours.

Studies in Modern Literature.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 678. Studies in Contemporary Literature. 3 Credit Hours.

Studies in Contemporary Literature.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 680. History of Literary Criticism. 3 Credit Hours.

A survey of literary criticism and theory from the ancient Greeks to the early twentieth century.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 681. Introduction to Literary Theory. 3 Credit Hours.

Twentieth-century literary theory beginning with the New Criticism and including topics such as semiotics, hermeneutics, deconstruction, feminism, and neopragmatism.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 682. Contemporary Criticism and Theory. 3 Credit Hours.

Topics in recent criticism and theory.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 683. Literature and Psychoanalysis. 3 Credit Hours.

The interrelations between literary theory, textual analysis, and psychoanalytic theory.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 684. Theory of Narrative. 3 Credit Hours.

Analysis of narrative theories, ancient to contemporary.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 685. Feminist Theory. 3 Credit Hours.

Feminist writing and criticism from the nineteenth century to the present. Supplementary readings in anthropological, psychoanalytic, and socio-political criticism, as well as in theories of poetic tradition and the poetic process.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 686. Theories of Gender and Sexuality. 3 Credit Hours.

Queer theory and its relationship with gender studies, critical race studies, and emerging directions in the field.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 687. Studies in Literature and Culture since 1950. 3 Credit Hours.

Studies in Literature and Culture since 1950.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 688. Studies in Latino/a Literatures and Cultures. 3 Credit Hours.

Comparative and interdisciplinary approaches to art, film, music and literature. Topics may include: borderlands, postcolonial and "Americas" methodologies; ethnicity, race and mestizaje; immigration and the "Latinization" of the U.S.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 689. Comparative Americas Studies. 3 Credit Hours.

Comparative, interdisciplinary and transnational approaches to literature and cultures of the Americas.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 691. Graduate Practicum I: Teaching College Writing. 0 Credit Hours.

Methods and problems in teaching English composition and college writing.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ENG 692. Graduate Practicum II: Teaching College Literature. 0 Credit Hours.

Methods and problems in teaching introductory literature courses.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ENG 693. Teaching College Composition. 3 Credit Hours.

Rhetorical and literary theory related to composition instruction. Designed primarily for Teaching Assistants in the English Department, but open to all students planning to teach writing.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ENG 695. Special Topics. 3 Credit Hours.

Varies by semester.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 696. Directed Readings. 1-3 Credit Hours.

Varies by semester.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

ENG 697. Readings for the Qualifying Examination. 1-3 Credit Hours.

Varies by semester.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

ENG 810. Master's Thesis. 1-6 Credit Hours.

The student working on his/her master's thesis enrolls for credit in most departments not to exceed six, as determined by his/her advisor. Credit is not awarded until the thesis has been accepted.

Components: THI.

Grading: SUS.

Typically Offered: Fall & Spring.

ENG 820. Research in Residence. 1 Credit Hour.

Used to establish research in residence for the thesis for the master's degree after the student has enrolled for the permissible cumulative total in ENG 710 (usually six credits). Credit not granted. May be regarded as full time residence.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

ENG 830. Doctoral Dissertation. 1-12 Credit Hours.

Required of all candidates for the Ph.D. The student will enroll for credit as determined by his/her advisor, but for not less than a total of 12 hours. Up to 12 hours may be taken in a regular semester, but not more than six in a summer session.

Components: THI.

Grading: SUS.

Typically Offered: Fall & Spring.

ENG 840. Post-Candidacy Doctoral Dissertation. 1-12 Credit Hours.

Required of all candidates for the Ph.D. who have advanced to candidacy. The student will enroll for credit as determined by his/her advisor, but not for less than a total of 12. Not more than 12 hours of ENG 740 may be taken in a regular semester, nor more than six in a summer session.

Components: THI.

Grading: SUS.

Typically Offered: Fall & Spring.

ENG 850. Research in Residence. 1 Credit Hour.

Used to establish research in residence for the Ph.D. and D.A., after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Credit not granted. May be regarded as full-time residence as determined by the Dean of the Graduate School.

Components: THI.

Grading: SUS.

Typically Offered: Fall & Spring.

Epidemiology and Public Health (EPH)

EPH 600. Introduction to Public Health. 3 Credit Hours.

This introductory course will provide students with the opportunity to explore and analyse contemporary public health issues and provide a history and a context that will allow students to better understand the field of public health, its core disciplines and their role as future public health professionals.

Requisite: Must be in either Program Plan, BSTS, EPID, EPID1, PREV, MDRP.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

EPH 601. Medical Biostatistics I. 4 Credit Hours.

Introduction to probability and statistics including descriptive statistics, tests of hypothesis, regression analysis, contingency tables, nonparametric tests, and life tables. Students gain hands-on experience in the analysis of medical data using several computer systems and at least one of the different statistical packages such as: BMDP, SAS, PSTAT, SYSTAT, and Minitab.

Requisite: Must be in either Program Plan, BSTS, EPID, EPID1, PREV, MDRP.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

EPH 602. Biostatistics II. 3 Credit Hours.

Continuation and elaboration of EPH601. Topics include design of factorial experiments, analysis of variance and variance components, multiple linear regression, and life tables.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

EPH 603. Medical Biostatistics. 3 Credit Hours.

This course is a hands-on introduction to biomedical research with a focus on collecting and analyzing patient data. Topics covered include: data security, visualization and analysis. Statistical topics include: probability, frequentist and Bayesian thinking, and both parametric and non-parametric statistical methods. Methods covered include: regression, contingency tables, and survival analysis techniques.

Prerequisite: MD/MPH Four Year/Regional Med Camp.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

EPH 604. Clinical Trials. 3 Credit Hours.

Planning, design, analysis, and data management for clinical therapeutic and prophylactic trials. Illustrations are provided through case examples.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

EPH 607. Interdisciplinary Health Communication. 3 Credit Hours.

Health communication is a critical tool for protecting and improving the health of people and their communities and is most effective when developed collaboratively using expertise from many disciplines. The focus of this course is the development of written, oral, and multimedia communication skills that will enable you to effectively communicate concepts and evidence-based scientific findings to diverse communities and professionals in health and other fields. Class time will largely be devoted to the development of these skills in the context of working effectively in interprofessional teams of approximately 5-6 students. Working collaboratively, students will develop teamwork skills and an awareness for the diversity of expertise that underpins effective interprofessional communication teams.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

EPH 608. Professional Development. 2 Credit Hours.

This 2-credit seminar will be dedicated to providing students with opportunities to gain experiences with professional skills such as job interviewing, public speaking, preparing budgets, grant proposal writing, and working with community organizations. The course will be interactive, where I will talk about skills that are important in the public health workforce and students will then practice the skills in pairs or groups. There will be no exams or quizzes; rather, students will be graded on public speaking, performance in a mock job interview, ability to write a mock grant application, developing a grant proposal budget, preparation of a CV/resume, and disseminating research findings to community stakeholders. Class will meet every Tuesday from 1 to 3:30 in CRB 989. Students should come ready to participate and to give constructive feedback to their peers. Each topic will be covered across 2 (and sometimes 3) class sessions, so that everyone has sufficient time to practice their skills and receive feedback.

Components: LEC.

Grading: SUS.

Typically Offered: Fall & Spring.

EPH 611. Mindfulness in Public Health and Medicine. 3 Credit Hours.

The stress of modern life can adversely impact physical and mental health functioning which may be ameliorated by the practice of mindfulness. Mindfulness is a mental state achieved by focusing one's awareness on the present moment, while calmly acknowledging and accepting one's feelings, thoughts, and bodily sensations. This practice is derived from Buddhist traditions more than 2,500 years old. In recent decades these practices have been adopted for use in United States and elsewhere and evidence is growing that these practices can reduce psychological symptomatology (e.g., symptoms of depression and anxiety), enhance resiliency in response to stressors, enhanced pain coping ability, and enhanced attentional regulation, among other benefits. The first half of this course will be devoted to the completion of an 8-week Mindfulness-Based Stress Reduction Course (MBSR) that will involve in-class activities and daily at-home mindfulness practice assignments. Students will maintain a journal documenting their "first-person" encounter with the practice of mindfulness. The second half of the course will be organized around a lecture format with weekly brief quizzes. Anonymous questionnaire data will be collected before, during and after completion of the MBSR course. These data will be used by student teams to evaluate the impact of MBSR on multiple outcomes. Groups will prepare a written report and present their findings to the class at the end of the semester.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

EPH 612. Global Health. 3 Credit Hours.

This seminar examines current global public health issues, governance and decision-making challenges for the 21st Century across developing, transitioning, and developed countries. Topics of discussion include new actors for world health in the era of globalization; linking human development, poverty and health inequities; social, cultural and ethical considerations for health planning; role of industry, trade and public health; evidence based research for improved global health initiatives; foreign policy and health security challenges associated with emergence and re-emergence of infectious diseases and public and private partnerships in global health. Open only to EPH majors.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

EPH 613. Emerging Challenges in Global Health Systems. 2 Credit Hours.

Health systems around the world must respond to an evolving landscape of health risk and disease burden that is increasingly dominated by complex, chronic illness. Contrary to what is often espoused, chronic and non-communicable diseases affect both poor and rich. Yet, access to health services is highly inequitable creating immense divides and equity imperatives that have largely been ignored in global health. This course examines how global and national health systems - particularly in low and middle-income countries – can better face the changing burden of disease with a focus on equity and universal coverage.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

EPH 614. Global Outbreak. 3 Credit Hours.

This seminar examines current global public health issues and provides an overview of global outbreak investigations and disease surveillance. Participating in epidemiological/outbreak investigations in international settings provides unique opportunities to learn about health challenges in different ecologic, cultural and resource limited settings. This seminar will also allow students to gather insight into public health surveillance and understand the utility of the ongoing systematic collection, analysis and interpretation of data for use in planning and evaluation of public health intervention programs.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

EPH 616. Global Health and Global Justice. 3 Credit Hours.

Global health has emerged as a field distinct from older visions of international health, by focusing on macro-level problems caused by globalization whose origin and solution must transcend national boundaries. Yet global health has also challenged ethics to develop new accounts of justice in this changing world. This course will analyze global health from the lens of ethics. The course will introduce core theories of public health ethics (e.g. utilitarianism, statism and cosmopolitanism) to make sense of the rise of global justice as a distinct field of ethical inquiry. Armed with this conceptual foundation, we will then examine some of the central problems of global health, as well as proposed solutions to those problems. Such skills in argumentation will be increasingly critical for future public health leaders, yet too few public health students are exposed to ethical analysis. By applying ethical frameworks to analyze global health problems, students will gain critical skills in how to integrate distinct forms of knowledge, how to develop cogent normative arguments, and how to articulate and defend an account of fair decision-making and just policies in global health.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

EPH 617. Disease Prevention and Health Promotion. 3 Credit Hours.

This course will introduce students to the science of prevention and health promotion. More specifically, through didactic presentations, group discussions, article readings and critiques, and a term project, this course will focus on providing students with an overview of: the top preventable causes of disease in the U.S., the etiology of disease (with a focus on the top preventable causes of disease in the U.S.) across the lifespan, the role of prevention theories in the development of preventive interventions, and the role of methodology in prevention science. The course will also provide an overview of efficacious/effective preventive interventions, including (but not limited to): family community, and school level interventions. Examples from the fields of obesity, drug use, smoking, and HIV will be used to illustrate the course learning objectives detailed below.

Requisite: Must be in either Program Plan, BSTS, EPID, EPID1, PREV, MDRP.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

EPH 620. Health Education and Behavior. 3 Credit Hours.

Educational processes with special emphasis on the social and cultural determinants of health behavior, health education as a process of social change, and community based health education organizations. Open only to EPH majors.

Requisite: Must be in either Program Plan, BSTS, EPID, EPID1, PREV, MDRP.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

EPH 621. Fundamentals of Epidemiology. 3 Credit Hours.

Principles and methods of epidemiology. Descriptive epidemiology, environmental and other risk factors, detection of outbreaks, basic demography, and etiologic studies.

Requisite: Must be in either Program Plan, BSTS, EPID, EPID1, PREV, MDRP.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

EPH 622. Obesity and Public Health. 3 Credit Hours.

Nearly two thirds of the United States is now considered overweight or obese and the associated medical costs are placing an unsustainable burden on our health care system. However, the issue of overweight/obesity extends beyond behavioral choices and medical costs. This course will take a deeper look at the complex interactions between our environment, behaviors, and policies, and how they jointly contribute to the obesity epidemic. This course will provide an interdisciplinary perspective of the biological, psychosocial, ecological, and economic determinants that contribute to obesity and the resulting pathways to chronic disease and disability. Finally, current evidence-based public health programs currently will be discussed to stimulate critical thinking necessary to implement effective obesity prevention and control programs.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

EPH 623. Determinants of Health and Health Disparities Across the Life Course. 3 Credit Hours.

This course builds on the concepts and methods examined in EPH 614, delving further into risk and protective processes related to health outcomes across the life course, from the prenatal period to older adulthood. Class readings and discussions will examine examples of common risk pathways contributing to various diseases, including pathways hypothesized to be related to health inequities and disparities, such as: economic and educational disadvantage, stress, sedentary behavior and poor behavioral regulation, social isolation. Common protective pathways that promote health are also reviewed, such as: positive parenting and family relations, and social support.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

EPH 625. Ethical Issues in Epidemiology. 3 Credit Hours.

The course identifies and analyzes ethical issues in epidemiologic practice and research. Issues include data acquisition and management, confidentiality, valid consent, advocacy, public policy, subgroup stigma, research sponsorship, conflicts of interest, communication of risk, and international and intercultural difference.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

EPH 631. Public Health Administration. 3 Credit Hours.

An overview of the historical background, philosophy, and purpose of public health. Relationship between government, law, and public health. Organization, management, and intergovernmental relationships of public health agencies in the United States at the federal, state, and local level. Basic principles of management, decision making, and prioritizing in public health are discussed. Overview of programs and services provided by public health organizations with emphasis on current public health issues and problems are also included. Open only to EPH majors.

Requisite: Must be in either Program Plan, BSTS, EPID, EPID1, PREV, MDRP.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

EPH 632. U.S. Health Systems. 3 Credit Hours.

This course provides an introduction to the multiple systems that define, describe, and shape the delivery of health care in the United States. Using case studies and presentations of major issues, this course will give the learner an appreciation of the dilemma confronting policy makers, providers, and patients: how to balance cost, quality, and access.

Requisite: Must be in either Program Plan, BSTS, EPID, EPID1, PREV, MDRP.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

EPH 639. Ecology and Control of Vector-Borne Diseases. 3 Credit Hours.

The course will provide students with an overview of the epidemiology of major vector-borne diseases in the U.S. (e.g., Lyme Disease, West Nile Virus) and globally (e.g., malaria, dengue, filariasis, leishmaniasis, and other arboviruses), field and lab-based methodologies for vector studies to incriminate vector species and assess transmission dynamics, vector and disease surveillance, and "cutting-edge" vector control technology. A major focus will be on the ecology of vectors in their local environments and how transmission dynamics are affected by changes in land use, urbanization, and climate. Students will learn about new WHO-approved strategies for integrated Vector Management (IVM) and how they are applicable for the prevention and control of all vector-borne diseases.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

EPH 640. Urban Environment and Public Health. 3 Credit Hours.

Where we live, where we work, where we go, and how we get there may all impact our behaviors and ultimately our health and well-being. This course examines the urban environment - in particular, those aspects of urban/suburban/semi-rural environments created by humans. This includes how homes, neighborhoods, cities and regions impact public health challenges such as obesity, chronic disease, mental health, infectious disease, and injuries. This course will teach students to translate scientific findings to design healthy communities, and develop interventions to promote urban health. Students will learn how to map neighborhood characteristics such as food outlets, parks and walkability, and to develop recommendations for policymakers.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

EPH 641. Aspects of Environmental Health. 3 Credit Hours.

Interdisciplinary scope of environmental health problems. Development of a practical, dynamic model for integrating fundamental concepts from a variety of environmental disciplines. Open only to EPH majors.

Requisite: Must be in either Program Plan, BSTS, EPID, EPID1, PREV, MDRP.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

EPH 643. Introduction to Occupational Health. 3 Credit Hours.

This course offers a general introduction to major concepts and issues in occupational health and safety from local to global, addressing fundamental topics and current controversies. The course covers core topics that prepare students to more fully understand and address occupational health issues: toxicology, exposure assessment, occupational epidemiology, risk assessment/risk management, prevention of workplace injury and disease, health promotion of adults and protection of worker populations from environmental hazards.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

EPH 644. Fundamentals of Program Evaluation. 3 Credit Hours.

Fundamentals of Program Evaluation was developed as a survey course directed specifically at providing an overview of the broad area of program evaluation. At its base, program evaluation is the investigator of a program's characteristics and merits. In context of health care, the purpose of program evaluation is to provide information in the effectiveness of programs or interventions so as to optimize the outcomes, efficiency and quality of health care. Evaluation of a program is an essential part of the successful implementation and conduct of any health care project or intervention, and should ideally be designed along with the project itself. Program evaluation activities can use a wide range of methodologies (e.g., qualitative, quantitative), analyze different aspects of a program (e.g., structure, activities, organization), and have a large number of intended outcomes (e.g., achievement or program's goals objectives, extent of program impact, program cost).

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

EPH 646. Climate and Health. 3 Credit Hours.

There is an intricate relationship between climate and health. Climate changes directly affect health and well-being but also mediate the effects of socio-physical and biochemical changes in the environment on health and well-being. This course will help students unravel this intricate relationship between climate and health. A range of topics will be covered including: a) the etiology of disease with respect to climate change, b) shifting burden of disease and disability with respect to changing climate and climate-mediated changes in the environment, and c) application areas of climate-health linkages: unintentional injuries and climate change, vector-borne disease and climate change, heat-related mortality, disease of metabolic syndrome and climate change, cardiopulmonary, allergy and immunology disease due to bioaerosols and air pollution.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

EPH 647. Community Based Participatory Research. 3 Credit Hours.

Community-based participatory research (CBPR) is methodology, increasingly popular in public health and other disciplines, which invites community collaboration throughout the research process from conceptualization of study focus to dissemination of findings. This course will provide an opportunity for medical and graduate students to better understand the process by which community members and academic researchers work collectively to address health disparities and influence social change.

Requisite: Must be in either Program Plan, BSTS, EPID, EPID1, PREV, MDRP.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

EPH 648. Climate, Cool Cities, Healthy Communities. 3 Credit Hours.

In the current era of climate change and rapid urbanization, an understanding of the impacts of urban design, planning and policies on climate and human health in urban and suburban areas is critical. Drawing on diverse disciplinary perspectives, including public health, architecture, planning, and public policy and government and non-profit sectors, the course provides students with the ability to comprehend, synthesize, communicate, and apply evidence-based urban design principles in relation to current and future challenges of climate and health. Additionally, in accordance with the adage, "Think globally, act locally," students will have the opportunity to interact with local experts who will share their knowledge of national and international policies and programs in the area of urban design, climate and health – while applying their learning to measure current challenges and inform policies of climate and health in the urban/suburban localities of the South Florida region.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

EPH 650. Health Economics for Evaluation and Policy. 3 Credit Hours.

This course centers on a discussion of the criteria used to evaluate the allocation of resources and analyze the behavior of two of the principal actors—consumers and firms. The principles of microeconomics are presented in the context of health care systems and markets. Numerous real-world issues and case studies are used to demonstrate economic decision-making techniques, especially for health care organizations and consumers.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

EPH 651. Research Methods. 3 Credit Hours.

Purpose of the course is to provide students with a sound understanding of the fundamental concepts and methods for conducting public health research. After a brief introduction to the philosophy of science, the major emphasis in the early portion of the course is on research conceptualization, design and measurement, with a particular focus on the logic of minimizing rival alternative explanations of finding for experimental and quasi-experimental studies.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

EPH 652. Health Policy. 3 Credit Hours.

Part I will examine seven models encompassing different perspectives on public health: philosophy, political theory and politics, law, economic, science and information culture and religion, and organization and management, including how they relate and their relevance in formulating, implementing, and evaluating public policy. Part II will examine the policy making process including how issues reach the government agenda, how laws are formulated, and how the process affects substance. Part III describes the core elements of policy analysis including: problem definition; background; political, economic, and social landscape; development of policy options; and recommendation. It will also include discussions of how to find and analyze documents and data as well as discuss the financing of health care.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

EPH 653. Leading Changes in Public Health. 3 Credit Hours.

This new transition course at the end of the second year will prepare students for their more advanced experiences in community and public health in the third and fourth years. The objective of this course is to provide students with an opportunity develop essential skills in leading change in public health while linking their academic work in epidemiology and public health for real world application in public health practice. Students will receive didactic presentations on topics such as leading change, interest based negotiation, and leading from the middle as well as lectures on the health disparities and the social determinants of health. These lectures will be integrated with interactive discussions and hands-on small group exercises to explore how practitioners can translate public health and community knowledge into sustainable solutions. Leading Change in Public Health Moving From Talk to Action will provide students with 21st century leadership skills that prepare them to tackle public health issues in our society from the most simple to very complex. Participants will be challenged to think differently on many levels and prepare them to be agents of change for future generations.

Prerequisite: MD/MPH Four Year/Regional Med Camp.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

EPH 655. Health Economics and Financing. 3 Credit Hours.

Health economics studies economic principles, methods of decision making, and the allocation of resources within health care systems and markets. This course will provide students with an understanding of the flow of funds and services throughout the U.S. health care system and how the structure and financing of health care impacts population health status. We will use numerous real-world issues and case studies to demonstrate economic decision-making techniques, especially for health care organizations and consumers (patients, providers). Students are not expected to have familiarity with economic concepts and principles prior to taking this course. In addition, students are not expected to use calculus in this course. However, students are expected to have an understanding of basic algebra, and graphical analysis will be used often throughout the class.

Prerequisite: MD/MPH Four Year/Regional Med Camp.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

EPH 656. Qualitative Research Methods. 3 Credit Hours.

The purpose of this course is to introduce students to the philosophical underpinnings of qualitative research and its practical application to the field of public health. Students will 1) develop an understanding of the significance and use of qualitative research methods in public health; 2) differentiate between numerous qualitative research approaches, including phenomenology, grounded theory, and ethnography; 3) describe different methods for collecting qualitative data, including interviews and focus groups; 4) develop skills in the collection, analysis and reporting of qualitative data; and 5) develop a basic understanding of how qualitative and quantitative research may be combined in mixed methodological approaches. The course will include a combination of lectures, presentations of applied qualitative research studies by guest experts, student presentations, and assignments designed to foster students' skills in formulating appropriate qualitative research questions, designing qualitative studies, collecting and analyzing qualitative data, and summarizing findings for publication. More specific details on the topics to be covered in this course are provided below.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

EPH 660. Public Health Seminar. 3 Credit Hours.

The Public Health Seminar is designed to explore contemporary issues, problems, and controversies in public health through an interdisciplinary perspective. Upon the completion of the course students will be able to: 1) understand key public health problems, their distribution, and prevention strategies, 2) examine the complex tapestry of social, economic, political, and environmental factors that affect public health outcomes, 3) understand the complexities inherent in improving health locally and on a global scale, 4) examine the major determinants of, and responses to, poverty and health, 5) analyze public health disparities through a social justice perspective, 6) understand and analyze the roles and agendas of major stakeholders in local, state, national, and global public health, 7) understand the link between global and local health issues, 8) discuss selected interdisciplinary, cross-cutting issues in public health, 9) explain the interrelationships among the five core areas of public health. This course is only open to MD/MPH students.

Prerequisite: MD/MPH Four Year/Regional Med Camp.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

EPH 661. Public Health Nutrition. 3 Credit Hours.

This course provides a dynamic, interactive approach to public health designed to prepare students in basic policy, epidemiology, and health education related to nutrition. Recognizing the multiple social, cultural, environmental, and physiological factors leading to nutritional disease. The course includes experts from a variety of disciplines. Public health nutrition addresses issues germane to the public's health by elucidating their extent, determinants and consequences, and the policies and programs to address them. Open only to EPH majors.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

EPH 662. Child Policy. 3 Credit Hours.

This course will focus on U.S. federal child policy. This course has been designed to provide a comprehensive, multi-disciplinary (e.g., public health, public policy and social work), and cross-sector perspective (e.g., government, private and philanthropic sectors) on child and family policies. Sessions will cover varying approaches and include presentations from a wide range of experts.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

EPH 663. Hospital Health Care Services and Access: An Interdisciplinary Inquiry. 3 Credit Hours.

Hospitals play a vital role in the health of the communities they serve. Yet, their accessibility and availability to those communities is often unequal, and significant racial and ethnic disparities exist in the utilization of hospital services, quality of care provided, health outcomes and patient experiences. Attention has been increasingly focused on creating sustainable solutions to attenuating these disparities. Initial steps include the examination of community and hospital data to identify inequalities in disease distribution, as well as utilization of care. Such data provides evidence to define critical areas of concern and provides a starting point for engagement with the community. The real work begins when hospitals work with community partners to engage in authentic and collaborative partnerships to address the needs and the health of the local citizens. This process, known as Community-Based Participatory Research (CBPR), can harness resources and build capacity to address health issues relevant to the community. This course will discuss the change that hospitals can achieve when they facilitate community-academic partnerships that bring together knowledge, expertise and interest of community partners with the research and training of clinicians and academic researchers.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

EPH 671. Maternal and Child Health. 3 Credit Hours.

Preventative and therapeutic concepts pertinent to the reduction of morbidity and mortality among mothers and their children.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

EPH 679. Learning Collaboratory. 3 Credit Hours.

This course is the first semester of a 4- semester program titled the "Public Health Learning Collaboratory". The mission of this Department of Public Health Sciences (DPHS) program is to transform the learning experience of master of public health students by providing opportunities to develop core skills necessary for effective public health practice, while completing their capstone or thesis in the community. Organized in small groups around 4 thematic areas, students learn about substantive areas (e.g., prevention with children and families, access to health care, urban health, health in Latin America), while building competencies to successfully develop and implement projects in collaboration with community health organizations (e.g., community engagement, needs and capacity assessments, researching evidence based practices, teamwork and problem-solving skills, project planning, development and implementation skills).

Components: LEC.

Grading: SUS.

Typically Offered: Fall.

EPH 680. Practical Field Experience. 3 Credit Hours.

Practical field experience requirement for MPH students. Students are placed in health-related settings (local, national, and international) to work on projects of mutual interest to both the field organization and the student.

Components: FLD.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

EPH 681. Capstone Experience Project. 3 Credit Hours.

The capstone project is intended to build upon EPH 680 field work and will provide students with an opportunity to apply public health academic theory and acquired skills to community health problems.

Components: LEC.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

EPH 684. Special Topics. 1-3 Credit Hours.

This course is designed to allow the listing of special topics within the Department of Epidemiology and Public Health and cross-list topics with other departments' offerings.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

EPH 698. MSPH Thesis Proposal. 3 Credit Hours.

This is an independent study course. Students in the MSPH track may register for this course with an approval from the Capstone Manager and the Faculty Advisor. The purpose of this course is to develop the MSPH Thesis Proposal, form a thesis committee with at least two members: 1st reader (an expert in the field) and 2nd reader (the faculty advisor) and obtain proposal approval from the committee members. This MHPH Thesis Proposal is required and must be approved prior to start data collection and analysis.

Components: THE.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

EPH 699. MSPH Thesis. 3 Credit Hours.

This is an independent study course. Students in the MSPH track may register for this course with an approval from the Capstone Manager and faculty advisor. The purpose of this course is to collect and analyze the data per thesis proposal, to prepare and write the thesis and deliver an oral presentation.

Components: LEC.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

EPH 700. Professional Development Seminar. 1 Credit Hour.

This course covers fundamental topic areas in professional development for PhD students in the public health sciences. Topic areas include: presenting research at conferences, writing manuscripts for publication, preparing the dissertation, the PhD comprehensive exams, effective teaching and mentoring, and getting a job in academia. Through interactive workshops, in-class exercises, brief presentations and assignments, students will have an opportunity to practice and strengthen necessary skills, including effective communication (oral and written), conflict resolution, and developing collaborations.

Requisite: Academic Program Plan:BSTS, EPID, PREV.

Components: LEC.

Grading: SUS.

Typically Offered: Fall & Spring.

EPH 701. Innovations in Prevention Science Methodology. 1 Credit Hour.

This course is a part of series "Innovations in Prevention Science Methodology" which covers specialized topics in prevention science that have been identified as innovating the field. This course section addresses cross-sectional and longitudinal data analyses related to finite mixture models. In general, we will cover various types of mixture distributions. Topics in finite mixture modeling include latent class (profile) analysis (with continuous and categorical variables), univariate and multivariate growth mixture analysis (with continuous and categorical variables), and model evaluations for these analytic methods. Mplus statistical software will be used. Students are expected to attend all classes and to complete all assignments.

Prerequisite: PSY 633 with a B or Higher. and Requisite: Plan BSTS or EPID or EPID1 or PREV or MDRP.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

EPH 703. Advanced Statistical Methods I. 4 Credit Hours.

Advanced statistical methods used in analyzing data from epidemiologic investigations. Topics include Mantel-Haenszel chi-square, interaction, standardization of rates, incidence density, logistics regression, and other special topics.

Prerequisite: EPH 601.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

EPH 705. Advanced Statistical Methods II. 3 Credit Hours.

Continuation and elaboration of EPH 703. Advanced statistical methods used in analyzing data from epidemiologic investigations. Topics include Kappa statistics, life tables, survival analyses, logistic regression, Poisson regression, log linear models, clusters, meta-analysis, and other special topics.

Prerequisite: EPH 703.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

EPH 711. Cancer Epidemiology. 3 Credit Hours.

This course covers the basic epidemiology of cancer. Major sites and exposures are stressed, highlighting descriptive, etiologic and preventive aspects. A major course project and one final exam are included.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

EPH 717. Integrating Behavior Health Theories and Models. 3 Credit Hours.

This course is designed to provide an opportunity for synthesis and integration of knowledge regarding the phenomenon of health behavior. The focus is on critical examination of theoretical and empirical work in the area of health behavior from a public health perspective.

Prerequisite: EPH 617 or EPH 620.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

EPH 720. Cardiovascular Disease Epidemiology and Prevention. 3 Credit Hours.

Course aims to teach and train MPH students in the epidemiology and prevention of cardiovascular and cerebrovascular diseases which are the leading causes of morbidity and mortality among the adult U.S. population. Essential knowledge for those working in the area of public health is emphasized.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

EPH 723. Epidemiology and Public Health Aspects of Diabetes Mellitus. 3 Credit Hours.

This course presents an overview of the epidemiology and public health impact of an important chronic disease, diabetes mellitus (DM). Topics include the classification and descriptive epidemiology of DM and associated health complications, disease screening, evaluation of risk factors, methodological issues associated with DM research, DM among special populations, and the public health impact of DM in the U.S.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

EPH 724. Molecular and Genetic Epidemiology. 3 Credit Hours.

This course covers the theoretical concepts and practical issues involved in conducting molecular and genetic epidemiology research involving human populations. Specifically, students will learn about: molecular and genetic technology; evaluating disease-associated genes, and their interaction with environmental factors; clinical research; and data mining techniques. Ultimately, students will develop a framework for study design, statistical power and sample consideration, assay evaluation and validation, and data interpretation using molecular and genetic epidemiology tools in their research.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

EPH 727. Climate, Environment, and Health: Data Integration and Management. 3 Credit Hours.

The course will introduce: a) different research designs needed to understand the linkages between climate/weather and health, and b) sources and types of data needed for different research designs. The course will train students in: a) the integration and management of weather/climate, environment and health data sets that have different spatiotemporal scales, b) assessment of errors and uncertainty in the collocation of these data sets, and c) visualization, interpretation and presentation of these data sets, including covariance structure in these data sets.

Prerequisite: EPH 601.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

EPH 728. Social Epidemiology. 3 Credit Hours.

This course provides an overview and understanding of key concepts and theoretical frameworks relevant to the study of social determinants of population health and health disparities. The interdisciplinary course will cover methodological considerations and methods relevant to the field of social epidemiology, such as lifecourse epidemiology and multilevel determinants of health. A major emphasis will be on biological pathways by which social factors "get under the skin", and the role of social policies in improving population health. The course will involve lectures, presentation of epidemiologic research by faculty researchers, class discussions, and class projects.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

EPH 731. Developing, Adapting and Evaluating Interventions. 3 Credit Hours.

This course builds on the substantive and methodological competencies acquired in preceding prevention science courses by preparing students to develop and adapt preventive interventions.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

EPH 732. Introduction to Dissemination and Implementation Science. 3 Credit Hours.

This course provides an introduction to the theory and practice of Dissemination and Implementation (D&I) Sciences. Topics include the importance and language of D&I science; designs, methods and measures; differences and similarities across clinical, public health, and policy settings; selected tools for D&I research and practice; and future issues. The focus of this course will be on implementing prevention programs, strategies and policies that are ready for application, testing and scale up, rather than developing interventions from scratch.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

EPH 740. Basic Pathology and Patho-physiology. 3 Credit Hours.

The course emphasizes basic patho-physiological mechanisms and diseases of particular interest to students of public health. Students obtain an understanding of basic pathological processes, nomenclature of pathological findings, and common natural and unnatural diseases affecting various body systems. Observations of autopsies and the gross pathology of selected organs are also incorporated in the course.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

EPH 751. Survival Analysis in Clinical Trials. 3 Credit Hours.

Statistical methods for analysis and interpretation of survival data arising from clinical trials. Topics include survival curves, estimation of sample size, survival curves, proportional-hazard models, time dependent variables, and prognostic indices.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

EPH 752. Advanced Research Methods. 3 Credit Hours.

This is a survey course in advanced quantitative methods for research and evaluation in prevention science. The course will provide students with an introduction to research methodology, matching research questions to specific methods, applying methods to real world data, and presenting the application of a method to a broader audience.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

EPH 774. Epidemiologic Methods and Reasonings. 3 Credit Hours.

This course will discuss epidemiological methods (e.g., study designs) and concepts (e.g., confounding, bias, interaction, random error) required to evaluate the totality of evidence in etiologic research. It will also discuss theoretical models of etiologic research and techniques for quantifying the magnitude of disease or other health indicators as well as the magnitude of study errors specific to study designs.

Prerequisite: EPH 601 and 621. And pre or corequisite: EPH 602.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

EPH 776. Methods in Epidemiology. 3 Credit Hours.

This course will discuss principles of epidemiologic methods. Introduction to causal inference and advanced epidemiologic topics will be covered.

This course will be theoretical and quantitative and will include, when applicable, illustrative data examples using various statistical softwares.

Prerequisite: EPH 601 and 621. And pre or corequisite: EPH 602.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

EPH 782. Advanced Individual Study. 1-3 Credit Hours.

Individual work on a special project under faculty guidance.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

EPH 825. Continuous Registration--Master's Study. 1 Credit Hour.

To establish residence for MPH students who are preparing for project presentation. Credit not granted. Regarded as full time residence.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

EPH 830. Doctoral Dissertation. 1-12 Credit Hours.

Required of all candidates for the PhD. The student will enroll for credit as determined by his/her advisor.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

EPH 840. Doctoral Dissertation- Post Candidacy. 1-12 Credit Hours.

Required of all candidates for the PhD. The student will enroll for credit as determined by his/her advisor.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

EPH 850. Research in Residence. 1 Credit Hour.

Used to establish research in residence for the PhD, after the student has been enrolled for the permissible cumulative total in appropriate doctoral research.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

Estate Planning

EPL 901. Elderlaw. 1 Credit Hour.

Requisite: Plan of Estate Planning or JD/ LLM EP.

Components: LEC.

Grading: GRD.

EPL 903. Ethical and Practical Aspects of Estate Planning. 1 Credit Hour.

Requisite: Plan of Estate Planning or JD/ LLM EP.

Components: LEC.

Grading: GRD.

EPL 904. Fiduciary Administration. 1 Credit Hour.

Requisite: Plan of Estate Planning or JD/ LLM EP.

Components: LEC.

Grading: GRD.

EPL 905. Asset Protection. 1 Credit Hour.

Requisite: Plan of Estate Planning or JD/ LLM EP.

Components: LEC.

Grading: GRD.

EPL 908. Marital Deduction Planning. 1 Credit Hour.

Requisite: Plan of Estate Planning or JD/ LLM EP.

Components: LEC.

Grading: GRD.

EPL 909. Multinational Estate Planning. 1 Credit Hour.

Requisite: Plan of Estate Planning or JD/ LLM EP.

Components: LEC.

Grading: GRD.

EPL 910. Federal Income Tax, Trusts, and Estates. 3 Credit Hours.

Requisite: Plan of Estate Planning or JD/ LLM EP.

Components: LEC.

Grading: GRD.

EPL 911. Corporate Tax. 2 Credit Hours.

Requisite: Plan of Estate Planning or JD/ LLM EP.

Components: LEC.

Grading: GRD.

EPL 912. Charitable Gifts and Foundations. 1 Credit Hour.

Requisite: Plan of Estate Planning or JD/ LLM EP.

Components: LEC.

Grading: GRD.

EPL 913. Tax Procedure. 1 Credit Hour.

Requisite: Plan of Estate Planning or JD/ LLM EP.

Components: LEC.

Grading: GRD.

EPL 915. Chapter 14. 1 Credit Hour.

Requisite: Plan of Estate Planning or JD/ LLM EP.

Components: LEC.

Grading: GRD.

EPL 920. Valuation. 1 Credit Hour.

Requisite: Plan of Estate Planning or JD/ LLM EP.

Components: LEC.

Grading: GRD.

EPL 924. Planning for the Family Business. 1 Credit Hour.

Requisite: Plan of Estate Planning or JD/ LLM EP.

Components: LEC.

Grading: GRD.

EPL 925. Drafting for Estate Planners. 1-2 Credit Hours.

Requisite: Plan of Estate Planning or JD/ LLM EP.

Components: LEC.

Grading: GRD.

EPL 926. Generation-Skipping Transfer Tax. 1 Credit Hour.

Requisite: Plan of Estate Planning or JD/ LLM EP.

Components: LEC.

Grading: GRD.

EPL 928. Introduction to the Probate Process. 1 Credit Hour.

Requisite: Plan of Estate Planning or JD/ LLM EP.

Components: LEC.

Grading: GRD.

EPL 929. Life Insurance. 1 Credit Hour.

Requisite: Plan of Estate Planning or JD/ LLM EP.

Components: LEC.

Grading: GRD.

EPL 930. Planning for Distributions from Qualified Plans, IRAs, and Non-Qualified Plans. 1 Credit Hour.

Requisite: Plan of Estate Planning or JD/ LLM EP.

Components: LEC.

Grading: GRD.

EPL 931. Investment Planning. 1 Credit Hour.

Requisite: Plan of Estate Planning or JD/ LLM EP.

Components: LEC.

Grading: GRD.

EPL 936. Partnership Tax. 3 Credit Hours.

Requisite: Plan of Estate Planning or JD/ LLM EP.

Components: LEC.

Grading: GRD.

EPL 939. Income Tax for Estate Planning. 2 Credit Hours.

Requisite: Plan of Estate Planning or JD/ LLM EP.

Components: LEC.

Grading: GRD.

EPL 946. Federal Wealth Transfer Tax. 3 Credit Hours.

Requisite: Plan of Estate Planning or JD/ LLM EP.

Components: LEC.

Grading: GRD.

Executive and Special Programs (ESP)

ESP 500. Review Module. 0 Credit Hours.

A non-credit review session to provide students with the skills necessary to prepare for the successful completion of the common body of knowledge courses.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ESP 560. Fundamentals of Marketing. 3 Credit Hours.

Marketing problems experienced by top executives are examined. Fundamental problem-solving concepts are developed. Students consider problems of consumer needs, product planning, promotion, distribution, and pricing. The discovery and application of marketing management skills are developed through the use of cases and a major planning project.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

Finance Business Administration (FIN)

FIN 300. Fundamentals of Finance for Non-Finance Majors. 3 Credit Hours.

This course provides an overview of modern finance for non-business majors. Topics include: how financial markets work, understanding financial pages in newspapers and the Internet, how stock and bond prices are determined, how investment portfolios are structured, concepts of risk and return, how companies manage their cash and investments and international finance. Not for credit for business students.

Requisite: Non Business Majors.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

FIN 302. Fundamentals of Finance. 3 Credit Hours.

Introduction to the basic tools and concepts in finance. This is the core class in finance for our undergraduate program. Topics include the financial framework of a business entity, taxes, the time value of money, capital market theory, financial risk measures, and capital budgeting. Note: to be eligible to major in finance, a student must earn a grade of B or higher in this class (a grade of B- does not qualify).

Prerequisite: ECO 211 and ACC 211 and MAS 201 or MAS 311 or MTH 224 or IEN 311 or IEN 310 or PSY 292.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

FIN 303. Intermediate Financial Management. 3 Credit Hours.

This course provides an overview of financial decision-making by corporations. Building on topics covered in the introductory finance classes, this course develops the foundations of optimal financial policy and applies these principles to corporate financial decision-making including capital structure, capital budgeting, dividend policy, leasing, securities issuance and the role of investment banks, and mergers and acquisitions. Note: a student must have obtained a B or higher grade in FIN302 to major in Finance. Earning an A in this class or any other class or classes does not eliminate that requirement.

Prerequisite: FIN 302.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

FIN 308. Intermediate Financial Management for Entrepreneurs. 3 Credit Hours.

This course is primarily for students majoring in entrepreneurship. It provides an overview of financial decision-making by entrepreneurs. Building on topics covered in the introductory finance classes, this course develops the foundations of optimal financial policy and applies these principles to entrepreneurial financial decision-making involved with such things as capital structure, working capital budgeting, leasing, hedging and risk management, securities issuance and the role of investment banks, and mergers and acquisitions. Note: Students cannot take both FIN 308 and FIN 303, so this class is not open to students who have taken FIN 303.

Prerequisite: FIN 302.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

FIN 320. Investment and Security Markets. 3 Credit Hours.

This course introduces students to both practical and theoretical aspects of investment with an emphasis on financial markets. Topics include valuation of financial securities such as stocks, bonds and options; modern portfolio theory; the process and institutional characteristics of investing. Note that this course does not address the details of individual security valuation and selection, i.e., this course is not about stock picking or about how to get rich by investing in the markets. Instead, this course attempts to help you develop a lasting conceptual framework in which to view the investment process and to analyze future ideas and changes in investment environment. This class is essential to any student considering a finance concentration. Note: A student must have obtained a B or higher in FIN302 to major in Finance. Earning an A in this class or any other class or classes does not eliminate this requirement.

Prerequisite: FIN 302.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

FIN 330. International Finance. 3 Credit Hours.

This course applies the principles of finance to international business decisions. Topics include the analysis of foreign exchange rates, balance of payments, characteristics and use of international financial institutions and instruments, the analysis and management of financial risk in the international environment, and financing multinational corporations. Note: a student must have a B or higher in FIN 302 to major in International Finance and Marketing (or Finance). Earning an A in this class or any other class or classes does not eliminate this requirement.

Prerequisite: FIN 302.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

FIN 340. Real Estate Principles. 3 Credit Hours.

This course provides an introduction to basic principles and fundamental practices in the real estate industry. Students learn how to apply the principles of finance to the real estate industry. Topics include common institutional aspects, brokerage, contracting, financing, ownership, management, valuation, appraisal, and investment analysis.

Prerequisites: FIN 302 or FIN 300.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

FIN 344. Real Estate Investment Analysis. 3 Credit Hours.

This course introduces the theoretical concepts and analytical techniques used to make a decision to purchase an ownership interest in a commercial real estate project. There is heavy reliance on Excel applications. Each student will complete a written evaluation and investment analysis of an existing or proposed commercial real estate project in Miami-Dade, Broward or Monroe County.

Prerequisite: FIN 302 and FIN 320 or FIN 303 OR Co-requisite: FIN 320 or FIN 303.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

FIN 347. Introduction to ARGUS. 1 Credit Hour.

ARGUS software is used extensively in the development, financing and management of commercial real estate, especially in the office, industrial and retail sectors. The introduction to ARGUS class exposes the student to the basic concepts and terminology in the commercial real estate market and to the typical inflows and outflows an owner who invests in real estate faces over the life of the investment.

Prerequisite: FIN 302.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

FIN 348. Advanced ARGUS. 1 Credit Hour.

At the end of the Advanced ARGUS class the student will be able to assess the viability of detailed rent and operating expense assumptions, make decisions about the impact of financing on investor returns and critically evaluate the investment potential of leveraged office and retail property.

Prerequisites: FIN 302 and FIN 347.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

FIN 355. Smif Fund Analyst I. 1 Credit Hour.

The course is designed to introduce the student to the investment management process, including valuation of publicly traded equities. The course is one credit and meets once a week each semester; students must commit to and enroll in the follow-up class. Admission to the course is through a competitive application process.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

FIN 356. Smif Fund Analyst II. 1 Credit Hour.

This course is designed to introduce the student to the investment management process, including valuation of publicly traded equities. The course is one credit and meets once a week each semester. Enrollment in the course is limited.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

FIN 404. Applications in Corporate Finance. 3 Credit Hours.

An application of the concepts and tools of corporate finance. Primary emphasis on analyzing real-world cases dealing with liquidity issues, capital budgeting, firm valuation, advanced corporate financing, hedging with options and futures, corporate financial strategy, and other current issues in corporate finance.

Prerequisites: FIN 302, FIN 303.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

FIN 405. Financial Modeling. 3 Credit Hours.

This course takes a variety of finance topics, which have been covered in the prerequisite courses, and implements them using practical spreadsheet models. Students will use the internet and financial databases to obtain input data for their models. Students will use Visual Basic for Applications (VBA) and design functions and macros to enhance their models. Students must have a solid working knowledge of Windows and Excel, as well as a good understanding of the material taught in the prerequisite finance classes. Students must have a mobile (lap-top) computer with the capability to run Windows-based software.

Prerequisites: FIN 302, FIN 303, FIN 320.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

FIN 408. Introduction to Mergers and Acquisitions. 3 Credit Hours.

This course introduces students to the world of mergers and acquisitions (M&A). More specifically, the course is designed to develop an understanding of (i) the economic, financial, and strategic issues involved in the acquisition of a (public or private) company; (ii) the analytical tools used to value an acquisition target; and (iii) academic research that reports results from large samples of M&A deals. Students will apply their understanding of these issues by analyzing various actual and potential acquisitions.

Prerequisites: FIN 302, FIN 303.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

FIN 409. Introduction to Private Equity and Venture Capital. 3 Credit Hours.

In this course, you will learn about the private equity (PE) industry, composed of both venture capital (VC) and buyouts (BO). The focus is on how PE investors evaluate, select, value, and structure deals. This course has several goals. First, the course will deepen your current understanding of corporate finance by applying key concepts and tools to a new and increasingly important industry. Second, the course seeks to introduce you to the institutions of the PE industry. This involves examining, for example, how funds are raised and how term sheets are structured. Finally, a goal is to understand the valuation process used by PE investors.

Prerequisites: FIN 302 and FIN 303 or FIN 308.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

FIN 410. Financial Institutions and Markets. 3 Credit Hours.

This course examines financial institutions, such as banks (commercial, investment, mortgage, savings), credit unions, insurance companies, pension funds, and mutual funds and the money markets in which they operate, and focuses on why they exist and how to manage them. Topics include financial intermediation and transmutation, monetary theory and policy, Federal Reserve management of the money supply, velocity of money, fiscal theory and policy, interest rates, and immunization.

Prerequisites: FIN 302 and FIN 320.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

FIN 411. Commercial Bank Management. 3 Credit Hours.

This course introduces the theory and practice of asset-liability management by large publicly traded commercial banks, including the fundamental principles of structuring loans into balance sheets. A major objective of this class is to provide students sufficient background to enter the credit department in the executive development program of major money center bank.

Prerequisites: FIN 302 and FIN 320.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

FIN 412. Financial Planning and Wealth Management. 3 Credit Hours.

This course examines the investment and financial issues arising from financial planning and personal wealth management activities. It covers various topics required for the construction of a comprehensive financial plan including the identification of client financial status and goals, asset allocation, securities trading, managed funds, tax planning, risk management and insurance, and estate planning.

Prerequisites: FIN 302 and FIN 320.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

FIN 415. Trading and Markets. 3 Credit Hours.

This course provides an introduction to the functioning of financial markets and the fast changing field of market microstructure. On the equity trading side, the course covers major exchanges such as NYSE Euronext and Nasdaq OMX, and new players such as BATS and Direct Edge/ISE. Students also learn about dark pools, options and futures exchanges, electronic bond trading platforms, and currency trading systems. In addition, the course provides a summary of different market structures, the role of market participants, different order types, trading strategies, and trading externalities. The course draws on theories and tools from economics and behavioral finance, current institutional practices and market regulation.

Prerequisites: FIN 302 and FIN 320.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

FIN 421. Investment Portfolio Management. 3 Credit Hours.

This course provides an introduction to quantitative active management of equity portfolios. The course begins with a discussion on the sources of stock market inefficiencies. The course then covers the five key dimensions of the quantitative portfolio management process: forecasting relative stock returns using quantitative signals, measuring portfolio risk relative to a benchmark, portfolio optimization, controlling transaction costs, and measuring and evaluating portfolio returns. The course focuses on practical application and relies heavily on experiential learning and Excel spreadsheets.

Prerequisites: FIN 302 and FIN 320.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

FIN 422. Speculative Markets and Derivatives. 3 Credit Hours.

This course is an introduction to derivative securities, and examines the nature of derivatives and applications of such instruments in investment and corporate settings. The emphasis is on derivatives of equity-based securities (such as stocks and stock indices), but coverage includes derivatives of debt-based securities (such as Treasury and Eurodollar securities). Topics include options, futures, forwards, and other derivatives, such as options on futures, foreign currency derivatives, swaps, exotic options, real options, as well as financial engineering using derivatives.

Prerequisites: FIN 302, FIN 303, FIN 320.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

FIN 423. Introduction to Alternative Investment. 3 Credit Hours.

The objective of this course is to provide an introduction to alternative financial instruments and how capital market participants utilize them. The course covers a large set of investment choices, with a specific focus on fixed income and alternative instruments, such as commodities, interest rates and currency. While covering each instrument, the course also examines with how macro-economic, technological, labor market, taxes and regulatory issues affect specific investment decisions.

Prerequisites: FIN 302 and FIN 320.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

FIN 425. Business and Security Valuation. 3 Credit Hours.

Applications of finance theory to the problem of valuing public and non-public companies. Multiplier models, discounted cash flow analysis, and the strengths and weaknesses of traditional security valuation methods are addressed in detail. Financial spreadsheet programs and data sources are an integral part of the course.

Prerequisites: FIN 302 and FIN 320.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

FIN 427. Fixed Income Markets and Analysis. 3 Credit Hours.

This course examines financial markets that trade fixed income securities. A fixed income security is based primarily on a debt contract, such as a bond, debenture, note or Treasury bill. Topics include the valuation, computation of return, and computation of various measures of risk for fixed income securities, as well as the analysis of the term structure of interest rates and various option features commonly included in debt contracts and fixed income securities. Students must have a solid working knowledge of Excel to take this class.

Prerequisites: FIN 302 and FIN 320.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

FIN 431. International Financial Management. 3 Credit Hours.

This is an advanced class in international finance from the viewpoint of multi-national organizations, including corporations, investment banks, and commercial banks. Topics include managing the various sources of risk, such as economic, political, and currency; cash receivables, inventory, and payables management; financing; transfer pricing; taxation; currency netting; capital budgeting; and hedging.

Prerequisites: FIN 302, FIN 320, FIN 330.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

FIN 444. Real Estate Investment Analysis. 3 Credit Hours.

This course introduces the theoretical concepts and analytical techniques used to make a decision to purchase an ownership interest in a commercial real estate project. There is heavy reliance on Excel applications and the use of the Argus database that is a standard resource in the commercial real estate market. Each student will complete a written evaluation and investment analysis of an existing or proposed commercial real estate project in Miami-Dade, Broward or Monroe County.

Prerequisites: FIN 302, FIN 303 or FIN 320.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

FIN 445. Real Estate Finance. 3 Credit Hours.

This course introduces the theoretical concepts and analytical techniques used to make a decision to finance the purchase or development of a commercial real estate project. There is heavy reliance on Excel applications and the use of the Argus database that is a standard resource in the commercial real estate market. Students are also encouraged to use their semester projects to apply for one of the numerous case competitions.

Prerequisite: FIN 344.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

FIN 446. Real Estate Market Analysis. 3 Credit Hours.

This course is an introduction to the fundamental concepts of real estate market analysis. The major topics to be covered include site analysis, economic-demographic, supply and demand analyses. This course shall also include a global perspective of real estate market analysis. This shall be accomplished by means of conducting portions of a market analysis for foreign cities of your individual choosing.

Prerequisite: Or Corequisite: FIN 344.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

FIN 456. Behavioral Finance. 3 Credit Hours.

The goal of this course is to expose you to selected topics from the upcoming field of behavioral finance. This will include a discussion of prospect theory and different types of behavioral biases such as representativeness, disposition effect, overconfidence, narrow framing, familiarity bias, and the house-money effect. In addition, the course will cover the implications of behavioral biases for asset pricing, corporate finance, and the overall macro-economy. Simple experiments will be conducted in class to illustrate some key behavioral concepts.

Prerequisites: FIN 302, FIN 303, FIN 320.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

FIN 457. Smif Fund Portfolio of Instructor. 1 Credit Hour.

The course is designed to introduce the student to the investment management process, including the tools used to compose a diversified portfolio that covers each of the major industrial sectors. The course is one credit and meets once a week each semester. Enrollment in the course is limited.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

FIN 458. Smif Fund Portfolio Manager II. 1 Credit Hour.

The course is designed to introduce the student to the investment management process, including the management of an investment organization and the evaluation of portfolio performance. The course is one credit and meets once a week. Enrollment in the course is limited.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

FIN 496. Directed Studies in Finance. 1-3 Credit Hours.

Supervised readings, individual research project, or independent investigation of selected non-STEM related problems in the discipline. Offered only by special arrangement with supervising faculty member, who approves topic and evaluation process at time of registration.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

FIN 497. Directed Studies in Finance. 1-3 Credit Hours.

Supervised readings, individual research project or independent investigation of selected STEM-related problems in the discipline. Offered only by special arrangement with supervising faculty member, who approves topic and evaluation process at time of registration.

Components: THE.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

FIN 498. Special Topics in Finance. 3 Credit Hours.

Special topics in selected non-STEM areas of Finance.

Requisite: Sophomore Standing or Higher.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

FIN 499. Special Topics in Finance. 3 Credit Hours.

Special topics in selected STEM areas of Finance.

Requisite: Sophomore Standing or Higher.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

FIN 555. Finance Departmental Honors Research Project. 3 Credit Hours.

Research project to fulfill requirements for Departmental Honors in Finance.

Components: THI.

Grading: SUS.

Typically Offered: Offered by Announcement Only.

FIN 602. Fundamentals of Finance. 3 Credit Hours.

This is a core MBA course in our executive MBA program, devoted primarily to the area of finance. No prior background in finances is assumed. The course objective is to provide students with a conceptual framework for appreciating and understanding the problems facing the financial manager.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

FIN 603. Advanced Corporate Finance. 3 Credit Hours.

Applications in corporate finance. This class builds on the core MBA courses in our executive MBA program, especially Fundamentals of Finance (Finance 602). Topics include working capital management, financial planning, basic option valuation, agency theory, capital structure management, mergers and acquisitions, liabilities management and leasing. Note: required for Finance concentration.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

FIN 613. Intermediate Corporate Finance and Investments. 4 Credit Hours.

Prerequisite: BUS 640.

Components: DIL.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

FIN 614. International Finance, Valuation, and Financial Statement Analysis. 4 Credit Hours.

Prerequisites: BUS 640 and FIN 613.

Components: DIL.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

FIN 615. Financial Decision Making. 4 Credit Hours.

Prerequisites: BUS 640 and BUS 613 and FIN 614.

Components: DIL.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

FIN 616. Advanced Corporate Finance. 4 Credit Hours.

Prerequisites: BUS 640 and BUS 613 and FIN 614.

Components: DIL.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

FIN 617. Derivatives and Financial Modeling. 4 Credit Hours.

Prerequisites: BUS 640 and BUS 613 and FIN 614.

Components: DIL.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

FIN 618. Quantitative Finance and Microstructure. 4 Credit Hours.

Prerequisites: FIN 613 and FIN 614.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

FIN 619. Advanced Portfolio Management and Alternative Investments. 4 Credit Hours.

Prerequisites: FIN 613 and FIN 614.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

FIN 620. Investment Analysis. 3 Credit Hours.

This course deals with theory and application of investment analysis. Topics include general stock trading, portfolio and risk-return theory, models of stock valuation, portfolio diversification, market efficiency, options and futures, bond valuation and bond portfolio strategy, general commodity investing, and personal financial planning.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

FIN 621. Portfolio Construction and Management. 3 Credit Hours.

The evolution of portfolio theory and practice and its role in modern investment management. Individual constraint models within the general capital market theory are included as well as empirical evidence, theoretical discussion, and practical exercises.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

FIN 622. Financial Options and Futures. 3 Credit Hours.

Study of the theoretical development of models for pricing contingent claims in the field of finance. Application of theoretical results to the hedging of current and future assets and liabilities and to speculative strategies for the risk-averse, profit-maximizing entity are included.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

FIN 630. International Finance. 3 Credit Hours.

The financing of international trade and capital placements. Restrictions on capital retrieval and problems of international liquidity related to the U.S. and non-U.S. firms is discussed as well as current developments in international banking, theory, and policy. Cases involving foreign capital commitments and transactions, especially Latin America are also included.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

FIN 631. International Financial Management. 3 Credit Hours.

Sources and uses of long and short term capital for international business applications and foreign currency markets. Financial decisions associated with international cash and capital budgeting, capital repatriation and taxation strategies, capital exposure and coverage, and multinational firm financial strategies are discussed. Lectures and cases are included.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

FIN 641. Valuation and Financial Decision Making. 2 Credit Hours.

Basic financial valuation. This is one of the core classes in finance for our regular MBA program. Topics include the financial environment; the time value of money; capital market efficiency; basic security valuation; risk, return and asset pricing; cost of capital; and an introduction to capital budgeting.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

FIN 642. The Financial Environment. 2 Credit Hours.

A continuation of FIN641, with an emphasis on important issues faced by corporate financial managers responsible for financing and investment decisions. Core topics include capital structure, payout policy, advanced capital budgeting, basic derivative and real option valuation, leasing, and investment banking. Specialized topics, such as behavioral finance, international finance, mergers and acquisitions, and risk management may also be introduced as the course progresses.

Prerequisite: FIN 641.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

FIN 643. Quantitative Finance and Market Microstructure. 2 Credit Hours.

This course aims to give simple yet useful quantitative finance tools, and a broad overview of the functioning of modern financial markets, to students wishing to broaden their knowledge of finance. The first part of the course exposes students to the microstructure of financial markets. We will learn about different trading mechanisms encountered in financial markets today, how information affects prices and liquidity, what algorithms practitioners use to implement their trading strategies, and some basic models of how dealers react to information. The second part of the course introduces students to statistical models commonly encountered in quantitative finance. We'll have a hands-on approach, and learn how to estimate the models with real financial data using Excel and the statistical software R.

Prerequisite: FIN 642 or FIN 602.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

FIN 644. Real Estate Investment and Appraisal. 2 Credit Hours.

This course will introduce students to the theoretical concepts and analytical techniques used to make a decision to purchase an ownership interest in a commercial real estate project. There is heavy reliance on Excel applications and the use of the ARGUS software that is a standard resource in the commercial real estate market.

Prerequisite: FIN 641.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

FIN 645. Real Estate Finance. 2-3 Credit Hours.

This course will introduce students to the theoretical concepts and analytical techniques used to make a decision to loan money for the purchase or development of a commercial real estate project. Students will complete projects that require them to evaluate the financing and investment potential of a small commercial site of their choice and to evaluate a lease vs. buy decision using a plot of land in Miami-Dade County from the perspective of a publicly-traded corporation.

Prerequisite: FIN 641.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

FIN 646. Real Estate Market Analysis. 2 Credit Hours.

The course aims to provide students with an understanding of the functioning of markets for urban space, and their role in real estate investment decisions. The course first treats urban-economic processes involved in the determination of prices for space, in a theoretical and empirical context. This economic understanding is then put to use on several case studies of market- and site- analysis for various land uses.

Prerequisite: FIN 641.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

FIN 647. Introduction to ARGUS. 1 Credit Hour.

ARGUS software is used extensively in the development, financing and management of commercial real estate, especially in the office, industrial and retail sectors. The introduction to ARGUS class exposes the student to the basic concepts and terminology in the commercial real estate market and to the typical inflows and outflows an owner who invests in real estate faces over the life of the investment.

Requisite: Limited to Accelerated Real Estate MBA Students.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

FIN 648. Advanced ARGUS. 1 Credit Hour.

At the end of the Advanced ARGUS class the student will be able to assess the viability of detailed rent and operating expense assumptions, make decisions about the impact of financing on investor returns and critically evaluate the investment potential of leveraged office and retail property.

Prerequisite: FIN 647.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

FIN 649. Non-Profit Consulting Project. 1-4 Credit Hours.

This course is designed for students completing the Accelerated MBA in Real Estate. The course allows graduate students in real estate to synthesize and apply the concepts learned in real estate coursework to a real-life problem where the results will benefit a local organization in the non-profit sector. The supervising professor guides the students' efforts but the course topics and resources are driven by client needs and students skills.

Requisite: Limited to Accelerated Real Estate MBA Students.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

FIN 650. Financial Investment. 2 Credit Hours.

This course builds on FIN 641 and FIN 642 to provide a more advanced knowledge of the field of investments, particularly important statistical concepts for investments, portfolio construction, asset pricing, and behavioral biases affecting financial decisions. The course is quantitative and introduces students to Excel as a tool to form and rebalance portfolios.

Prerequisite: FIN 642 or FIN 602.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

FIN 651. Advanced Topics in Investments. 2 Credit Hours.

The course provides an introduction to quantitative active management of equity portfolios. The course begins with a discussion of market (in)efficiency, then covers the five key dimensions of the quantitative portfolio management process: using signals ("factors") to forecast returns; measuring risk; portfolio optimization; controlling costs; and performance evaluation.

Prerequisite: FIN 650.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

FIN 652. Fixed Income Securities. 2 Credit Hours.

This course builds on FIN641/642 (or BUS640) and FIN650 and covers trading and valuation of a wide variety of fixed income securities including corporate, municipal, and Treasury pure discount bonds, coupon bonds, floating rate notes, bond embedded options, mortgages, interest rate swaps, currency swaps, equity swaps, and interest rate options. The course focuses on analytic tools used in bond portfolio management and interest rate risk management. These tools include spot rates, forward rates, credit spreads, duration and convexity, yield curve construction, and term structure models.

Prerequisite: FIN 642 or FIN 602 or FIN 650.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

FIN 653. Alternative Investments. 2 Credit Hours.

The course provides an advanced theoretical and practical understanding of various alternative investment strategies, with a specific focus on currency markets, derivatives (e.g., interest rate and credit derivatives), venture capital and private equity investments, and real estate investments. The course also examines how macro-economic, technological, labor market, taxes and regulatory issues affect specific investment decisions. In addition, the students learn about valuation, investment and risk management strategies of sophisticated investors and recent chronology of events that affect market participants.

Prerequisites: FIN 641 and FIN 642 and FIN 650.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

FIN 655. Smif Fund Analyst I. 1 Credit Hour.**Components:** LEC.**Grading:** GRD.**Typically Offered:** Fall & Spring.**FIN 656. Smif Fund Analyst II. 1 Credit Hour.****Components:** LEC.**Grading:** GRD.**Typically Offered:** Fall & Spring.**FIN 657. Smif Fund Portfolio Manager I. 1 Credit Hour.****Components:** LEC.**Grading:** GRD.**Typically Offered:** Fall & Spring.**FIN 658. Smif Fund Manager II. 1 Credit Hour.****Components:** LEC.**Grading:** GRD.**Typically Offered:** Fall & Spring.**FIN 660. International Finance. 2 Credit Hours.**

This course builds on FIN 641 and 642, and introduces students to the concepts that are important in today's dramatically changing global economy. The course covers the international monetary system; the interrelationship between national economies through the balance of payments; the economic relationships that determine a currency's value relative to other currencies and influence international trade and cross-border investment; the foreign exchange market structure and instruments; and the international debt and equity markets.

Prerequisite: FIN 642 or FIN 602 or BUS 630.**Components:** LEC.**Grading:** GRD.**Typically Offered:** Fall & Spring.**FIN 661. Advanced Topics in International Finance. 2 Credit Hours.**

This course builds directly on FIN 660 using a variety of techniques, including group projects and class discussion. A number of special topics are covered such as financing the multinational firm, currency swaps, international portfolio investment, international asset pricing, multinational capital budgeting and cross-border investment, and measuring and managing the many additional risk exposures faced by a multinational enterprise.

Prerequisite: FIN 660.**Components:** LEC.**Grading:** GRD.**Typically Offered:** Fall & Spring.**FIN 663. Ad Corporation Fin. 3 Credit Hours.****Components:** LEC.**Grading:** GRD.**FIN 668. Wealth Management and Financial Planning. 1-4 Credit Hours.**

This course examines the investment and financial issues arising from financial planning and personal wealth management activities. It covers various topics required for the construction of a comprehensive financial plan including the identification of client financial status and goals, asset allocation, securities trading, managed funds, tax planning, risk management and insurance, and estate planning.

Prerequisite: FIN 641 and FIN 642.**Components:** LEC.**Grading:** GRD.**Typically Offered:** Fall & Spring.**FIN 670. Corporate Finance. 2 Credit Hours.**

The course serves as a complement and supplement to 641 and 642 and builds up to more advanced topics in corporate finance. The course will quickly review some basic concepts like net present value and build up to special topics like real options, valuation, mergers and acquisitions and corporate governance. The main objective of the class is that students understand basic corporate finance concepts as well as develop a good understanding of how complicated firm level decisions are made.

Prerequisite: FIN 642 or FIN 602 or BUS 630.**Components:** LEC.**Grading:** GRD.**Typically Offered:** Fall & Spring.

FIN 671. Advanced Topics in Corporate Finance. 2 Credit Hours.

This course builds directly on FIN 670 and on the MBA core classes, FIN 641 and FIN 642, and relies mainly on the analysis and vigorous class discussion of a variety of real-world cases. The cases cover a broad range of topics, including short-and long-term financing, capital budgeting decisions, corporate valuation, hedging with options and futures, dividend policy and share repurchases, corporate financial strategy, IPOs, environmental considerations, and other current issues in corporate finance.

Prerequisite: FIN 670.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

FIN 674. Financial Analysis of Mergers and Acquisitions. 2 Credit Hours.

This course is designed to develop an understanding of (1) the economic and financial issues involved in the acquisition of a company; (2) the analytical valuation tools used to evaluate an acquisition; and (3) potential and empirical stock market reaction to an acquisition. Students are then asked to apply their understanding of the issues to analyze cases involving various aspects of acquisition.

Prerequisite: FIN 670.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

FIN 679. Private Equity and Venture Capital. 2 Credit Hours.

This course will cover the private equity (PE) industry, composed of both venture capital (VC) and buyouts (BO). The course will provide students with an understanding of corporate finance by applying central concepts and tools to a new and increasingly important industry. The course will also introduce students to the institutions of the PE industry and the valuation process used by PE investors.

Prerequisite: FIN 670.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

FIN 680. FinTech. 2-3 Credit Hours.

This course introduces students to Fintech, the emerging world of applications, concepts, developments, business models, and companies at the interface of Finance and Technology. The course format is a mixture of lecture and seminar-style student presentations. It covers the main Fintech areas like Peer-to-Peer-Lending, Crowdfunding, Mobile Payment Systems, Cryptocurrencies and ICOs, Robo Advising, Insurtech (insurance technology), and RegTech (regulatory technology). A special emphasis is given to how and by whom these emerging technologies are currently used, and how they may potentially change the landscape of finance and financial services in the future.

Prerequisite: BUS 640.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

FIN 681. Financial Institutions. 2 Credit Hours.

This course focuses on the management of financial institutions, such as mutual funds, banks, hedge funds, and finance office of large corporations. Topics include risk management, deposits and deposit insurance, liquidity, reserve requirements, capital adequacy, liability management, investment interest rate risk, and current issues connected with financial institutions.

Prerequisite: FIN 642 or FIN 602 or BUS 630.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

FIN 683. Financial Modeling. 2 Credit Hours.

This course takes a variety of finance topics and implements them using practical spreadsheet models. Students are presumed to have a working knowledge of Windows and Excel, as well as a good understanding the material taught in the core finance classes. Topics include Time Value of Money, Capital Budgeting, Pro-Forma Financial Statements, Bond Analysis, and Portfolio Construction and Optimization. This course will meet in a "computer lab" (a classroom) for hands-on instruction. The course is structured as a "flipped" classroom, so lectures and learning materials are online and practice an application are done in the classroom. It is therefore extremely important that students are prepared for class each meeting day.

Prerequisite: FIN 642 or FIN 602 or BUS 630.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

FIN 685. Mathematics of Financial Derivatives. 2 Credit Hours.

This course builds on Finance 650 and 670. This course provides an in-depth mathematical treatment of derivatives and is divided into three parts: (1) options; (2) futures and forwards; and (3) other derivative instruments, which include options on futures, foreign currency derivatives, swaps, exotic options, and financial engineering. The emphasis is placed on equity instruments, although there is also some coverage of short- and long-term interest bearing instruments.

Prerequisite: FIN 650. and FIN 670.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

FIN 686. Financial Decision Making. 2 Credit Hours.

The goal of this course is to use decision-making theory to better understand why investors, money managers, and corporate managers often make suboptimal economic and financial decisions. The first part of the course focuses on the basic techniques and models that a manager or an investor can use to make effective financial decisions. The second part of the course focuses on the psychological, social, and cultural determinants of suboptimal investor and managerial behavior. In addition, the course examines the impact of those mistakes for financial markets (e.g., price bubbles) and the overall economy. The course should be useful to individuals who work in a corporate setting or at a money management firm (mutual funds, hedge funds, pension funds, etc.).

Prerequisite: FIN 650. and FIN 670.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

FIN 698. Selected Topics in Finance. 1-3 Credit Hours.

Topics in selected areas of specialization.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

FIN 699. Directed Readings and Study. 1-3 Credit Hours.

Individually supervised research or reading projects in selected fields. Evaluation of project and subject by the supervising professor is required at the time of registration.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

FIN 705. Financial Economics I. 3 Credit Hours.

This course is an introductory Ph.D. level course on the fundamental theories of asset pricing. Specifically, it consists of three parts. The first part focuses on individual choice under uncertainty. The second part develops equilibrium asset pricing theories, which include mean variance efficiency and the Capital Asset Pricing Model (CAPM), as well as the Arbitrage Pricing Theory (APT). The third part reviews recent development in asset pricing by introducing some stylized facts and new theories.

Requisite: Limited to Business PhD Students.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

FIN 706. Theory of Corporate Finance. 3 Credit Hours.

The aim of this course is to expose students to some of the important papers that constitute the theoretical foundations of corporate finance. The course will try to give students a working understanding of the key papers and give them a flavor of the techniques for setting up and solving models, which they could possibly apply in their own research. The course will cover classic Corporate Finance papers and recent contributions in the areas of financial contracting control and corporate governance. The later part of the course leans more towards empirical work and discusses the connections and gaps between theoretical and empirical corporate literature.

Prerequisite: FIN 705.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

FIN 707. Empirical Methods in Finance. 3 Credit Hours.

The objective of this course is to give you an introduction to empirical research in finance. This class is not designed like an econometrics class where the emphasis is the statistical specification of tests and the derivation of underlying asymptotics. The focus in this class is the understanding of the technique and the actual implementation in finance. The goal is to provide you with a toolbox of techniques that you can use to answer empirical questions in corporate finance and asset pricing.

Prerequisite: FIN 705.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

FIN 708. Financial Economics II. 3 Credit Hours.

This is a second course on asset pricing. The class is divided in two independent modules. The first module covers discrete time asset pricing models with frictions. These frictions include, among others, asymmetric information, slow-moving capital, delegated portfolio management, and short-sale constraints. The second module is an introduction to continuous time finance. Topics include introduction to stochastic calculus, derivative pricing and hedging, optimal portfolio choice, and equilibrium asset pricing.

Prerequisite: FIN 705.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

FIN 709. Behavioral Finance. 3 Credit Hours.

The aim of this course is to expose students to some of the important papers that constitute the theoretical foundations of corporate finance. The course will try to give students a working understanding of the key papers and give them a flavor of the techniques for setting up and solving models, which they could possibly apply in their own research. The course will cover classic Corporate Finance papers and recent contributions in the areas of financial contracting control and corporate governance. The later part of the course leans more towards empirical work and discusses the connections and gaps between theoretical and empirical corporate literature.

Prerequisite: FIN 705.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

FIN 715. Pe-Seminar Doctoral Students Workshop in Finance. 1 Credit Hour.

This course provides Finance PhD students an opportunity to i) discuss influential and well-cited research papers in financial economics, ii) incorporate contemporary finance research into their knowledge base, and iii) improve their research presentation skills.

Prerequisite: FIN 705.

Components: RSC.

Grading: GRD.

Typically Offered: Fall & Spring.

FIN 825. Comprehensive Test Preparation. 1-3 Credit Hours.

Doctoral students who are preparing for their qualifying examinations may use this course designation. Enrolled students must develop, with the approval of their advisor, a "Plan of Study" for these credits.

Components: THI.

Grading: SUS.

Typically Offered: Fall & Spring.

FIN 830. Pre-Dissertation Research. 1-6 Credit Hours.

For Finance PhD students currently writing their dissertation.

Requisite: Finance PhD Student.

Components: RSC.

Grading: SUS.

Typically Offered: Offered by Announcement Only.

First-Year Seminar Fine Arts (FFA)

FFA 190. First-Year Seminars in Arts. 3 Credit Hours.

Seminars designed to introduce up to 25 freshmen to the Fine Arts. Topics will vary from year to year, as will faculty teaching the seminars.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

FFA 191. First-Year Seminars in Arts. 3 Credit Hours.

Seminars designed to introduce up to 25 freshmen to the Fine Arts. Topics will vary from year to year, as will faculty teaching the seminars.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

FFA 192. First-Year Seminars in Arts. 3 Credit Hours.

Seminars designed to introduce up to 25 freshmen to the Fine Arts. Topics will vary from year to year, as will faculty teaching the seminars.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

First-Year Seminar Literature (FLT)

FLT 190. First-Year Seminars in Literature. 3 Credit Hours.

Seminars designed to introduce up to 25 freshmen to Literature. Topics will vary from year to year, as will faculty teaching the seminars.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

FLT 191. First-Year Seminars in Literature. 3 Credit Hours.

Seminars designed to introduce up to 25 freshmen to Literature. Topics will vary from year to year, as will faculty teaching the seminars.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

FLT 192. First-Year Seminars in Literature. 3 Credit Hours.

Seminars designed to introduce up to 25 freshmen to Literature. Topics will vary from year to year, as will faculty teaching the seminars.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

FLT 193. First-Year Seminars in Literature. 3 Credit Hours.

Seminars designed to introduce up to 25 freshmen to Literature. Topics will vary from year to year, as will faculty teaching the seminars.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

FLT 194. First-Year Seminars in Literature. 3 Credit Hours.

Seminars designed to introduce up to 25 freshmen to Literature. Topics will vary from year to year, as will faculty teaching the seminars.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

FLT 195. First-Year Seminars in Literature. 3 Credit Hours.

Seminars designed to introduce up to 25 freshmen to Literature. Topics will vary from year to year, as will faculty teaching the seminars.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

FLT 196. First-Year Seminars in Literature. 3 Credit Hours.

Seminars designed to introduce up to 25 freshmen to Literature. Topics will vary from year to year, as will faculty teaching the seminars.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

FLT 199. First-Year Seminars in Literature. 3 Credit Hours.

Seminars designed to introduce up to 25 freshmen to Literature. Topics will vary from year to year, as will faculty teaching the seminars.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

First-Year Seminar Natural Science (FNS)

FNS 190. First-Year Seminars in Natural Science. 3 Credit Hours.

Seminars designed to introduce up to 25 freshmen to the Natural Sciences. Topics will vary from year to year, as will faculty teaching the seminars.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

FNS 191. First-Year Seminars in Natural Science. 3 Credit Hours.

Seminars designed to introduce up to 25 freshmen to the Natural Sciences. Topics will vary from year to year, as will faculty teaching the seminars.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

FNS 192. First-Year Seminars in Natural Science. 3 Credit Hours.

Seminars designed to introduce up to 25 freshmen to the Natural Sciences. Topics will vary from year to year, as will faculty teaching the seminars.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

FNS 193. First-Year Seminars in Natural Science. 3 Credit Hours.

Seminars designed to introduce up to 25 freshmen to the Natural Sciences. Topics will vary from year to year, as will faculty teaching the seminars.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

FNS 194. First-Year Seminars in Natural Science. 3 Credit Hours.

Seminars designed to introduce up to 25 freshmen to the Natural Sciences. Topics will vary from year to year, as will faculty teaching the seminars.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

FNS 195. First-Year Seminars in Natural Science. 3 Credit Hours.

Seminars designed to introduce up to 25 freshmen to the Natural Sciences. Topics will vary from year to year, as will faculty teaching the seminars.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

FNS 196. First-Year Seminars in Natural Science. 3 Credit Hours.

Seminars designed to introduce up to 25 freshmen to the Natural Sciences. Topics will vary from year to year, as will faculty teaching the seminars.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

FNS 197. First-Year Seminars in Natural Science. 3 Credit Hours.

Seminars designed to introduce up to 25 freshmen to the Natural Sciences. Topics will vary from year to year, as will faculty teaching the seminars.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

FNS 199. First-Year Seminars in Natural Science. 3 Credit Hours.

Seminars designed to introduce up to 25 freshmen to the Natural Sciences. Topics will vary from year to year, as will faculty teaching the seminars.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

First-Year Seminar Philosophy and Religion (FPR)

FPR 190. First-Year Seminars in Philosophy/Religion. 3 Credit Hours.

Seminars designed to introduce up to 25 freshmen to Philosophy and/or Religion. Topics will vary from year to year, as will faculty teaching the seminars.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

FPR 191. First-Year Seminars in Philosophy/Religion. 3 Credit Hours.

Seminars designed to introduce up to 25 freshmen to Philosophy and/or Religion. Topics will vary from year to year, as will faculty teaching the seminars.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

FPR 192. First-Year Seminars in Philosophy/Religion. 3 Credit Hours.

Seminars designed to introduce up to 25 freshmen to Philosophy and/or Religion. Topics will vary from year to year, as will faculty teaching the seminars.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

FPR 199. First-Year Seminars in Philosophy/Religion. 3 Credit Hours.

Seminars designed to introduce up to 25 freshmen to Philosophy and/or Religion. Topics will vary from year to year, as will faculty teaching the seminars.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

First-Year Seminars Social Science (FSS)

FSS 190. First-Year Seminars in Social Sciences. 3 Credit Hours.

Seminars designed to introduce up to 25 freshmen to the Social Sciences. Topics will vary from year to year, as will faculty teaching the seminars.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

FSS 191. First-Year Seminars in Social Sciences. 3 Credit Hours.

Seminars designed to introduce up to 25 freshmen to the Social Sciences. Topics will vary from year to year, as will faculty teaching the seminars.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

FSS 192. First-Year Seminars in Social Sciences. 3 Credit Hours.

Seminars designed to introduce up to 25 freshmen to the Social Sciences. Topics will vary from year to year, as will faculty teaching the seminars.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

FSS 193. First-Year Seminars in Social Sciences. 3 Credit Hours.

Seminars designed to introduce up to 25 freshmen to the Social Sciences. Topics will vary from year to year, as will faculty teaching the seminars.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

FSS 195. First-Year Seminars in Social Sciences. 3 Credit Hours.

Seminars designed to introduce up to 25 freshmen to the Social Sciences. Topics will vary from year to year, as will faculty teaching the seminars.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

FSS 197. First-Year Seminars in Social Sciences. 3 Credit Hours.

Seminars designed to introduce up to 25 freshmen to the Social Sciences. Topics will vary from year to year, as will faculty teaching the seminars.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

FSS 199. First-Year Seminars in Social Sciences. 3 Credit Hours.

Especially designed for Foote Fellows, the BOOKS THAT MATTER seminar offers an opportunity to study major works of non-fiction in a seminar-style setting, under the guidance of faculty members from across the University. We examine important works which, by means of their strong, connected argumentation, challenge the way we respond to, interpret, and shape reality. Emphasis in the course falls mainly on the logical structure embedded deep within the text, and less on content per se, so that a student's effort is not directed towards a reading of "great books" but rather the discovery of "significant arguments." Our rationale is to address a fundamental need in education too often lost in the midst of other demands, interests, and requirements: by learning to read, question, and enjoy important intellectual studies of the past and present, students will be able to read, question, and enjoy what will be the influential books of non-fiction published in their lifetime, whether in public affairs, science, social science, economics, history, film and media studies, philosophy, psychology, etc. The course provides standards of measurement and value by which students can gauge how and why books succeed or fail on hard logical grounds.

Requisite: Hammond or Foote Fellow.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

French (FRE)

FRE 101. Elementary French I. 3 Credit Hours.

For students with no background or previous study of French. The focus of FRE 101 is the development of communicative abilities in speaking, reading, writing, and comprehension of French and an introduction to the cultural practices of the Francophone world. Themes on: university life, family, leisure activities, home and community. Includes both oral and written assessment of grammatical structures and vocabulary introduced, informal and formal writing. Conducted entirely in French. Not open to students who have completed 2 or more years of high school French. Closed to heritage or native speakers of French.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

FRE 102. Elementary French II. 3 Credit Hours.

Continuation of FRE 101. The development of communicative abilities in speaking, reading, writing and comprehension of French and an introduction to the cultural practices of the Francophone world. Themes on: childhood and adolescence, food and lifestyle, university life and professions. Includes both oral and written assessments of grammatical structures and vocabulary introduced, informal and formal writing. Conducted entirely in French.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

FRE 105. Accelerated Elementary French. 3 Credit Hours.

For students with previous study of French desiring to review material covered in FRE 101 and 102 in preparation for continued study of French at the intermediate level. The focus of FRE 105 is the continued development of communicative abilities in speaking, reading, writing, and comprehension of French and an introduction to the cultural practices of the Francophone world. Themes on: family, leisure activities, home, and community, childhood and adolescence, food and lifestyle, university life and professions. Includes both oral and written assessments of grammatical structures and vocabulary introduced, informal and formal writing. Conducted entirely in French.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

FRE 195. Transfer Credit. 1-3 Credit Hours.

Awarded for 100-level course work at another institution for which UM has no direct equivalent.

Components: LEC.

Grading: CNC.

Typically Offered: Fall, Spring, & Summer.

FRE 201. Intermediate French I. 3 Credit Hours.

For students with previous study of elementary-level French. The continued development of communicative abilities in speaking, reading, writing, and comprehension of French and an introduction to the cultural practices of the Francophone world. Themes on: travel, technological innovations, the evolution of family values, and social and environmental issues. Includes both oral and written assessments of grammatical structures and vocabulary introduced, informal and formal writing. Conducted entirely in French.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

FRE 202. Intermediate French II. 3 Credit Hours.

For students with some previous study of French at the intermediate level, who are familiar with all the tenses and with vocabulary related to the topics covered in FRE 101-201. FRE 202 is the first semester of a two-semester sequence ending with FRE 203. The continued development of skills in reading, writing, speaking, and listening in French, with an additional emphasis on cultural competence in the French-speaking world. Themes on: relationships, cultural values, different historical perspectives, and current politics. These themes will be explored through articles, films and literary texts. The course will develop writing and reading strategies, providing them with the tools to think, read, and write critically and analytically in papers of 1-3 pages. Progress will also be assessed through quizzes and exams. Course conducted entirely in French.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

FRE 203. Advanced French. 3 Credit Hours.

Continuation of FRE 202. This course will prepare students for advanced literature, linguistic, and culture courses. The class will use films, literary works, and other cultural texts. Students will write analytic essays of 3-5 pages to develop style, vocabulary, and syntax. Course conducted entirely in French.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

FRE 280. French Culture and Conservation. 3 Credit Hours.

The major social, historical and political factors that have shaped contemporary and traditional French culture and society. This cultural approach to language-learning is set in the small towns and villages of the Sete region, rich and vibrant with a centuries-old history of intellectual advances and social tolerance. The historical and social evolution of French culture will be studied through film, literature and art with visits to relevant historical sites and museums.

Prerequisite: FRE 102 or FRE 105.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

FRE 295. Transfer Credit. 1-3 Credit Hours.

Awarded for 200-level course work at another institution for which UM has no direct equivalent.

Components: LEC.

Grading: CNC.

Typically Offered: Fall, Spring, & Summer.

FRE 301. Introduction to French and Francophone Studies. 3 Credit Hours.

Tools for the interpretation and analysis of cultural materials from the French-speaking world. Acquisition of terminology and methodology for advanced study in French and Francophone Studies. Emphasis on historical, literary, and geographical breadth of French-speaking cultures as well as on critical writing skills.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

FRE 302. The Cultures of France. 3 Credit Hours.

Historical survey of French intellectual, artistic, and popular culture.

Prerequisite: FRE 301.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

FRE 303. The Cultures of Francophone Africa, Canada, and/or the Caribbean. 3 Credit Hours.

Historical survey of the intellectual, artistic, and popular culture of the French-speaking communities in Africa, Canada and the Caribbean.

Prerequisite: FRE 301.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

FRE 310. Topics in French and Francophone Studies in Translation. 3 Credit Hours.

Topics in the literature and/or cultures of the French-speaking world. Readings and discussion in English. Development of critical reading and writing skills. Fulfills humanities literature requirement. Does not fulfill foreign language requirement. May be repeated when the topic varies. May be used toward the French major in accordance with Department of Modern Languages and Literature stipulations.

Prerequisite: ENG 106 or ENG 107.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

FRE 321. Literary Topics. 3 Credit Hours.

The study of literature, film and/or the arts through a specific topic. Maybe repeated for credit if topic is different.

Prerequisite: FRE 301.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

FRE 322. Topics in Global French Culture. 3 Credit Hours.

Issues centered on the culture of France and/or regions where French is spoken. Topics such as film, Caribbean history, journalism, translations, migration. May be repeated for credit if topic is different.

Prerequisite: FRE 301.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

FRE 325. Topics in French-Language Cinema. 3 Credit Hours.

Topics in the cinema of the French-speaking world. Analysis of films in their cultural context. May be repeated for credit if topics vary.

Prerequisite: FRE 301.

Components: LEC.

Grading: GRD.

FRE 330. Topics in Gender and Sexuality. 3 Credit Hours.

Topics in gender and sexuality in the context of the French-speaking world, through literary and/or cultural studies. May be repeated if topics vary.

Prerequisite: FRE 301.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

FRE 340. Migration in Literary and Cultural Studies. 3 Credit Hours.

Study of migration to or from France, French-speaking Canada and America, Africa and/or the Caribbean. May be repeated for credit if topics vary.

Prerequisite: FRE 301.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

FRE 345. Franco-Maghrebian Studies. 3 Credit Hours.

The study of major historical, social, cultural and literary issues related to the Franco-Maghrebian interface. May be repeated for credit if topics vary.

Prerequisite: FRE 301.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

FRE 346. African Studies. 3 Credit Hours.

Topics in the literary and/or cultural study of French-speaking Africa. May be repeated for credit if topics vary.

Prerequisite: FRE 301.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

FRE 360. The Caribbean through Literary and Cultural Studies. 3 Credit Hours.

Literary and cultural readings on the Caribbean. May be repeated for credit if topics vary.

Prerequisite: FRE 301.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

FRE 363. Medieval and Renaissance Topics in French. 3 Credit Hours.

Topics within French literature from the 12th century to the end of the 16th century.

Prerequisite: FRE 301.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

FRE 364. Early Modern Topics in French. 3 Credit Hours.

Topics within French literature from the 17th and 18th centuries.

Prerequisite: FRE 301.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

FRE 365. 19th Century Topics in French. 3 Credit Hours.

Topics within French literature from the 19th and 20th centuries.

Prerequisite: FRE 301.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

FRE 366. 20th and 21st Century Topics in French. 3 Credit Hours.

Study of currents, themes, and movements that define and run the course of 20th and 21st century French literature and culture. Course materials may encompass a diverse array of sources, including art, film, literature, theatre, aesthetics, political cultures and theoretical debates. May be repeated if the topic changes substantially.

Prerequisite: FRE 301.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

FRE 394. French Internship. 1-3 Credit Hours.

The internship is intended to provide the student with an opportunity to apply analytical, interpretive, expressive, and creative skills developed in coursework. Internships ordinarily take place outside the University. They involve UM-faculty supervision as well as supervised on-site experience in an French-speaking cultural, business, or not-for-profit organization. Student needs to fill out the internship application form. Normally 40 internship hours are required per credit earned (the host will supply documentary evidence of hours worked).

Components: PRA.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

FRE 395. Transfer Credits. 1-3 Credit Hours.

Awarded for course work at another institution for which UM has no direct equivalent.

Components: LEC.

Grading: GRD.

FRE 396. Transfer Credits. 1-3 Credit Hours.

Awarded for course work at another institution for which UM has no direct equivalent.

Components: LEC.

Grading: GRD.

FRE 397. Transfer Credits. 1-3 Credit Hours.

Awarded for course work at another institution for which UM has no direct equivalent.

Components: LEC.

Grading: GRD.

FRE 398. Transfer Credits. 1-3 Credit Hours.

Awarded for course work at another institution for which UM has no direct equivalent.

Components: LEC.

Grading: GRD.

FRE 399. Transfer Credits. 1-3 Credit Hours.

Awarded for course work at another institution for which UM has no direct equivalent.

Components: LEC.

Grading: GRD.

FRE 432. French for Global Business. 3 Credit Hours.

The language and culture tools needed to work and conduct business in French anywhere it is spoken around the world.

Prerequisite: FRE 203.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

FRE 442. Advanced writing workshop in French. 3 Credit Hours.

Intensive writing of various genres based on the discussion of readings.

Prerequisite: FRE 301.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

FRE 446. Debating Cultures and Societies in French. 3 Credit Hours.

This course is designed to improve student's conversational skills cultivating formal academic speaking competencies, and to develop their critical thinking skills and analytical expression in French in order to help students achieve global literacy. In addition, this course seeks to build students' oral proficiency at the advanced level while increasing their awareness of Francophone cultures through active, responsible participation in discussions, debates and oral presentations in class. The class is conducted in French.

Prerequisite: FRE 203.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

FRE 495. Transfer Credits. 1-3 Credit Hours.

Awarded for 400-level course work at another institution for which UM has no direct equivalent.

Components: LEC.

Grading: GRD.

FRE 501. Capstone. 3 Credit Hours.

Course with a broad-based topic designed to integrate high-level linguistic, critical and analytical skills with the body of knowledge acquired during the course of study toward the major. Topics vary. Open only to undergraduates in the last semester of their French major. Course is writing intensive.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

FRE 591. Directed Readings. 1-3 Credit Hours.

May be repeated for credit if topic is different.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

FRE 592. Directed Readings. 1-3 Credit Hours.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

FRE 593. Directed Readings. 1-3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

FRE 594. Senior honors Thesis I. 3 Credit Hours.

Directed research for honors thesis.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

FRE 595. Senior Honors Thesis II. 3 Credit Hours.

Directed writing of honors thesis.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

FRE 625. Elementary French for Graduate Research. 0 Credit Hours.

Grammatical structuring, verb tenses, and word families necessary for reading text with minimal use of a dictionary. May fulfill the Foreign Language Reading Competency Requirement (consult your graduate advisor).

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

FRE 641. Elementary FRE I for Graduate Students. 0 Credit Hours.

Designed to develop graduate students' communicative abilities speaking, reading, writing, and comprehending French and to provide an introduction to the Francophone world.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

FRE 642. Elementary FRE II for Graduate Students. 0 Credit Hours.

Prerequisite: FRE 641.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

FRE 645. Accelerated Elementary FRE for Graduate Students. 0 Credit Hours.

For graduate students with previous study of French desiring to review material covered in FRE641 and FRE642 in preparation for study of French at the intermediate level. Designed to develop graduate students' communicative abilities in speaking, reading, writing, and comprehending French and continued engagement with the Francophone world.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

FRE 651. Intermediate FRE I for Graduate Research. 0 Credit Hours.

Prerequisite: FRE 642.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

FRE 652. Intermediate FRE II for Graduate Research. 0 Credit Hours.

For graduate students with previous study of French at the intermediate level. Designed to enhance graduate students' communication skills in both written and spoken French at the high-intermediate level. Intended primarily for students who will carry out research in the Francophone world.

Prerequisite: FRE 651.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

FRE 653. Advanced FRE I for Graduate Research. 0 Credit Hours.

For graduate students with previous study of French at the high-intermediate. Designed to enhance graduate students' communication skills in French at the advanced-low level. Intended primarily for students who will carry out research in the Francophone world.

Prerequisite: FRE 652.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

FRE 711. Topics in French Medieval Literature. 3 Credit Hours.

Recent topics: exile, the epic, orientalism, imperialism, monsters.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

FRE 712. Topics in French Renaissance Literature. 3 Credit Hours.

Specific genres, works, authors, and movements. Possible topics: Melancholy and Madness; Montaigne; Rabelais; Marguerite de Navarre; lyric poetry.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

FRE 713. Topics in 17th Century French Literature. 3 Credit Hours.

Recent topics: Racine, Moliere, Corneille; Pascal and the Moralistic tradition, the birth of the psychological novel, love and war.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

FRE 714. Topics in 18th Century French Literature. 3 Credit Hours.

Recent topics: Diderot, Rousseau, Sade; exoticism as related to political theory; the epistolary novel; the Enlightenment and post-colonial theory.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

FRE 715. Topics in 19th Century French Literature. 3 Credit Hours.

Recent topics: Balzac, Stendhal, Flaubert; Dandyism and Decadence; the Symbolist movement.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

FRE 716. Topics in 20th-21st Century French Literature. 3 Credit Hours.

Recent topics: Paris 1913; Surrealism; Artaud, Beckett, Ionesco, Genet; the Nouveau Roman.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

FRE 721. Special Topics in French Studies. 3 Credit Hours.

Special Topics in French Studies.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

FRE 775. Topics in Francophone Studies. 3 Credit Hours.

Recent topics: travel narratives, literary historiography, discourses of race, colonialism, multilingualism and literacy, nationalism and culture.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

FRE 791. Writing Practicum. 1 Credit Hour.

The writing of a publishable research paper under faculty guidance.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

FRE 792. Directed Readings. 1-3 Credit Hours.

Directed Readings at the grad level.

Components: IND.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

FRE 830. Pre-Candidacy Doctoral Dissertation. 1-12 Credit Hours.

Required of all candidates for the Ph.D. Prior to admission to candidacy, the student will enroll for credit as determined by his/her advisor. Not more than 12 hours of FRE 730 may be taken in a regular semester, nor more than six in a summer session. Students who have not passed their qualifying examinations yet, but are not taking any courses, may enroll in FRE 730.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

FRE 840. Post-Candidacy Doctoral Dissertation. 1-12 Credit Hours.

Required of all candidates for the Ph.D. After admission to candidacy, the student will enroll for credit as determined by his/her advisor. Not more than 12 hours of FRE 740 may be taken in a regular semester, nor more than six in a summer session. Students who have passed their qualifying examinations, but are not taking courses any more, may enroll in FRE 740. Where a student has passed his /her(a) qualifying examinations, and (b) is engaged in an assistantship, he/she may still take the maximum allowable credit stated above.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

FRE 850. Research in Residence. 1 Credit Hour.

Used to establish residence for the Ph.D., after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Credit not granted. May be regarded as full-time residence as determined the Dean of the Graduate School.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

General Business Management and Organization (GBM)

GBM 100. Fundamentals of Ethics and Leadership. 3 Credit Hours.

This is a comprehensive course specifically designed to assist students focus on building a proper foundation to prepare for college and then law school or graduate school in the future. The course creates opportunities for students to hone their ethical, business and legal skills. Students will be exposed to the functional areas of business: management, legal studies, and marketing. GBM 100 is a blend of academics, leadership, networking and teamwork that are at the core of a successful transition from high school to college to graduate school.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

GBM 101. Fundamentals of Business. 3 Credit Hours.

This course is designed to provide a broad introduction to the various fields of business knowledge that are essential for successful decision making in the global marketplace. Students will be exposed to the functional areas of business: economics, accounting, finance, and management. The curriculum will require students to engage in hands-on activities that will help to familiarize them with the different business fields and decide if a career in business is right for them.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

GBM 102. Global Business. 3 Credit Hours.

Miami's strategic location at the crossroads of the Americas provides an exciting setting to explore global business. This course introduces students to practices followed by organizations and individuals doing business in a global environment. It will start with an overview of the recent globalization phenomenon - why has it flourished as such? It will address key differences that characterized the various countries involved in the global economy. Students will review trends, as well as rewards and challenges, affecting the global trade and investment environment and of critical importance what are common strategy and structure of international business.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

Genomic Medicine (GNM)

GNM 602. Clinical Applications of Genomic Medicine II. 3 Credit Hours.

The Clinical Applications of Genomic Medicine series provides genomic medicine case studies and systems-based learning. Topics covered in the fall include cardiovascular, respiratory, renal/urinary, gastrointestinal/nutritional systems.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

GNM 605. Research Ethics. 1 Credit Hour.

This course introduces foundational concepts in research ethics in preparation for conducting the genomic medicine practicum. Online Human Subjects Research and Responsible Conduct of Research training through the CITI program website will be supplemented with three hours of in-person discussion sessions.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

GNM 610. Clinical Applications of Genomic Medicine I. 3 Credit Hours.

This course provides introductory background for understanding genomics, genomic techniques as well as provides genomic medicine case studies and systems-based learning. Initial topics include basic concepts of genomic medicine, genomic techniques involved in clinical applications, integration of genomic medicine into clinical setting, importance of translational research, benefits for patient and physician, transitioning with the medical curriculum into case studies. This course is focused on complex genetic disorders, and use of web-based tools to use in clinical work.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

GNM 630. Clinical Applications of Genomic Medicine III. 4 Credit Hours.

The primary objective of this course is to prepare students to evaluate the clinical utility of a genetic test and apply that information in a clinical setting. Illustrations of these concepts are drawn from the systems-based curriculum spanning December (ophthalmology and dermatology) and spring (rheumatology, infection & immunity, hematology & oncology, diabetes & metabolism, endocrinology & reproductive medicine). The class will meet once each week (2 hours each session), for literature-based discussion sessions and case-based learning.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

GNM 631. Genomic Medicine Laboratory. 3 Credit Hours.

Students will rotate in the molecular genetics and biochemical genetics diagnostic laboratories, gaining experience with genomic testing in a clinical setting and interpretation and communication of results.

Components: LAB.

Grading: CNC.

Typically Offered: Spring.

GNM 660. Computational Methods for Genomic Medicine. 3 Credit Hours.

The objective of this course is to gain a working knowledge of computational methods utilized in primary and secondary analysis of genomic technologies and apply these to a clinical setting. This will prepare students to perform practical data analysis in the GNM 631 course offered in Spring.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

GNM 680. Genomic Ethics and Public Policy. 3 Credit Hours.

This course provides an introduction to the scientific, socio-ethical and policy issues arising in the context of genomic medicine. It is designed to improve your critical thinking and give you the tools to evaluate the wide range of challenges that genomic medicine brings to individuals and societies alike. We will cover a broad spectrum of topics, from the history of eugenics, to genetic testing and screening through the life cycle (i.e. pre-implantation and pre-natal testing, newborn, population and carrier screening, direct-to-consumer genetic testing), as well as bioethical (i.e., informed consent, privacy, confidentiality, etc.), policy (i.e., professional duties, patents, discrimination, etc.), and societal issues (i.e. health disparities).

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

GNM 690. MSGM Capstone. 6-12 Credit Hours.

The purpose of the Capstone Segment is to provide the research and clinical application aspects of training. It can be initiated at any point after admission to the MSGM Program, and results in 6 credits earned in Spring of Year 4. All components (case reports, mentored research project, genomic medicine education) will be summarized in a portfolio of work and presented at the end of the Capstone.

Components: LAB.

Grading: SUS.

Typically Offered: Spring.

Geography (GEG)

GEG 101. Digital Earth. 3 Credit Hours.

Explores various geospatial technologies and the societal implications of our digital world with particular emphasis locational services, mapping, imagery, and other capabilities.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

GEG 105. World Regional Geography. 3 Credit Hours.

An introduction to geography's basic concepts within the framework of a comprehensive survey of the world's major regions.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

GEG 110. Introduction to Human Geography. 3 Credit Hours.

An introduction to the sub-fields of human geography by an examination of patterns and process in the international system.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

GEG 120. Physical Geography. 3 Credit Hours.

The Earth system (atmosphere; hydrosphere; biosphere; lithosphere) emphasizing the interrelationships among its constituent subsystems; human-environmental interactions and geographic dimensions of these four subsystems.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

GEG 198. Geographic Information System for Engineers. 1 Credit Hour.

The fundamentals of Geographic Information Systems (GIS). A GIS is a set of hardware and software tools that allow people to work with data that are tied to a particular location. In this course students will learn how to import, analyze and display answers to spatial research questions using GIS software. By the end of the semester students should have a solid understanding of the various applications of Geographic Information Systems in numerous spheres of everyday life. No prior experience with GIS software is required for this course. This course is for College of Engineering students only.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

GEG 199. Geographic Information Systems for Engineers. 1 Credit Hour.

The fundamentals of Geographic Information Systems (GIS). A GIS is a set of hardware and software tools that allow people to work with data that are tied to a particular location. In this course students will learn how to import, analyze and display answers to spatial research questions using GIS software. By the end of the semester students should have a solid understanding of the various applications of Geographic Information Systems in numerous spheres of everyday life. No prior experience with GIS software is required for this course.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

GEG 201. Topics in Geography. 1-3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

GEG 231. Environmental Geography and Planetary Health. 3 Credit Hours.

Designed to encourage students to think deeply, critically, and coherently about the interaction between human societies and nature from a geographical perspective. Explores the societal dependence on natural ecosystems. Assess the magnitude and impacts of the environmental changes caused by human activities in the biosphere and evaluates the hypothesis that the earth has moved into in a new geologic epoch. Explores the concept of sustainable development and how countries are implementing it.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

GEG 241. Health and Medical Geography. 3 Credit Hours.

Integrates public health and medicine with human and environmental geography using three approaches: ecological (the interaction of disease and our natural/built environments), social (the behavioral effects of culture, poverty, and politics), and spatial (using geospatial technology to better understand and improve health services and outcomes).

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

GEG 266. Metropolitan Miami. 3 Credit Hours.

This course provides interdisciplinary perspectives on the urbanization of South Florida and on Miami's urban milieu. The course uses the case of Metropolitan Miami to introduce and illustrate a range of basic concepts in urban studies.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

GEG 281. Economic Geography. 3 Credit Hours.

Explores processes driving spatial patterns of economic activity at the global, national, regional, and local scales. Topic areas include economic globalization, spatial distribution of industrial sectors, multinational corporations, international trade, regional economic development, and illegal economic activities. Examines the development of the global marketplace in both the developed and the developing world.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

GEG 305. Spatial Data Analysis I. 3 Credit Hours.

The use of basic methods or quantitative analysis for spatial data, including basic descriptive and inferential statistics and special techniques for spatial data.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

GEG 306. Geographic Research Methods. 3 Credit Hours.

The fundamentals of social science research, such as research design, hypothesis formulation, and field data collection, with particular emphasis on quantitative and qualitative geographic analytical methods.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

GEG 310. Geographic Information Systems I. 3 Credit Hours.

The fundamentals of Geographic Information Systems (GIS). GIS is a set of hardware and software tools that allow people to work with data that are tied to a particular location. In this course students will learn how to import, analyze and display answers to spatial research questions using GIS software. By the end of the semester students should have a solid understanding of the various applications of Geographic Information Systems in numerous spheres of everyday life. No prior experience with GIS software is required for this course. CIVIC designation: This section of the course is taught with the principles of civic engagement and service learning in mind. To satisfy these principles, students will be paired with a community organization in need of mapping, and will complete their final project in partnership with the community organization. For more information on civic engagement and academic service earning please visit <http://civic.miami.edu/>.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

GEG 315. Digital Cartography. 3 Credit Hours.

An introduction to cartographic methods, interpretation and history. Students learn basic principles of visual representation, how to map qualitative and quantitative data, and how to prepare maps for publication and the web.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

GEG 321. Remote Sensing of the Environment. 3 Credit Hours.

Theory and techniques of environmental remote sensing and imagery interpretation for earth resources monitoring and management.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

GEG 331. Sustainable Development. 3 Credit Hours.

Explores the emerging field of sustainable production-consumption systems with special emphasis on the agriculture, extractive, and infrastructure sectors. A geographic perspective is used to evaluate the environmental impacts of these sectors. Reviews the mechanisms that governments and the private sector are establishing to make these economic sectors more sustainable.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

GEG 332. Climatology and Extreme Weather. 3 Credit Hours.

Covers introductory information about Earth's atmosphere, weather development, and extreme weather events. Introduces basic concepts of the science of weather and climate, and current scientific developments in areas such as extreme weather forecasting and global climate change.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

GEG 334. Biogeography and Conservation. 3 Credit Hours.

Explores the modern science of biogeography and its implications for the design of spatial strategies to conserve biodiversity and ecosystem services. Examines the history of biogeography and its geographical and ecological foundations. Discusses the fundamental biogeographical processes and uses them to investigate the evolution of biotas and explain the current biogeographic patterns. Explores the emerging field of conservation biogeography and its applications.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

GEG 335. Sustainable Food Systems. 3 Credit Hours.

A sustainable food system sustains environmental health and local economies, and is socially just. We will explore the intricacies of global geographies of major food systems and how these systems have come to be. We will identify where major food types are produced, why and where the major demand centers are. Further, we will seek answers to fundamental food-related questions, including: in an age of plenty, why do people still starve, and what can be done about it? How do we explain malnutrition in some parts of the world and obesity in others? Can there really be such a thing as a "sustainable global food systems?" Finally, we will examine what the future implication for food is through exploratio1 and evaluation of a range of visions for a safe, sustainable food system.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

GEG 336. Hazards and Disasters: The Nature-Society Interface. 3 Credit Hours.

Explores how human-environment interactions determine the distribution, causes and consequences of natural hazards and disasters.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

GEG 341. Population, Health, and Environment. 3 Credit Hours.

Global human population dynamics and implications for environmental sustainability; topics include population growth and structure, mortality and fertility patterns, migration, urbanization, aging, and household composition.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

GEG 343. Population, Sustainability, and the Media. 3 Credit Hours.

Explores opposing views of population growth and environmental sustainability through the media and cinema: contrasts "Doomsters" who believe population growth and resource consumption threaten human survival and pro-growth "Boomsters" who believe human ingenuity and technology will continue to allow humankind to prosper.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

GEG 345. Drinking Water: Past, Present, and Future. 3 Credit Hours.

Traces the past, present, and future of human drinking water supplies through a social science lens. Examines drinking water as a physical, social, economic, and political resource, and how the integration of these views affects the management of global drinking water supplies.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

GEG 346. Immigrant and Refugee Health. 3 Credit Hours.

A theoretical background essential for understanding the complex interaction of migration and health. Students will gain a basic understanding of the theories surrounding the movement of people within and across political boundaries. Emphasis will be placed on the health issues experienced by displaced populations including refugees, migrants, and internally displaced persons. We will explore some of the difficulties that receiving communities face in addressing the health needs of migrants, the roles of actors involved in working with displaced populations and how emigration of a large segment of the population, either abruptly or over time, affects sending communities as well. Much of the class will consist of guest speakers and case studies presented by different healthcare professionals working with migrant communities, with examples of the problems faced and solutions achieved in addressing issues of immigrant and refugee health drawn for both national and international experience.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

GEG 348. Climate Change and Public Health. 3 Credit Hours.

The mechanisms by which climate change adversely affects human health, and the policy options for mitigating our exposure.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

GEG 351. Geopolitics and Peacebuilding. 3 Credit Hours.

Explores the political and legal responses, both national and international, to violations of Human Rights associated with conflicts and totalitarian regimes around the world, with emphasis on the peace building process in diverse geographical locations.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

GEG 352. Crime and the City. 3 Credit Hours.

Explores why there is so much violent crime in certain cities of the Americas and why there are such marked spatial differences between, and within, these cities. Contrasts and discusses specific issues (and myths) of crime, punishment, and policing in the Americas using a variety of academic and institutional research on violent crime.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

GEG 353. United States National Security. 3 Credit Hours.

Examines a broad spectrum of such challenges to US national security, simulating the role of policy makers and strategists for the Office of the President.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

GEG 354. Global Human Rights. 3 Credit Hours.

Equips students with a broad perspective to think critically about the global issues surrounding the foundations of Human Rights together with questions about its universality, reach, and enforceability.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

GEG 355. Global Political Economy. 3 Credit Hours.

Explores the relationship between the global economy and politics, as governments seek both to shape it and to respond effectively to the constraints and opportunities it provides.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

GEG 356. Latin American Political Economy. 3 Credit Hours.

Examines Latin America's economic development, analyzing different developmental strategies, resource endowment, institutional framework, and other related variables.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

GEG 362. World Urban Geography. 3 Credit Hours.

An introduction to the principles and methods that apply to the geographic study of cities and urbanization.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

GEG 366. Cities in Time and Space. 3 Credit Hours.

Interdisciplinary perspectives on the city, urbanity, and urbanization through a series of wide-ranging historical-geographical contexts. Field excursions are incorporated into the course.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

GEG 381. Geography and Development in Africa. 3 Credit Hours.

A survey of the geography of Africa south of the Sahara, with particular emphasis on development and the role of African states in the international system.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

GEG 382. Political Geography of the Middle East. 3 Credit Hours.

Geography of the Middle East with emphasis on current political topics.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

GEG 383. Geography and Development in South America. 3 Credit Hours.

An introduction to the geography of South America. Explores the interface between societies and nature in this diverse and complex world region. Covers the major challenges that the countries of the continent are facing to improve their socio-economic indicators as well as protect their unique natural ecosystems.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

GEG 384. Geography of South Florida. 3 Credit Hours.

Human and physical geography of South Florida.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

GEG 385. Jewish Geography. 3 Credit Hours.

Facts of Jewish history, geography, and demography both in the world and the United States. Basic geographic concepts that help us to understand the Jewish world and provide a basis for understanding the various ways that Jewish communities have adapted to different geographic circumstances.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

GEG 390. Topics in Geography. 3 Credit Hours.

Content and prerequisites announced when offered. Course may be repeated for credit if content varies.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

GEG 398. Independent Research. 6.00 Credit Hours.

Independent research conducted one on one with a faculty member.

Components: SEM.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

GEG 399. Independent Study. 6.00 Credit Hours.

Independent study.

Components: SEM.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

GEG 402. Geographic Thought and Analysis. 3 Credit Hours.

An introduction to the history of geographic thought and geographic analysis, and to some important sub-disciplines of Geography. At the end of the semester, students will have a better understanding of the history of Geography, of its place in the academy, and important theoretical and methodological debates and themes within the discipline. Our purpose in this seminar is to create a dynamic and focused intellectual environment in which learning is a collective process. To achieve that we will analyze, critique, question and debate the weekly readings. There will be little formal lecturing on my part. Instead, class time will be spent in open discussion and hands-on projects completed individually or in teams. Throughout the semester, we will also host guest speakers, who will give you insights into their scholarship and give you further exposure to the discipline of Geography. Be ready to read and write a lot, and come to class prepared to discuss!

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

GEG 405. Spatial Data Analysis II. 3 Credit Hours.

Social and environmental science applications of spatial statistical analysis illustrated with data and numerical (simulation experiments) examples employing interactive software. This course's focus is on spatial autocorrelation.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

GEG 406. Survey Research Methods. 3 Credit Hours.

The use of survey research including the choice of a survey mechanism, sampling, questionnaire design, survey logistics, survey analysis, and reporting of results.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

GEG 410. Geographic Information Systems II. 3 Credit Hours.

An introduction to spatial analysis, which consists of techniques for analyzing patterns of and interrelationships between spatial data. Topics include vector polygon editing and topology, integration of raster and vector data, surface analysis and 3D analysis, suitability mapping, spatial modeling, and multi-criteria evaluations.

Prerequisite: GEG 310.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

GEG 412. GIS for Health and Environment. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

GEG 414. Crime Mapping and Analysis. 3 Credit Hours.

Provides a basic understanding of the spatial analysis of issues related to criminal justice and crime mapping using state-of-the-art GIS software.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

GEG 415. Web GIS. 3 Credit Hours.

Map serving technologies and internet map design, focusing on the programming concepts needed to construct and implement high-quality web mapping applications. Lab exercises will make use of both the commonly used open source GIS and related programming tools for customizing web-based mapping applications, as well as the leading proprietary web mapping capabilities provided in ESRI's ArcGIS Server. Students build their own on-line interactive, customizable maps and will learn the basics of client/server architecture and processing, JavaScript programming, and XML/HTML basics.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

GEG 421. GIS and Environmental Modeling. 3 Credit Hours.

Space-time modeling in a GIS environment with emphasis on raster-based models of land cover change, urban expansion, species distribution, wildfire propagation, and other environmental issues.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

GEG 435. Geography of Wine. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

GEG 490. Topics in Geography. 3.00 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

GEG 501. Capstone Research Seminar. 3 Credit Hours.

Project-based fundamentals of social science research; emphasizes research conceptualization and design, application of methods, data management, scientific writing, multi-modal presentation of findings, and professional development skills.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

GEG 505. Seminar in Methods of Analysis. 3 Credit Hours.

The use of advanced quantitative, qualitative, and mixed methods in the solution of geographic research problems.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

GEG 506. Field Studies in Geography. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

GEG 507. Seminar in Field Methods. 3 Credit Hours.

With a focus on geospatial applications, this methods course introduces students to field research addressing complex socio-environmental issues. The course includes exercises with GPS data collection; geo-tagged photography; ground truthing; spatial survey design; and distributed GIS. Various research areas and cognate field methods including environmental demography, community surveying, cultural mapping, and multi-sited ethnography.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

GEG 519. Immigration to the United States. 3 Credit Hours.

A description and analysis of current immigration patterns in the United States.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

GEG 530. Seminar in Sustainability. 3 Credit Hours.

Examines the relations between human society and material nature from within a broad theoretical perspective, relating questions of science, culture, and technology to the politics and economics of natural resources, focusing particularly on water, food, and petroleum.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

GEG 532. Seminar in Biogeography and Conservation. 3 Credit Hours.

Explores the human dimensions of global environmental change using an interdisciplinary approach. The course is reading and writing intensive. Special attention is given to the central role that land-use/cover change plays in the larger realm of global environmental change.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

GEG 561. Seminar in International Development. 3 Credit Hours.

Topics in the study of development. Content and prerequisites vary.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

GEG 562. Seminar in Urban Management. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

GEG 563. Seminar in Urban Geography. 3 Credit Hours.

Topics in the study of urban geography. Content and prerequisites vary.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

GEG 580. Introductory Quantitative Methods for Geographical Analysis.. 3 Credit Hours.

Basic quantitative methods for geographic analysis.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

GEG 590. Advanced Topics in Geography. 1-6 Credit Hours.

Content and prerequisites vary by semester.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

GEG 597. Internship in Geography. 6.00 Credit Hours.

Components: FLD.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

GEG 598. Advanced Independent Research. 6.00 Credit Hours.

Independent research conducted one on one with a faculty member.

Components: SEM.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

GEG 599. Advanced Independent Study. 6.00 Credit Hours.

Independent study.

Components: SEM.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

GEG 602. Geographic Thought and Analysis. 3 Credit Hours.

Seminar for Graduate and senior undergraduate students about geographic thought and geographical traditions.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

GEG 603. Research Design in Geography. 3 Credit Hours.

Designing and proposing geographic research projects based upon a critical reading of the geographical literature. Students will prepare a master's thesis (master's students) or dissertation (doctoral students) project proposal.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

GEG 610. Survey Research Methods. 3 Credit Hours.

The use of survey research including the choice of a survey mechanism, sampling, questionnaire design, survey logistics, survey analysis, and reporting of results.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

GEG 613. Advanced Cartography. 3 Credit Hours.

Cartographic research techniques, cognitive mapping, distortion, transformations and cartograms. Prerequisite: GEG 280 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

GEG 619. Immigration to the United States. 3 Credit Hours.

A description and analysis of current immigration patterns in the United States.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

GEG 622. Urbanization in the Developing World. 3 Credit Hours.

Patterns and processes in large cities in the developing world are examined.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

GEG 623. Seminar in Urban Management. 3 Credit Hours.

Identification of and responses to urban problems in large cities in European and Latin American metropolitan areas. Emphasis is on demographic, cultural/ethnic, service-provision, environmental, transportation, and land-use problems. Approach is via case studies, theory applications, and planning practicalities.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

GEG 625. Advanced Independent Study in Geography I. 1-6 Credit Hours.

Advanced independent study for Two-Paper Option for first paper.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

GEG 632. Seminar in Environmental Geography and Planetary Health. 3 Credit Hours.

Advanced topics in Environmental Geography from a systems approach.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

GEG 635. Internship in Geography. 1-4 Credit Hours.

Students are assigned to work for a local public or private agency.

Components: THI.

Grading: SUS.

Typically Offered: Fall & Spring.

GEG 637. Development Studies. 3 Credit Hours.

Advanced seminar on issues in contemporary development studies.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

GEG 643. Population, Sustainability and the Media. 3 Credit Hours.

Explores opposing views of population growth and environmental sustainability through the media and cinema: contrasts "Doomsters" who believe population growth and resource consumption threaten human survival, and pro-growth "Boomsters" who believe human ingenuity and technology will continue to allow humankind to prosper.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

GEG 645. Advanced Independent Study in Geography II. 1-6 Credit Hours.

Advanced independent study for Two-Paper Option for second paper.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

GEG 648. Climate Change and Public Health. 3 Credit Hours.

The mechanisms by which climate change adversely affects human health and the policy options for mitigating our exposure.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

GEG 652. Seminar on the Geography of South Florida. 3 Credit Hours.

Human and physical geography of South Florida.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

GEG 655. Field Methods and Geospatial Analysis. 3 Credit Hours.

With a focus on geospatial applications, this methods course introduces students to field research addressing complex socio-environmental issues. The course includes exercises with GPS data collection; geo-tagged photography; ground truthing; spatial survey design; and distributed GIS. Various research areas and cognate field methods including environmental demography, community surveying, cultural mapping, and multi-sited ethnography.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

GEG 656. Interdisciplinary Issues in Latin American and Caribbean Studies. 3 Credit Hours.

Political, economic, social, and cultural issues of Latin American and Caribbean area Studies.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

GEG 658. Seminar in Comparative Politics I. 3 Credit Hours.

Comparative political analysis within and across nations. Debates on state formation, democracy and development, democratization, and the role of ideas, interests, and institutions.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

GEG 661. Urban Geography I. 3 Credit Hours.

An introduction to the essential elements about the growth and development of cities. Review of the challenges of urbanization and urban sustainability in the contemporary period.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

GEG 663. Urban Geography II. 3 Credit Hours.

Analysis of the spatial structure of urban centers, the development of and interaction between functional zones, and the movement of goods and people in urban areas.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

GEG 680. Spatial Data Analysis I. 3 Credit Hours.

The use of basic methods or quantitative analysis for spatial data, including basic descriptive and inferential statistics and special techniques for spatial data.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

GEG 681. Spatial Data Analysis II. 3 Credit Hours.

Social and environmental science applications of spatial statistical analysis illustrated with data and numerical (simulation experiments) examples employing interactive software. This course's focus is on spatial auto correlation.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

GEG 685. Digital Cartography. 3 Credit Hours.

Introduction to cartographic methods, interpretation, and history. Basic principles of visual representation, how to map qualitative and quantitative data, and how to prepare maps for publication and the web.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

GEG 691. Geographic Information Systems I. 3 Credit Hours.

An introduction to fundamental concepts in Geographic Information Systems (GIS) and related geographic technologies. Students are exposed to leading GIS software tools used in the industry.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

GEG 692. Remote Sensing of the Environment. 3 Credit Hours.

Theory and techniques of environmental remote sensing and imagery interpretation for earth resources monitoring and management.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

GEG 693. Geographic Information Systems II. 3 Credit Hours.

An introduction to spatial analysis, which consists of techniques for analyzing patterns of and interrelationships between spatial data. Topics include vector polygon editing and topology, integration of raster and vector data, surface analysis and 3D analysis, suitability mapping, spatial modeling and multi-criteria evaluations.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

GEG 695. Web GIS. 3 Credit Hours.

Map serving technologies and internet map design, focusing on the programming concepts needed to construct and implement high-quality web mapping applications.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

GEG 758. Seminar in Comparative Politics II. 3 Credit Hours.

Theoretical approaches and methodological debates in Comparative Politics.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

GEG 810. Master's Thesis. 1-6 Credit Hours.

The student working on his/her master's thesis enrolls for credit, in most departments not to exceed six, as determined by his/her advisor. Credit is not awarded until the thesis has been accepted.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

GEG 820. Research in Residence. 1 Credit Hour.

Used to establish research in residence for the thesis for the master's degree after the student has enrolled for the permissible cumulative total in GEG 710 (usually six credits). Credit not granted. May be regarded as full time residence.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

GEG 825. Continuous Registration--Master's Study. 0 Credit Hours.

To establish residence for non-thesis master's students who are preparing for major examinations. Credit not granted. Regarded as full time residence.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

Geological Sciences (GSC)

GSC 101. Origin and Evolution of Planet Earth. 3 Credit Hours.

The origin of the elements and the evolution of the universe. The formation and early evolution of the solar system. The differentiation of the earth into core, mantle, and crust. Origin of the oceans and atmosphere.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

GSC 102. Evolution of the Biosphere. 3 Credit Hours.

The physical basis of life. The origin, early evolution, history of life on Earth. Emphasis on major crises and innovations, including the evolution of modern man.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

GSC 103. Evolution of the Modern Earth's Environment. 3 Credit Hours.

The earth's crust: composition and morphology. Ocean and atmosphere: radiation balance and dynamics. Climatology and paleoclimatology. The ice ages and the evolution of the modern environment. The relationships between the geological environment and human activities.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

GSC 105. The Global Environment. 3 Credit Hours.

Anthropogenic effects on the Earth's environment compared to analogous natural events.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

GSC 106. Geological Influences on Society. 3 Credit Hours.

Impact of geological processes on daily human activities and decision-making. Geological hazards and human habitation. Economic geology and exploration of natural resources. Influences of geology on other disciplines.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

GSC 107. Natural Disasters: Hollywood vs. Reality. 3 Credit Hours.

This course will explore the causes, effects and societal responses to disasters. We will look at a variety of natural hazards and related disasters including flooding, volcanoes, landslides, earthquakes, hurricanes, tsunami and drought. Using excerpted segments of "disaster films" in conjunction with scientific treatments, we can identify the causes, frequency, consequences, risks, and public perceptions of natural hazards.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

GSC 108. The Geologic Record. 3 Credit Hours.

Analysis of the rock record to determine the geologic history using knowledge of rocks, minerals, fossils, and stratigraphy.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

GSC 110. The Earth System. 3 Credit Hours.

Interactions among the major components of the Earth System - the geosphere, the hydrosphere, the atmosphere, and the biosphere. To be taken concurrently with GSC 114 lab section.

Corequisite: GSC 114.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

GSC 111. Earth System History. 4 Credit Hours.

Earth History, beginning with earliest origins and surveying major steps in the evolution of the geosphere, atmosphere, hydrosphere, and biosphere.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

GSC 114. Earth Processes Lab. 2 Credit Hours.

Minerals, rocks, sediments, maps, imagery, fossils and paleoenvironmental reconstruction methods. Current frontiers of knowledge and field introduction to marine geology. Co-requisite: GSC 110.

Corequisite: GSC 110.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

GSC 204. Environmental Statistics. 3 Credit Hours.

This introductory course provides an overview of parametric and nonparametric statistics with an emphasis on applications in the analysis of environmental data.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

GSC 230. Reef Systems Through Time. 3 Credit Hours.

Interacting geological, physical, chemical, biological, and climatic processes that define a reefal setting and system. Field trips included.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

GSC 231. Field Study of Reef Systems Through Time. 2 Credit Hours.

Fossil reef systems of the Paleozoic age in west Texas and New Mexico. Components, fabrics, and facies relationships. Field Methods. Visit to the Permian reef complex at Alamogordo. Carlsbad and Mississippian, Pennsylvanian and Permian reef mounds near Alamogordo. Fee required.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

GSC 240. Introduction to Marine Geology. 3 Credit Hours.

Learn about the origin, structure and evolution of the ocean basins and their margins, including interpretation of the paleo-archives hidden on the seafloor. The course material is necessarily broad, covering marine geography, plate tectonics, active and passive margins, coastal and ocean processes, sediment processes, continental margin and seafloor resources, and climate and ocean history and interactions. Our approach will be interdisciplinary, requiring integration of chemical, physical and biological systems, as well as geologic processes. A special emphasis will be placed on learning to read the sediment record as an archive of information on biologic and climate evolution.

Prerequisite: GSC 110 and GSC 114 or GSC 111.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

GSC 260. Earth Materials. 4 Credit Hours.

Physical and optical properties of common rock-forming minerals and their occurrence in igneous, metamorphic, sedimentary rocks, and ore deposits. Lecture, 3 hours; laboratory, 4 hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

GSC 309. Microbes and the Environment. 3 Credit Hours.

This course is designed to provide students in geology, biology and environmental science a fundamental understanding of the role microbes play in shaping the Earth and its environments as well as the basic principles and approaches to studying these interactions in both modern and ancient settings. The metabolic diversity displayed by microbial communities makes them an integral component of global elemental cycles. In this regard, microorganisms have shaped our planet over the past 4 billion years and continue to do so in a very prominent way. The goal of this course is to learn about microbial diversity and metabolism, and the ability of microbes to shape and influence the environment.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

GSC 311. Field Study of Volcanoes and Society. 2 Credit Hours.

Field trip to Popocatepetl and surrounding sites near Mexico City. Nature and impact of explosive volcanic eruptions on prehistoric civilizations. Fee required.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

GSC 360. Depositional and Diagenetic Systems. 4 Credit Hours.

Sedimentary processes, sedimentology, and sedimentary diagenesis. Physical, biological and chemical sedimentation in Earth's surficial environments. Paleoenvironmental and diagenetic history reconstruction using petrologic, hand specimen, and field methods. Cyclicality in sedimentary systems. Lecture, 3 hours; field/ laboratory, 3 hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

GSC 380. Paleontology and Stratigraphy. 4 Credit Hours.

Biostratigraphy, paleoecology, taphonomy, micro- and macro-evolutionary processes, and physical and chemical methods used for stratigraphic correlation. Major groups of invertebrate phyla comprising the bulk of the fossil record. Lecture, 3 hours; laboratory, 2 hours.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

GSC 401. Senior Internship. 3 Credit Hours.

Field and laboratory studies conducted in conjunction with an approved academic environmental or industrial research laboratory or agency.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

GSC 410. Environmental Geochemistry. 3 Credit Hours.

Natural distribution of the elements on earth, and how this is being changed. Radioactivity and energy, greenhouse warming and ozone depletion, water and waste and other environmental problems.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

GSC 420. Geophysics. 3 Credit Hours.

The earth's gravitational field. Geomagnetism and paleomagnetism. Seismology. Heat flow. Plate tectonics. Lecture, 3 hours; laboratory, 2 hours.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

GSC 424. Origin and Geology of the Galapagos Islands. 3 Credit Hours.

This course explores the origin and geology of volcanic oceanic islands, using the Galapagos Islands as a natural laboratory. Though all share a common origin in plate tectonic theory, each island presents a host of environments that originate in the processes of volcanic action, erosion and hydrology. Individual islands therefore develop distinctive ecosystems within which organisms interact and evolve. The emphasis of this course will be to lay out the underlying geological processes that have led to the formation of the islands and to their present state, and to explore through daily field excursions a wide suite of volcanic features displayed on Isabela Island.

Prerequisite: GSC 110.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

GSC 440. Igneous and Metamorphic Petrology. 4 Credit Hours.

Genesis and classification of igneous and metamorphic rocks, field relationships of rock assemblages, and results of recent laboratory investigations. Identification of common rock types in hand specimens and by thin-section and X-ray diffraction techniques. Lecture, 3 hours; laboratory, 3 hours.

Prerequisite: GSC 260.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

GSC 462. Earth's Ancient Atmospheres, Climates, and Sea Levels. 3 Credit Hours.

The Earth's atmospheres, climates, and sea level from the early Pre-Cambrian to present. Focus is placed on how the study of Earth's past is relevant to both modern and future climate change.

Prerequisite: GSC 110 and GSC 111.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

GSC 480. Structural Geology. 4 Credit Hours.

Behavior of rock materials; analysis, description and classification of geologic folds, faults, joints; analysis of rock fabrics; tectonic and geologic history of continents and continental margins. Lecture, 2 hours; laboratory, 2 hours.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

GSC 482. Field Methods. 2 Credit Hours.

Field and laboratory exercises in mapping. Interpretation of aerial and satellite photographs; coring and laboratory meets two hours/week. Field portion is on alternate Saturdays plus four day trip to Appalachians or Caribbean.

Components: LAB.

Grading: GRD.

Typically Offered: Spring.

GSC 490. Senior Thesis. 3 Credit Hours.

Individual, original research of independent study supervised by a member of the Departmental faculty and concluded by formal thesis preparation, public oral defense and submission of the thesis to the Department.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

GSC 491. Senior Thesis. 3 Credit Hours.

Individual, original research of independent study supervised by a member of the Departmental faculty and concluded by formal thesis preparation, public oral defense and submission of the thesis to the Department.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

GSC 550. Hydrogeology. 3 Credit Hours.

Movement of subterraneous water. The mechanical, chemical and thermal interaction of water with porous solids, and the transport of energy and chemical constituents. The origin of porosity and permeability. The controls exerted on aquifers by the lithology, stratigraphy and structure of geologic deposits and formations.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

GSC 560. Colloquium - Current Topics in the Geosciences. 1 Credit Hour.

Weekly presentations and discussions. Written and oral presentations required.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

GSC 561. Colloquium - Current Topics in the Geosciences. 1 Credit Hour.

Weekly presentations and discussions. Written and oral presentations required.

Components: DIS.

Grading: GRD.

Typically Offered: Spring.

GSC 574. Special Studies. 1-4 Credit Hours.

Students engaged in approved field and/or laboratory activities, such as work at sea or in the laboratory under supervision, may register for credit.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

GSC 575. Special Studies. 1-4 Credit Hours.

Students engaged in approved field and/or laboratory activities, such as work at sea or in the laboratory under supervision, may register for credit.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

GSC 576. Special Studies. 1-4 Credit Hours.

Students engaged in approved field and/or laboratory activities, such as work at sea or in the laboratory under supervision, may register for credit.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

GSC 580. Summer Field Geology. 4 Credit Hours.

An intensive four-week summer field laboratory study of modern geological processes and ancient rock sequences. Mapping, description and interpretation of rock and structural sequences, paleoenvironmental reconstruction, interpretation of tectonic history. Reports required. Touring course. Travel fee required.

Components: LEC.

Grading: GRD.

Typically Offered: Spring & Summer.

GSC 581. Summer Field Environmental Geology. 2 Credit Hours.

Field evaluation of environmental geology problems in marine, coastal, wetland and terrestrial environments. Effects of human alteration of landscape, natural hazards, pollution of ground water, surface water and soils. Role of climate change on surficial environments. Reports required. Touring course. Travel fee required. Co-requisite: GSC 580.

Components: LEC.

Grading: GRD.

Typically Offered: Spring & Summer.

GSC 582. Field Studies. 1-4 Credit Hours.

Conducted field trips to selected geological sites in the United States and abroad. Report required.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

GSC 596. Research in Geology. 1-4 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

German (GER)

GER 101. Elementary German I. 3 Credit Hours.

Fundamental grammatical principles; exercises to develop a foundation for skills of listening, speaking, reading, and writing; introduction to German culture. Closed to native speakers.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

GER 102. Elementary German II. 3 Credit Hours.

Continuation of GER 101. Building upon fundamental grammatical principles; exercises to develop a foundation for skills of listening, speaking, reading, and writing; introduction to German culture. Closed to native speakers.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

GER 195. Transfer Credit. 1-3 Credit Hours.

Awarded for 100-level course work at another institution for which UM has no direct equivalent.

Components: LEC.

Grading: CNC.

Typically Offered: Fall, Spring, & Summer.

GER 201. Intermediate German I. 3 Credit Hours.

Continuation of GER 102, with special emphasis on essay writing.

Components: LEC.

Grading: GRD.

GER 202. Intermediate German II. 3 Credit Hours.

Integrated grammar, writing, and conversation via content-based instruction. Diverse selection of readings: stories, plays, essays, interviews, other materials. Development of skills in a workshop format.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

GER 295. Transfer Credit. 1-3 Credit Hours.

Awarded for 200-level course work at another institution for which UM has no direct equivalent.

Components: LEC.

Grading: CNC.

Typically Offered: Fall, Spring, & Summer.

GER 301. Interpreting Literary and Cultural Texts in German. 3 Credit Hours.

Tools for the interpretation and analysis of literary and cultural materials from the German-speaking world. Acquisition of terminology and theories through the study of the main literary genres (prose, poetry, and drama) and a complementary genre of cultural analysis (e.g., film studies, cultural studies, etc.). Emphasis on critical writing skills.

Prerequisite: GER 202.

Components: SEM.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

GER 302. The Cultures of the German-Speaking World. 3 Credit Hours.

Historical survey of cultures in areas of the world where German is spoken: arts, letters, science, political and social institutions. Conducted in German. Collateral readings and reports.

Prerequisite: GER 202.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

GER 310. German Studies in Translation. 3 Credit Hours.

Topics in German literature, philosophy, history, etc. Readings and discussion in English. Development of critical reading and writing skills. Fulfills humanities literature requirement. Does not fulfill foreign language requirement. May not be used for German minor credit.

Prerequisite: ENG 106 or ENG 107.

Components: SEM.

Grading: GRD.

Typically Offered: Spring.

GER 321. Special Topics in German Studies. 3 Credit Hours.

Intensive study of a special topic. May be repeated for credit when topic varies. May be used to fulfill the humanities literature requirement.

Prerequisite: GER 301.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

GER 365. Twentieth-Century German Studies. 3 Credit Hours.

The second empire and the third Reich, the Weimar Republic, and the two Germanies. Examination of the arts, sciences, letters, and political and social institutions of twentieth-century Germanophone areas. May be used to fulfill the humanities literature requirement.

Prerequisite: GER 301.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

GER 370. The Holocaust in History, Film, and Memorial Culture. 3 Credit Hours.

The course examines the representation of the Holocaust in historiography, film, and memorial culture. Readings will include texts by historians and writers such as Primo Levi, Raul Hilberg, Daniel Goldhagen, James Young and others; films will include, among others, Alain Resnais's NIGHT AND FOG, Claude Lanzmann's SHOAH, and Steven Spielberg's SCHINDLER'S LIST. Reading-and writing-intensive course with reading and discussions in English. In addition to daily/weekly homework assignments, an in-class midterm exam and a final, cumulative take-home exam, students will also complete an extended analytical term paper. Students will also be required to watch films outside of regularly scheduled class hours.

Prerequisite: ENG 106.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

GER 394. German Internship. 1-3 Credit Hours.

The internship is intended to provide the student with an opportunity to apply analytical, interpretive, expressive, and creative skills developed in coursework. Internships ordinarily take place outside the University. They involve UM-faculty supervision as well as supervised on-site experience in an German-speaking cultural, business, or not-for-profit organization. Student needs to fill out the internship application form. Normally 40 internship hours are required per credit earned (the host will supply documentary evidence of hours worked).

Components: PRA.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

GER 395. Transfer Credit. 1-3 Credit Hours.

Awarded for 300-level course work at another institution for which UM has no direct equivalent.

Components: LEC.

Grading: CNC.

Typically Offered: Fall, Spring, & Summer.

GER 396. Transfer Credits. 1-3 Credit Hours.

Awarded for course work at another institution for which UM has no direct equivalent.

Components: LEC.

Grading: GRD.

GER 397. Transfer Credits. 1-3 Credit Hours.

Awarded for course work at another institution for which UM has no direct equivalent.

Components: LEC.

Grading: GRD.

GER 398. Transfer Credits. 1-3 Credit Hours.

Awarded for course work at another institution for which UM has no direct equivalent.

Components: LEC.

Grading: GRD.

GER 399. Transfer Credits. 1-3 Credit Hours.

Awarded for course work at another institution for which UM has no direct equivalent.

Components: LEC.

Grading: GRD.

GER 442. Advanced Stylistics and Composition. 3 Credit Hours.

Analysis of grammar and style. Discussion of readings. Intensive writing.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

GER 495. Transfer Credit. 1-3 Credit Hours.

Awarded for 400-level course work at another institution for which UM has no direct equivalent.

Components: LEC.

Grading: CNC.

Typically Offered: Fall, Spring, & Summer.

GER 592. Directed Readings. 1-3 Credit Hours.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

GER 594. Senior Honors Thesis I. 3 Credit Hours.

Directed research for honors thesis.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

GER 595. Senior Honors Thesis II. 3 Credit Hours.

Directed writing of honors thesis.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

GER 625. German for Graduate Research. 0 Credit Hours.

Grammatical structuring, verb tenses, and word families necessary for reading text with minimal use of a dictionary. May fulfill the Foreign Language Reading Competency Requirement (consult your graduate advisor.)

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

GER 641. Elementary GER I for Graduate Students. 0 Credit Hours.

Designed to develop graduate students' communicative abilities in speaking, reading, writing, and comprehension of German and provide an introduction to the German-speaking world.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

GER 642. Elementary GER II for Graduate Students. 0 Credit Hours.

Continuation of GER 641. Designed to develop graduate students' communicative abilities in speaking, reading, writing, and comprehending German, as well as knowledge of the German-speaking world.

Prerequisite: GER 641.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

GER 651. Intermediate GER I for Graduate Research. 0 Credit Hours.

For graduate students with previous study of elementary-level German. Designed to enhance graduate students' communication skills in the German language at the intermediate level. Intended principally for students who will carry out research in the German-speaking world.

Prerequisite: GER 642.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

GER 652. Intermediate GER II for Graduate Research. 0 Credit Hours.

For students with previous study of German at the intermediate level. Designed to enhance graduate students' communication skills in the German language at the high-intermediate level. Intended principally for students who will carry out research in the German-speaking world.

Prerequisite: GER 651.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

GER 691. Directed Readings. 1-3 Credit Hours.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

GER 692. Directed Readings. 1-3 Credit Hours.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

Graduate School (GRD)

GRD 600. Graduate Student Training: Preventing Sexual Harassment and Sexual Violence. 0 Credit Hours.

Graduate student training offered by the Graduate School in collaboration with campus committees on the Violence Against Women Act (VAWA) and Title IX to increase awareness, and education on preventing sexual harassment and sexual violence in our community. This mandatory online session identifies roles, responsibilities and resources in preventing sexual harassment, and sexual violence in the academic environment.

Components: DIL.

Grading: NON.

Typically Offered: Fall, Spring, & Summer.

GRD 601. Graduate Student Training: Graduate Teaching Assistant Orientation. 0 Credit Hours.

Graduate Teaching Assistant orientation offered by the Graduate School and the Instructional Advancement Center focuses on University policies, procedures, and resources with which graduate students need to be familiar. This course is required for all first time doctoral students, and all graduate students who will have Teaching Assistant responsibilities.

Components: DIL.

Grading: NON.

Typically Offered: Fall, Spring, & Summer.

GRD 602. Responsible Conduct of Research Training. 0 Credit Hours.

Responsible Conduct of Research (RCR) is a critical component of research training, and is therefore an essential part of training for all graduate students conducting research. This course introduces students to basic principles of RCR and covers a series of topics including the mentor/mentee relationship, data acquisition and management, publications and authorship, ethics, and scientific misconduct, among others. The course consists of online content as well as in-person workshops and seminars.

Components: DIL.

Grading: NON.

Typically Offered: Fall & Spring.

GRD 607. Conceptos Fundamentales de la Salud Publica. 0 Credit Hours.

Las disciplinas académicas requieren de una base conceptual que guíe su desarrollo. En este curso se discuten los conceptos fundamentales de la salud pública. Como punto de partida, se analizan las diferencias y puntos de integración entre la biomedicina, la medicina clínica y la salud pública. Se identifica a la salud pública como un campo interdisciplinario que estudia los fenómenos de salud/enfermedad en poblaciones –sus determinantes, naturaleza y distribución– y la manera en que las sociedades se organizan para responder a ellos. También se examina el concepto de salud global. El curso incluye discusiones sobre la medición de las necesidades de salud, la transición epidemiológica y las formas en que los sistemas de salud han evolucionado, tanto a nivel nacional como a nivel global. English Version- Academic disciplines require a conceptual basis to guide their development. This course discusses the fundamental concepts of public health. As a starting point, we analyze the differences and points of integration between biomedicine, clinical medicine and public health. Public health is identified as an interdisciplinary field that studies health / disease phenomena in populations - their determinants, nature and distribution - and how societies organize to respond to them. The concept of global health is also examined. The course includes discussions on the measurement of health needs, the epidemiological transition, and the ways in which health systems have evolved, both nationally and globally.

Components: DIL.

Grading: NON.

Typically Offered: Fall.

Greek (GRE)

GRE 101. Elementary Ancient Greek I. 3 Credit Hours.

Alphabet, pronunciation, accentuation, vocabulary, grammar, reading exercises, and written exercises.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

GRE 102. Elementary Ancient Greek II. 3 Credit Hours.

Continuation of GRE 101.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

GRE 103. Intensive Greek for the New Testament. 3 Credit Hours.

An intensive introduction to the Koine dialect of the New Testament and Septuagint. The course is intended for students with little to no background in Ancient Greek, and covers material similar to that found in the GRE 101 and GRE 102 sequence for Attic Greek. Students leave GRE 103 prepared for GRE 201 and capable of reading extended passages from the New Testament.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

GRE 201. Intermediate Ancient Greek I. 3 Credit Hours.

Reading from classical and Hellenistic authors. Building on their knowledge of elementary Greek grammar, students move toward real fluency in reading ancient Greek, and the pleasure of encountering these great authors in their original language.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

GRE 202. Intermediate Ancient Greek II. 3 Credit Hours.

Reading Ancient Greek poetry. Students will read selections from Homer's *Odyssey* and *Iliad*, with emphasis on the Homeric dialect, meter, and the oral tradition of these epics. Greek 202 prepares students for 300- and 400-level Ancient Greek poetry courses.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

GRE 311. Plato. 3 Credit Hours.

Reading of Plato's dialogues and letters with a view to syntax, the acquisition of vocabulary, and Plato's prose style and philosophical thought.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

GRE 321. Euripides. 3 Credit Hours.

Readings in the plays of Euripides, with an emphasis on syntax, vocabulary, dramaturgy, and the social role of tragedy in ancient Athenian culture.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

GRE 401. Special Topics in Greek Literature. 3 Credit Hours.

This course will address a specific author, topic, or text (appearing as a subtitle) Analogous to REL 404-409 courses. [This will vary each time the course is offered]

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

GRE 402. Special Topics in Greek Literature. 3 Credit Hours.

This course will address a specific author, topic, or text (appearing as a subtitle) Analogous to REL 404-409 courses. [this will vary each time the course is offered]

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

GRE 403. Special Topics in Greek Literature. 3 Credit Hours.

This course will address a specific author, topic, or text (appearing as a subtitle) Analogous to REL 404-409 courses. [this will vary each time the course is offered]

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

GRE 404. Special Projects in Ancient Greek Literature and Culture. 3 Credit Hours.

This course will address a specific project in Classics (appearing as a subtitle) Analogous to REL 407-409 [this will vary each time the course is offered]

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

GRE 405. Special Projects in Ancient Greek Literature and Culture. 3 Credit Hours.

This course will address a specific project in Classics (appearing as a subtitle). Analogous to REL 407-409.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

GRE 406. Special Projects in Ancient Greek Literature and Culture. 3 Credit Hours.

This course will address a specific project in Classics (appearing as a subtitle). Analogous to REL 407-409.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

GRE 408. Supervised Reading in Classical Greek. 3 Credit Hours.

Variable subject matter determined by instructor and student. Analogous to REL 401-403.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

GRE 409. Supervised Reading in Classical Greek. 3 Credit Hours.

Variable subject matter determined by instructor and student. Analogous to REL 401-403.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

GRE 411. Homer. 3 Credit Hours.

Readings from the Iliad and/or Odyssey.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

GRE 421. Greek Orators. 3 Credit Hours.

Readings from Lysias and Demosthenes.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

GRE 422. Aristophanes. 3 Credit Hours.

Readings from Aristophanes' plays in the original Ancient Greek.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

GRE 431. Herodotus. 3 Credit Hours.

Readings in ancient Greek from Herodotus, the "father of history."

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

GRE 491. Directed Readings. 1-3 Credit Hours.

Content to be determined by faculty member and registering student(s).

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

GRE 691. Directed Readings in Greek for Graduate Students. 3.00 Credit Hours.

Independent study in Ancient Greek, thought, literature, and culture.

Requisite: Graduate Standing.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

Haitian Creole (HAI)

HAI 101. Elementary Haitian Creole I. 3 Credit Hours.

Development of basic listening, speaking, reading and writing skills; focus on conversation and the grammatical fundamentals of Haitian Creole.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

HAI 102. Elementary Haitian Creole II. 3 Credit Hours.

Basic listening, speaking, reading and writing skills developed in Elementary Haitian Creole 101. Students will produce more complex grammatical structures in oral and written presentations, and focus on improvement of pronunciation.

Prerequisite: HAI 101.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

HAI 195. Transfer Credit. 1-3 Credit Hours.

Awarded for 100-level course work at another institution for which UM has no direct equivalent.

Components: LEC.

Grading: CNC.

Typically Offered: Fall, Spring, & Summer.

HAI 201. Intermediate Haitian Creole I. 3 Credit Hours.

Basic listening, speaking, reading and writing skills developed in Elementary Haitian Creole 102. Continued development of communicative abilities and introduction to the cultural practices, family values, and social and environmental issues of Haiti. Include both oral and written components.

Prerequisite: HAI 102.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

HAI 202. Intermediate Haitian Creole II. 3 Credit Hours.

Emphasis will be on speaking, listening, reading, and writing activities. In addition to the instruction of Haitian Creole, students will have a better understanding of the Haitian culture, society, and beliefs, which are an important part of this class experience. Furthermore, to help students understand the relationship between the spoken and the written forms of the language, the course will be taught entirely in Haitian Creole. While gaining an understanding of the Haitian culture and its people, students in HAI 202 will learn how to avoid cross-cultural conflicts by developing awareness for common cultural issues and beliefs associated with healthcare, education, environment, religion.

Prerequisite: HAI 201.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

HAI 295. Transfer Credit. 1-3 Credit Hours.

Awarded for 200-level course work at another institution for which UM has no direct equivalent.

Components: LEC.

Grading: CNC.

Typically Offered: Fall, Spring, & Summer.

HAI 395. Transfer Credit. 1-3 Credit Hours.

Awarded for 300-level course work at another institution for which UM has no direct equivalent.

Components: LEC.

Grading: CNC.

Typically Offered: Fall, Spring, & Summer.

HAI 495. Transfer Credit. 1-3 Credit Hours.

Awarded for 400-level course work at another institution for which UM has no direct equivalent.

Components: LEC.

Grading: CNC.

Typically Offered: Fall, Spring, & Summer.

HAI 625. Haitian Creole for Graduate Research I. 0 Credit Hours.

Basic listening, speaking, reading, and writing skills; focus on conversation and the grammatical fundamentals of Haitian Creole.

Components: SEM.

Grading: GRD.

Typically Offered: Fall.

HAI 626. Haitian Creole for Graduate Research II. 0 Credit Hours.

Continuation of 625 listening, speaking, reading, and writing skills; focus on conversation and the grammatical fundamentals of Haitian Creole.

Prerequisite: HAI 625.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

HAI 641. Elementary HAI I for Graduate Students. 0 Credit Hours.

Designed to develop graduate students' communicative abilities in speaking, reading, writing, and comprehending Haitian Creole, and to provide an introduction to Haitian Studies.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

HAI 642. Elementary HAI II for Graduate Students. 0 Credit Hours.

Continuation of HAI 641. Designed to develop graduate students' communicative abilities in speaking, reading, writing, and comprehending Haitian Creole, and continued engagement with Haitian Studies.

Prerequisite: HAI 641.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

HAI 651. Intermediate HAI I for Graduate Research. 0 Credit Hours.

For graduate students with some previous study of Haitian Creole at the elementary level. Designed to enhance graduate students' communication skills in Haitian Creole at the intermediate level. Intended primarily for students who will carry out research in Haiti.

Prerequisite: HAI 642.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

HAI 652. Intermediate HAI II for Graduate Research. 0 Credit Hours.

For graduate students with some previous study of Haitian Creole at the intermediate level. Designed to enhance graduate students' communication skills in Haitian Creole at the high-intermediate level. Intended primarily for students who will carry out research in Haiti.

Prerequisite: HAI 651.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

Health Sector Management

HSM 270. Introduction to Health Sector Management and Policy. 3 Credit Hours.

This course develops a basic understanding of the elements of the health services industry in the United States. It examines the history of the components of our health care system and moves on to current and potential future system dynamics. Sectors include physician services, hospital and hospital systems, long-term care providers, mental health services, and pharmaceutical services. Basic concepts associated with the financing of health services are examined as well as indemnity insurance, capitation, and the role of managed care, consumer driven health care and integrated delivery systems in theory and practice. The role of government is explored as well.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

HSM 310. Population Health. 3 Credit Hours.

Population health is emerging as a field of study of health determinants, a concept of health, and a goal of achieving measurable improvements in the health of a defined population. These populations can encompass geographic regions, such as communities, states, or nations, but can also be groups, including groups based on need, employees, ethnicity, members of Accountable Care Organizations, and other populations with relevance to policymakers. In this course, students will gain an understanding of the determinants of population health, health outcomes of the population, and policies and interventions that link the determinants and outcomes.

Prerequisite: HSM 270 Or MGT 270.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

HSM 320. Health Care Demand and Supply. 3 Credit Hours.

This course will introduce students to the fundamental concepts of health economics, and cover the principles of microeconomic theory as they relate to health care. No previous background in economics is assumed. The basic framework of this course is to introduce students to individual behavior (demand), firm behavior (supply), and how these forces interact to determine market prices that allocate scarce health care resources. Students will learn how policies, such as the Affordable Care Act of 2010, can be viewed via the lens of health economics.

Prerequisite: HSM 270.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

HSM 350. Production and Consumption of Health and Health Care. 3 Credit Hours.

All societies must deal with the allocation of scarce resources. In our society, primary reliance is placed on markets and prices. This course will introduce students to the application of economic principles and production and consumption of health and health care. Some of the major topics include the production of and demand for health, demand for and supply of medical care, uncertainty and insurance, models of physician and hospital behavior, externalities and market failure, the role of government in health and medical care, and economic evaluation of health care services and interventions. Health economics concepts will be linked to current policy debates at the state and federal levels. Numerous real-world applications and case studies will be presented to demonstrate decision-making techniques for health care organizations and consumers.

Prerequisite: HSM 270 Or MGT 270 And ECO 211 And ECO 212.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

HSM 388. Health Care Marketing. 3 Credit Hours.

This course is devoted to the study of healthcare marketing and the healthcare system involved with the task of marketing products and services. As healthcare reform continues to evolve current market conditions transform existing organizations into new practices, this course will focus on the how managed care providers, hospitals, physicians, federal government, device and pharmaceutical companies will embrace the new patient centered market in their marketing strategies.

Non-Business students AND Health Sector Management and Policy minors AND Sophomore Standing or higher.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

HSM 460. Health Care Law and Ethics. 3 Credit Hours.

This course is designed to offer students an appreciation of the legal foundations and ethical considerations in healthcare administration in the U.S. The readings and classroom discussion assist the student in (1) understanding the legal framework of relationships and institutions in healthcare, and (2) appreciating some of the particularly delicate ethical implications of decision-making in this field. Case study will promote the ability to analyze both. Special emphasis is placed on discussion of ethical issues in healthcare administration, including access to care, allocation of scarce resources and privacy.

Non-Business students AND Health Sector Management and Policy minors AND Sophomore Standing or higher.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

HSM 496. Directed Studies in Health Sector Management and Policy. 1-3 Credit Hours.

Supervised readings, individual research project, or independent investigation of selected non-STEM related problems in the discipline. Offered only by special arrangement with supervising faculty member, who approves topic and evaluation process at time of registration.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HSM 497. Directed Studies in Health Sector Management and Policy. 1-3 Credit Hours.

Supervised readings, individual research project or independent investigation of selected STEM-related problems in the discipline. Offered only by special arrangement with supervising faculty member, who approves topic and evaluation process at time of registration.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HSM 498. Special Topics in Health Sector Management and Policy. 3 Credit Hours.

Special topics in selected non-STEM areas of Health Management and Policy.

Requisite: Sophomore Standing or Higher.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HSM 499. Special Topics in Health Sector Management and Policy. 3 Credit Hours.

Special topics in selected STEM areas of Health Management and Policy.

Requisite: Sophomore Standing or Higher.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HSM 555. Health Management and Policy Departmental Honors Research. 3 Credit Hours.

Research project to fulfill requirements for Departmental Honors in Health Management and Policy.

Components: THI.

Grading: SUS.

Typically Offered: Offered by Announcement Only.

HSM 601. Essentials of Health Care Administration. 1-4 Credit Hours.

The goal of this course is to develop an understanding of the basic elements of the health services industry in the United States. A systems approach will be used utilizing a historical perspective as a basis and moving on to current and potential future system dynamics. This course will allow the student to understand the health care system, including physician services, hospital and hospital systems, long-term care providers, mental health services, and pharmaceutical services. Health care labor markets will be examined. Various elements associated with the financing of health services will be analyzed as well including indemnity insurance, capitation, and the role of managed care, accountable care organizations, and consumer driven health care in theory and practice. The role of government and its impact on our health care system will be understood as well. Alternative health care systems looked at from a global perspective will be analyzed, and possible application to the U.S. health care system will be evaluated.

Components: LEC.

Grading: GRD.

HSM 610. Management and Economics of Healthcare. 3 Credit Hours.

The purpose of this course is to provide the student insight into organizational and economic aspects of the various sectors and agents within the health care industry. Exploration will allow us to understand how such aspects in turn affect performance measured in terms of managerial, economic and ethical criteria. The course will explore issues associated with scarce resource allocation and distributional justice. We will examine the organizational structure, behavior, interactions between structure and behavior, and the resultant performance of the various sectors of the health care industry, including models of hospital management behavior, operations of alternative services markets, and the market for physicians and physician service as well as the market for nurses. Aspects of risk will be examined and the impact of governance on economic behavior and performance in the marketplace.

Components: LEC.

Grading: GRD.

HSM 620. Population Health. 1-4 Credit Hours.

Role of public and private institution in health promotion, health care delivery, and health insurance. Explains how and why government and society attempt to influence health-related behaviors and the resulting effects on individuals' lives.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

HSM 640. Health and Medical Decision Making. 1-4 Credit Hours.

Population health is emerging as a field of study of health determinants, a concept of health, and a goal of achieving measurable improvements in the health of a defined population. In this course, students will gain an understanding of the determinants of population health, health outcomes of the population, and policies and interventions that link the determinants and outcomes while exploring the business case for health.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

HSM 655. Public Policy and Health. 1-4 Credit Hours.

Role of public and private institution in health promotion, health care delivery, and health insurance. Explains how and why government and society attempt to influence health-related behaviors and the resulting effects on individuals' lives.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

HSM 683. Professional Skills Development. 2-4 Credit Hours.

This seminar immerses students in experiences designed to enhance their professional skills. The course incorporates presentations by health care administrators including lectures on current topics in health care administration and health services research, facilitates faculty and student interaction via discussion of relevant peer-reviewed journal articles, and includes site visits to health care facilities.

Components: LEC.

Grading: GRD.

HSM 684. Analysis of Health Care Delivery and Policy. 2-3 Credit Hours.

All societies must deal with the allocation of scarce resources. In our society, primary reliance is placed on markets and prices. Since most students are unfamiliar with the methods of decision-making from a manager's perspective, we will discuss criteria to evaluate the allocation of resources and analyze the behavior of two of the principal actors – consumers and firms. A careful analysis of the choices made by individuals, organizations, and governments will demonstrate that sensible "choice architecture" can successfully nudge people toward better decisions without restricting their freedom of choice. The principles of economic and management decision-making will be presented in the context of health care systems and markets. We will use numerous real-world issues and case studies to demonstrate decision-making techniques, especially for health care organizations and consumers.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

HSM 687. Health Care Organization, Economics, and Ethics. 3 Credit Hours.

The course will allow understanding and analysis of issues associated with scarce resource allocation and the evolutionary movement from patient focused to population focused to patient centered care including Accountable Care Organizations and the concept of value vs. volume. Students will understand and analyze the organizational structure, behavior, interactions between structure and behavior, and the resultant performance of the various sectors of the health care industry, including models of hospital management behavior, operations of alternative services markets, physicians as small businesses, group practices and employees, the market for physician services, the market for nurses, the issue of risk and risk sharing, and the impact of government on organization, behavior and performance in the market place. Principles of medical ethics will be learned and understood and application, analysis and creative resolution of ethical dilemmas will be undertaken. The relationships between organization, incentives, and ethical performance will be analyzed using modern issues and cases that health care managers, policy makers and providers face in the industry today. The interrelationships between managerial and system goals, economic parameters, and moral and ethical considerations will be applied and analyzed as well.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

HSM 699. Health Care Administration Internship. 2-4 Credit Hours.

The internship is an integral part of the Health Care Administration curriculum and will be planned in terms of the intern's abilities, needs, and interests. The internship experience is strengthened by the relationships with the SBA's Health Advisory Board, Executive MBA in Health Sector Management and Policy program alumni, and the University of Miami Hospital. Students preparing for an internship experience must be active in planning their internship by seeking advice and assistance from their faculty advisor.

Components: IND.

Grading: GRD.

Typically Offered: Spring.

Healthcare Sciences (HCS)

HCS 200. Summer Scholars Program. 3 Credit Hours.

This course focuses on current health care issues and the health care system as well as the future direction of health care.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

HCS 202. Introductory Statistics in Health Care. 3 Credit Hours.

Application of descriptive and inferential statistics. Principles and methods of summarizing data including tables, graphs, percentile ranks, central tendency, variability, normal distribution. Basic concepts of probability, hypothesis testing, and analysis of variance. Examples and problems from nursing, health sciences and public health.

Corequisite: MTH 101. Or Requisite: ALEKS > or = 55 or SAT Score > or = 630 or ACT > or = 28.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

HCS 207. Introduction to Pharmacology. 3 Credit Hours.

Introduction to the basic principles of therapeutic pharmacology. Special consideration of cultural beliefs and folk medicine included. Emphasis is on the understanding of the different classes of drugs and their application in various health care settings.

Prerequisites: BIL 150 and CHM 103 or 111 or 121 and HCS 212/215.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HCS 212. Human Anatomy. 3 Credit Hours.

Emphasis is on the understanding of the anatomical compartments of the human body and the ability to identify the bony skeleton, musculatures, blood vessels and internal organs of each compartment.

Prerequisite: BIL 150.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

HCS 213. Human Anatomy Laboratory. 1 Credit Hour.

Laboratory to accompany HCS 212.

Pre or Corequisite: HCS 212.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

HCS 215. Principles of Systemic Physiology. 3 Credit Hours.

Emphasis is on the understanding of the Physiology and selected Pathophysiology of various organs and systems.

Prerequisite: HCS 212. And Pre or Corequisite: CHM 111 or CHM 121 or CHM 103 and CHM 113 or CHM 105.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

HCS 216. Principles of Systemic Physiology Laboratory. 1 Credit Hour.

Laboratory to accompany HCS 215

Pre or Corequisite: HCS 215.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

HCS 217. Medical Terminology. 1 Credit Hour.

This course will assist the student in understanding the principles of medical word building in order to develop the extensive medical vocabulary used in health care professions. Students receive a thorough grounding in basic medical terminology through the study of root words, prefixes and suffixes. The course emphasizes correct pronunciation, spelling and use of medical terms.

Prerequisite: BIL 150.

Components: CLN.

Grading: GRD.

Typically Offered: Fall.

HCS 352. Biological Principles of Public Health. 3 Credit Hours.

This course examines the biological basis and pathogenesis of diseases from a public health perspective and describes the impact on populations. This course also presents the basic scientific and biomedical concepts of modern public health problems and explores in depth mechanisms and models of the major categories of disease. The biologic principles presented in this course are foundations to developing and implementing public health disease prevention, control, or management programs.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

HCS 355. Global Nutrition. 3 Credit Hours.

This course examines nutrition related public health issues in the global setting. Nutrition related morbidity and mortality, etiologic factors, and population-focused strategies to address these issues are covered. Food relief and nutrition policies and programs at the local, national and international levels are examined. Current scientific research in international nutrition is reviewed from an epidemiological perspective.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HCS 402. Global Health Disparities Research. 3 Credit Hours.

This is a 4 week intensive educational experience that prepares students to be successful conducting supervised health disparities research as part of the MHIRT program at a foreign institution, disseminating findings, and applying to graduate school. The training program is broken into a preparation phase (3 weeks prior to leaving to their host country), and a dissemination phase (1 week after they return). Students will be working as a research assistant at a foreign site for eight weeks in between the preparation and dissemination phases of this training program. Students will learn about the influence of culture and healthcare policy on health and health disparities, research design, statistics, communicating research findings and careers in health disparities research.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HCS 461. Health Disparities Research Practicum. 1-4 Credit Hours.

This course is designed to provide opportunities for students across all levels of higher education to participate in health disparities research. Students will be mentored by a health disparities researcher with an active research project. Objectives will be established by the research mentor and the student according to educational level, interests and opportunities. Students will be incorporated into the research team and expected to attend project meetings. They will also be expected to participate in scholarly work that could contribute to the success of the project. Examples of scholarly work include co-authoring research papers and presentations, developing recruitment materials, assisting in compiling/developing data collection measures, or any other product deemed appropriate by the mentor.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HCS 465. Public Health Statistics and Data Management. 3 Credit Hours.

This course is designed to give students an opportunity to apply basic principles of statistics and data management in public health. Students will learn to use statistical techniques to answer questions relating to the morbidity and mortality of health conditions and the efficacy and effectiveness of public health interventions.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

HCS 487. Global Health Practicum. 3 Credit Hours.

Collaborative clinical venture between UM/SON and an International School of Nursing. Students will exchange supervised western clinical experiences, knowledge and skills for the care of clients and families in specialty areas, including MedSurg, Surgery, ICU and/or Emergency nursing units. Students will apply and synthesize basic science knowledge and skills that foster ethical, legal and culturally specific health care.

Components: PRA.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HCS 499. Selected Topics. 6.00 Credit Hours.

A selected topics course is offered as needed in order to present emerging issues or specialized topics that are not part of the regular curriculum.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HCS 600. Public Health Information. 3 Credit Hours.

This course will provide an overview of important health issues as they relate to public health and epidemiology. Principles and methods of public health surveillance and epidemiology will also be presented. Through hands-on assignments students will learn how patient databases and computer information systems and technologies may be utilized to address important issues in public health.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

HCS 601. Legal, Ethical and Regulatory Issues in Health Informatics. 3 Credit Hours.

This course will address the legal, social, ethical and regulatory issues that impact the use health information systems and computerized technology for health care delivery. In addition to an in-depth examination of the legal and regulatory standards that govern health informatics, emphasis will be placed on ethical decision-making and the importance of mitigating liability through the application of various risk-management strategies. Case studies will be used extensively to afford students an opportunity to apply the information they have learned in the course.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

HCS 603. Healthcare Databases: Design, Development and Clinical Application. 3 Credit Hours.

This course focuses database systems, development, design, and implementation within the context of health care. Special emphasis is placed on the role of database applications for continuous quality improvement and regulatory compliance. Students will design a relational database applicable to informatics leadership responsibilities.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

HCS 604. System Life Cycle/Project Management. 3 Credit Hours.

This course covers the identification and development of information technology plans for projects supporting the health care organization's business objectives and all activities required in the initiating, planning, executing, controlling, and closing phases of the project's life cycle. This course is intended to provide the body of knowledge and best practices necessary for a new Consultant, Business Analyst or Project Manager to successfully perform his/her responsibilities on an IT enterprise project.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

HCS 605. Health Information Exchange. 3 Credit Hours.

This course is designed to introduce the informatics professional to the basic principles of Health Information Exchange. The focus will be on interoperability between ambulatory clinics, acute care facilities and long-term care; electronic health records; electronic prescribing systems and consumer health care informatics. Special emphasis is placed on the role of HIE in the American Recovery and Reinvestment Act.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

HCS 608. Information Security. 3 Credit Hours.

This course will emphasize the importance of information security and discuss strategies and legal requirements for restricting data access and ensuring privacy. Such strategies will include discussion of industry standards for physical security, as well as hardware and software safeguards. The challenges that new and emerging technologies will present with regards to data integrity and security will also be emphasized.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

HCS 609. Research Methods and Applications for Health Informatics. 3 Credit Hours.

In this course students will be introduced to basic research methodology and design for health sciences and medicine as well as role informatics can play in research related to medicine, public health and biomedical sciences. Students will also be exposed to bioinformatics, a discipline of informatics concerned with the acquisition, storage, and application of use of information for biomedical research. The course will include research seminars given by guest speakers who are conducting research using health informatics.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

HCS 610. Elective in Health Informatics. 3 Credit Hours.

The elective course is designed to expose students to various aspects of health informatics and its many applications.

Components: DIL.

Grading: GRD.

Typically Offered: Summer.

HCS 611. Capstone in Health Informatics. 3 Credit Hours.

In the capstone course students will assimilate and apply the knowledge and skills they have acquired from their course work in the program. Students will complete a non-thesis capstone project that requires them to critically analyze and solve a problem they might realistically encounter in health informatics using their skills in data acquisition, project management, data presentation, and risk management. Students will also develop and submit an electronic portfolio that contains key examples of work they have generated during their time in the program along with a self-reflection of that work.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

HCS 658. Structure and Processes in Health Care Organization and Health Care Policy. 3 Credit Hours.

An exploration of health care organizations and health care policy, and how change is affected in both. Health care policy and planning to address health care disparities at the local, state, and federal levels will be explored. Organizational diagnosis, organizational change, and ethical dimension of public policy formulations and implementation will be highlighted.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

HCS 685. Introduction to Health Informatics. 3 Credit Hours.

The course develops an understanding of the role of information systems and technology within a healthcare organization. It examines the business and technical issues associated with the selection, deployment and use of health informatics, both in the clinical and back office areas. Health informatics, for the purpose of the course, is defined as the convergence of information technology, information management, and health care, at various levels, ranging from simple data gathering, to the design and implementation of new health care information systems.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

Hebrew (HEB)

HEB 101. Elementary Hebrew I. 3 Credit Hours.

Grammatical principles: reading for comprehension and conversation; oral and written exercises. Normally, closed to students who have completed two years of high school Hebrew. Closed to native speakers.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

HEB 102. Elementary Hebrew II. 3 Credit Hours.

Continuation of HEB 101. Closed to native speakers.

Prerequisite: HEB 101.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

HEB 195. Transfer Credit. 1-3 Credit Hours.

Awarded for 100-level course work at another institution for which UM has no direct equivalent.

Components: LEC.

Grading: CNC.

Typically Offered: Fall, Spring, & Summer.

HEB 201. Intermediate Hebrew I. 3 Credit Hours.

Integrated grammar review. Diverse selection of readings: stories, plays, essays, interviews. Practice in speaking and in writing. Class conducted in Hebrew. Closed to native speakers.

Prerequisite: HEB 102.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

HEB 202. Intermediate Hebrew II. 3 Credit Hours.

Continuation of 201 with oral presentations, compositions, and grammar review. Class conducted in Hebrew. Closed to native speakers.

Prerequisite: HEB 201.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

HEB 295. Transfer Credit. 1-3 Credit Hours.

Awarded for 200-level course work at another institution for which UM has no direct equivalent.

Components: LEC.

Grading: CNC.

Typically Offered: Fall, Spring, & Summer.

HEB 395. Transfer Credit. 1-3 Credit Hours.

Awarded for 300-level course work at another institution for which UM has no direct equivalent.

Components: LEC.

Grading: CNC.

Typically Offered: Fall, Spring, & Summer.

HEB 495. Transfer Credit. 1-3 Credit Hours.

Awarded for 400-level course work at another institution for which UM has no direct equivalent.

Components: LEC.

Grading: CNC.

Typically Offered: Fall, Spring, & Summer.

HEB 641. Elementary HEB I for Graduate Students. 0 Credit Hours.

Designed to develop graduate students' communicative abilities in speaking, reading, writing, and comprehending Hebrew, and to provide an introduction to the Hebrew-speaking world.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

HEB 642. Elementary Heb II for Graduate Students. 0 Credit Hours.

Continuation of HEB 641. Designed to develop graduate students' communicative abilities in speaking, reading, writing, and comprehending Hebrew, and continued study of the Hebrew-speaking world.

Prerequisite: HEB 641.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

HEB 651. Intermediate HEB I for Graduate Research. 0 Credit Hours.

For graduate students with previous study of elementary-level Hebrew. Designed to enhance graduate students' communication skills in the Hebrew language at the intermediate level. Intended principally for students who will carry out research in Judaic Studies or related to the Hebrew-speaking world.

Prerequisite: HAI 642.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

HEB 652. Intermediate HEB II for Graduate Research. 0 Credit Hours.

For students with previous study of Hebrew at the intermediate level. Designed to enhance graduate students' communication skills in the Hebrew language at the high-intermediate level. Intended principally for students who will carry out research in Judaic Studies or related to the Hebrew-speaking world.

Prerequisite: HEB 651.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

History (HIS)

HIS 101. History of the United States, I (to 1877). 3 Credit Hours.

Political, social, and economic development of the United States through Reconstruction.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

HIS 102. History of the United States, II (since 1877). 3 Credit Hours.

Political, social, and economic development of the United States since Reconstruction.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

HIS 121. Emperors, Shoguns, and Concubines: East Asia, Origins-1800. 3 Credit Hours.

Examines the history of East Asia to 1800.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 122. The Dragon and the Rising Sun: East Asia, 1800-Present. 3 Credit Hours.

Examines the history of East Asia since 1800.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 131. Development of Western Civilization, I. 3 Credit Hours.

A survey of the development of the West from the emergence of the earliest civilizations in Mesopotamia and Egypt to the formation of modern European nation states in the sixteenth and seventeenth centuries, emphasizing the ideas, values, events, and institutions that have influenced the present.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

HIS 132. The Birth of Modernity: Europe 1648 to the Present. 3 Credit Hours.

A survey of the development of the West from the formation of modern European nation states in the sixteenth and seventeenth centuries to the present, emphasizing the rivalry of European powers, the impact of European expansion, the effect of industrialism and revolution upon Western society, and the role of the New World.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

HIS 161. History of Latin America, I (to 1824). 3 Credit Hours.

A survey of Spanish and Portuguese America from the pre-Columbian era through the end of the colonial period.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

HIS 162. History of Modern Latin America (1800-present). 3 Credit Hours.

A survey of the national period in Latin American history, emphasizing the political and social issues in the transition from colonialism to nationhood.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

HIS 192. Studies in History. 1-5 Credit Hours.

Courses taken at other institutions with no direct equivalents.

Components: LEC.

Grading: GRD.

HIS 193. Studies in History. 1-5 Credit Hours.

Courses taken at other institutions with no direct equivalents.

Components: LEC.

Grading: GRD.

HIS 194. Studies in History. 1-5 Credit Hours.

Courses taken at other institutions with no direct equivalents.

Components: LEC.

Grading: GRD.

HIS 201. History of Africa I (to 1800). 3 Credit Hours.

History of Africa before the Colonial period, emphasizing sources for the study of African history, African political and social institutions, the slave trade, and "legitimate" trade and markets.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 202. History of Africa, II (since 1800). 3 Credit Hours.

The emergence of modern Africa from about 1800 to the present, emphasizing the European conquest of Africa, African responses to colonialism, independence and the post-independence period.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

HIS 203. The African Diaspora in South Florida. 3 Credit Hours.

The African Diaspora in South Florida through a close analyses of three junctures in the history of the Black experience: The slave trade, abolition and emancipation; the migration of various African-descended peoples from the Caribbean and Latin America to South Florida; and the more recent arrival of people from the Africa.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

HIS 209. African-American History to 1877. 3 Credit Hours.

History of people of African descent in the United States from African roots to 1877.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

HIS 210. African-American History, 1877-PRESENT. 3 Credit Hours.

History of people of African descent in the United States from 1877 to present.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

HIS 211. Epics, Gods, Kings: Pre-Mofern India 2500 B.C.E. to 1600 A.D.. 3 Credit Hours.

This course will explore the history, culture and political economy of India tracing it thematically from 2500 B.C.E. to 1600 A.D.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

HIS 212. The Mughals and the British (1526-1947). 3 Credit Hours.

A survey of historical India, covering the modern states of India, Pakistan, and Bangladesh, that highlights social and religious identities, modernization, nationalism, the "women question," partition, and independence.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 220. History of European Sexuality. 3 Credit Hours.

The history of European sexuality from the Greeks to the present day.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

HIS 223. Medicine and Society: From the Ancient World to the 21st Century. 3 Credit Hours.

Medicine and society presents a historical survey of the development of western medicine and public health from the earliest times to the present.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 225. History of the Modern Business Enterprise. 3 Credit Hours.

This course examines the history of big business in the nineteenth and twentieth centuries. Drawing often on individual firm histories, its focus will be a comparative study of the big business experience in America, Europe, Asia, and the imperial world.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 227. Nationalism: Love thy Brother, Hate thy Neighbor?. 3 Credit Hours.

This lower-division lecture course will offer an introductory thematic overview to the ideas and politics of nationalism throughout the globe.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

HIS 228. Holy War and Toleration in Western Religious Traditions. 3 Credit Hours.

An exploration of concepts of Holy War and Just War and of traditions of tolerance and intolerance in Judaism, Christianity, and Islam, from ancient times to the present.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

HIS 229. Consumer Society: A Global History. 3 Credit Hours.

In the United States we are surrounded today with a seemingly limitless variety of consumer goods, and we are offered constant reminders of the increasingly globalized nature of modern life. Too often, however, such commentary reflects a shocking lack of perspective about the origins and evolution of these trends. This course encourages a deeper understanding by exploring the history of how consumer societies emerged across the world. Spanning an arc from the eighteenth century to the present, the course looks at the social and cultural impact of global consumables (ranging from food to automobiles) in the Americas, Europe, Asia, and other regions. The readings and lectures consider the social, ethical, and environmental problems associated with the rise of global consumption.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

HIS 246. Origins and History of the Russian Revolution. 3 Credit Hours.

The background and events of the Russian Revolution.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 253. History of Mexico: Guns and Tortillas, or, How Mexico Became Mexican. 3 Credit Hours.

Culture and ideology of the Mexican Revolution.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 254. History of the Cold War in the Americas.. 3 Credit Hours.

Focusing on the late 1940s to late 1980s, this course examines the origins, evolution, and enduring consequences of the Cold War in the Americas. It explores key issues such as the emergence of new nationalist currents, the impact of U.S. intervention, competing visions of revolution and counter-revolution, and shifting definitions of democracy.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

HIS 261. Women's America I (Nineteenth Century). 3 Credit Hours.

An introduction to the major currents in American women's history during the Nineteenth Century.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

HIS 262. Women's America II (Twentieth Century). 3 Credit Hours.

An introduction to the major currents in American women's history during the Twentieth Century.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

HIS 266. The Founders: Fact and Fiction. 3 Credit Hours.

Explores the history of the American founders.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 267. Making History. 3 Credit Hours.

Focus is on a series of topics that allow students to deepen their understanding of the worlds we have often lost or about which we know little by approaching them in innovative historical ways. Topics will include Material Culture in Early America, Oral History and the Making of the Modern World, Caribbean Rituals, Law and Society in the Americas, as well as Early Modern Religious Cultures, among others. Recommended for potential History majors and minors, as students will benefit from limited class sizes, receive one-on-one attention from professors, and much emphasis is placed on learning researching and writing skills.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

HIS 271. American Political History Since 1960: Policy , Public History, and Modern Media. 3 Credit Hours.

Explores selective elements of modern American politics, policy studies, media, and public history, predominantly since 1960.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 282. The History of Zionism. 3 Credit Hours.

The religious, cultural, historical, political and social underpinnings of the development of Zionism that led to the creation of the State of Israel. Through readings, analysis of speeches and essays, exploration of films and the internet, the class will move through time from the origins of the Zionist idea to the present.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 284. The Second World War.. 3 Credit Hours.

The Second World War: Analysis of its origins, the military and political course of events, and its consequences, such as the cold war.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 285. The origins and history of the Third Reich.. 3 Credit Hours.

This lecture course offers a comprehensive survey of the history of Nazi Germany from early pre-fascist movements before World War I to the final ignominious collapse of the Nazi regime in 1945.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 290. The Beach: The Beach as Place, Space, and Event in World Historical Context. 3 Credit Hours.

History of the beach as a particular geographic place and space in human history in comparative world context. Themes and issues include tourism, socio-economic factors in beach access, beach-related industries, immigration, cultural contact, exploration, "beach life," surfing, ethnicity, segregation, and politics of real estate.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

HIS 291. The Sea in History. 3 Credit Hours.

Human relations with the sea from prehistoric times to the present and across the globe. It will look at the spread of peoples, ideas, religions, and goods across the seas, and the role of networks, empires, and navies in this history.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

HIS 292. Transfer Credits. 1-5 Credit Hours.

Courses for which there is no direct equivalent.

Components: LEC.

Grading: GRD.

HIS 293. Transfer Credits. 1-5 Credit Hours.

Courses for which there is no direct equivalent.

Components: LEC.

Grading: GRD.

HIS 294. Transfer Credits. 1-5 Credit Hours.

Courses for which there is no direct equivalent.

Components: LEC.

Grading: GRD.

HIS 296. Special Topics. 3 Credit Hours.

Content varies by semester and is indicated parenthetically following course title in class schedules.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

HIS 297. History Internship. 3 Credit Hours.

Provides history students with the opportunity to obtain credit for an internship with the approval and under the close supervision of a faculty member.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 301. Miami Engagement: History, Media, and Social Change. 3 Credit Hours.

This seminar-style course will examine the history, theory, and practice of civic engagement, community history, and social change in the United States. We will look at four overlapping areas of interest: the meanings of civic engagement in American history; the roles of history and memory in shaping place and community; the role of the media in structuring stories about history and community; and grass-roots activism and its role in reinvigorating and reshaping public spheres in America. We will pay particular attention to the factors that have promoted inclusion and engagement, as well as those that have led to disenfranchisement and alienation. We will look at efforts by local, national, and even global activists to connect to communities large and small. And we will ask how the issues of memory, place, community, civil society, and global citizenship form a matrix around which to understand and shape broad-based collaboration among students, faculty, community residents, and civic organizations.

Components: SEM.

Grading: GRD.

Typically Offered: Spring.

HIS 302. History on Trial: Law and American Society. 3 Credit Hours.

The relationship between social history, the law, and politics in American society. More than legal history, this is a problem-based, interdisciplinary course that bridges history, political science, legal studies, and sociology to understand the historical context that informs major lawsuits that shaped American Jurisprudence.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

HIS 304. Slavery and Cinema: Commodifying History in Hollywood. 3 Credit Hours.

Spanning a century of films, slavery is a topic that attracts filmmakers and audiences alike, creating some of the most acclaimed blockbusters and the most disparaged films in the industry. Within this broad sweep, the course will engage two animating questions: 1) in what ways, and why, have depictions of slavery changed over a century and 2) what is at stake when mass culture commodifies history?

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

HIS 306. The Modern Near East. 3 Credit Hours.

The Near East since 1453, emphasizing the Ottoman Empire, Arab nationalism and Zionism, the Mandate System, and the Arab-Israeli conflict.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 308. West Africa since 1000 A.D.. 3 Credit Hours.

The Sudanic empires, the spread of Islam, the slave and legitimate trades, the establishment of European colonies, and the struggle for independence.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 309. History of Southern Africa. 3 Credit Hours.

The establishment of the Dutch settlements and the apartheid system, African responses to European domination, and the collapse of apartheid and the emergence of a multi-racial South Africa.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 310. Africa in Cuba/Cuba in Africa: Slave Trade to Cuban Internationalist Missions in Africa.. 3 Credit Hours.

The relationship between Cuba and Africa from the period of the slave trade to the late 1990s.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 311. Gandhi and the making of Modern India. 3 Credit Hours.

This course will study Gandhi's practice of civil disobedience and non-violent movement against the British Empire, as well as his theories and praxis regarding moral discipline, critique of modernity and alternative vision of civil society and policy.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

HIS 312. Femininity, Masculinity, and Sexual Politics in Indian History. 3 Credit Hours.

A thematic study of gender and sex in ancient, medieval, and modern India, focusing on social constructions of identity, sexual politics, social and religious gender roles, and contested histories of womanhood.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 313. Bollywood and Beyond: Religion, Gender and Politics in South Asian Film. 3 Credit Hours.

Themes in Indian society through the lens of Indian cinema - both Bollywood and the regional film industry. The important themes covered are: the complex narratives of caste, myth, politics, gender, sexuality, and the challenges of modernity in India.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

HIS 315. Imperial China. 3 Credit Hours.

History of China from the origins of Chinese civilization to 1798.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 316. Modern China. 3 Credit Hours.

Rise of a Superpower.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 317. History of the Caribbean, I. 3 Credit Hours.

Caribbean history major topics, debates, and themes from the fifteenth to early nineteenth centuries; the centrality of the Caribbean to larger world histories of conquest, colonialism, slavery and emancipation, capitalism, migration, religious transformation, republicanism, and nation-state formation.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 318. Modern Caribbean History. 3 Credit Hours.

Major topics, debates, and themes in Caribbean history from the late eighteenth century to the present.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

HIS 325. The Early Middle Ages: Europe, 450-1095. 3 Credit Hours.

Western historical development from the collapse of the classical ancient world to Europe's emergence as a distinct and viable civilization.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 326. The High and Late Middle Ages: Europe 1095-1500. 3 Credit Hours.

The mature medieval civilization and its transformation.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 327. The Renaissance in Italy. 3 Credit Hours.

Cultural, social, economic, religious and political life in Renaissance Italy.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 328. Reformation Europe. 3 Credit Hours.

The history of the 16th-century religious revolution known as the Reformation. Course focuses on its causes, development, and especially its political, social, and cultural consequences.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 330. The Scientific Revolution. 3 Credit Hours.

Transition between medieval science and Newtonian physics, focusing on sixteenth- and seventeenth-century developments in medicine, cosmology, physics, and scientific method.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 331. England to the Accession of the Tudor Dynasty (to 1485). 3 Credit Hours.

The Creation of England and its development during the medieval period.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 332. England, 1485-1688. 3 Credit Hours.

England under the Tudors and Stuarts. Topics include: the monarchs and the monarchy; relations between England, Ireland, and Scotland; Henry VIII and the English Reformation; puritanism and society; popular culture; the city of London; the English Civil War; the "Glorious Revolution" of 1688.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 333. England and the Empire in the Age of Queen Victoria (1815-1901). 3 Credit Hours.

Victorian Britain, emphasizing the manners, politics, and empire building, and the exploitation and humanitarianism of the century of Pax Britannica.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 334. Britain and the Commonwealth in the Twentieth Century. 3 Credit Hours.

The challenges and changes in Britain and its overseas dominions in the century of total war.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 335. The French Revolution and Napoleon (1789-1815). 3 Credit Hours.

An analysis of French history from the Revolution to the collapse of the Napoleonic Empire, stressing the passing of feudalism in France.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 336. Modern French History. 3 Credit Hours.

This course covers the political, social, cultural, economic, and military history of France since 1870. Major themes include power and decline, the weight of historical memories, issues of French identity, and the central role of the French state.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 337. Modern European Jewish History. 3 Credit Hours.

Jewish history in Europe since 1789, emphasizing the effects of the Enlightenment, nationalism and Nazism, Jewish life in Western Europe and in the communist bloc, and the impact of Israel.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 338. The Holocaust in Historical Perspective. 3 Credit Hours.

The evolution and implementation of the theory of racialism in imperial Germany and the Third Reich.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 339. Germany from the Reformation to 1815. 3 Credit Hours.

German history from the Reformation through the reorganization of the German states after the Napoleonic Wars (1815) with emphasis on the federal character of early modern Germany, religion, and topics of social and economic change.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 340. History of Modern Germany since 1815. 3 Credit Hours.

German history since 1815 concentrating on the political and social history of the German Empire, Germany's role in World War I, the Weimar Republic and the rise of Hitler, Nazi Germany, and developments since 1945.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 341. History of the Third Reich. 3 Credit Hours.

A comprehensive survey of the history of Nazi Germany from the pre-fascist movements before World War I to the final collapse of the Nazi regime in 1945.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 343. Ages of Gold and Silver: An Economic and Social History of Europe, 1450-1750. 3 Credit Hours.

Economic and social history of Europe in the early modern period. Writing intensive course.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 346. Imperial Russia. 3 Credit Hours.

Domestic political, social, economic and cultural developments, and foreign affairs in Russia from the beginning of the 19th century to the Russian Revolution of 1917.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 347. Soviet Union and Post-Soviet Russia. 3 Credit Hours.

The Soviet Union from the Russian Revolution (1917) to the disintegration of the USSR (1991), and the post-Soviet period to the present.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 348. Europe in the Age of Hitler and Stalin. 3 Credit Hours.

This course covers European history between 1914 and 1945. Principal topics include the experience of two world wars, the rise of fascism and communism, the challenge of democracy, and the failure to secure a lasting peace.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 349. European Diplomatic History from Bismarck to the Cold War. 3 Credit Hours.

European Diplomatic History from the Revolutions of 1848 to the Cold War period.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 350. Europe and the World in Modern Times. 3 Credit Hours.

This course examines European relations with the wider world over the past several centuries. It combines the perspectives of the history of European exploration and expansion, imperialism and decolonization, global transport and trade, world wars, and globalization.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 351. Science and Society. 3 Credit Hours.

The relationships between science and society, historically and in contemporary life.

Components: LEC.

Grading: CNC.

Typically Offered: Offered by Announcement Only.

HIS 352. The Inquisition. 3 Credit Hours.

History of the Inquisition: 1200-1800.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 353. History of Cuba. 3 Credit Hours.

The development of the Cuban nation, emphasizing the nineteenth and twentieth centuries and the Castro revolution. This course will concentrate on studying "Cuba After Castro". We will analyze various scenarios for "change" and what implications these will have for the next administration in Washington DC as well as in other parts of the world.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 354. Latin America's Urban Explosion: 1900-2010. 3 Credit Hours.

Examines major facets of Latin America's urban transformation, 1900-2010. Studies urbanization from the perspectives of multiple disciplines including architecture, photography, art history, music, cultural studies and political science. Major themes include: architectural modernization and cultural change; industrialization and the emergence of professional sports; rural-urban migration and the proliferation of shanty towns; the emergence of mass politics; the expansion of the informal sectors; and the growth of social violence, drugs and crime.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

HIS 355. Modern Brazil. 3 Credit Hours.

The history and culture of modern Brazil.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

HIS 356. History of Argentina's Civilization, Barbarism, and Power.. 3 Credit Hours.

How did a country that was supposedly so prosperous and advanced become a land of perennial crisis? Countless observers have posed variations on this question in seeking to make sense of the ?Argentine riddle.? This class will provide students with an introduction to the fascinating history of Argentina. We will reject pat explanations of the ?riddle? to examine instead the array of cultural, political, and economic forces that have shaped Argentine society.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

HIS 357. Social History of Latin America. 3 Credit Hours.

Demographic changes, race and ethnic relations, immigration, and urbanization.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 359. Caribbean Intellectual History. 3 Credit Hours.

Nineteenth and twentieth-century Caribbean political and social thought. Connects the history of ideas to the history of social movements in the region. Links international, intellectual, political and artistic currents.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

HIS 360. Modern Latin America Through Film. 3 Credit Hours.

Analysis of films with regard to their historical value and their impact on forming historical perceptions about modern Latin America.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

HIS 361. American Colonial History (1607-1763). 3 Credit Hours.

History of the British mainland colonies from the establishment of Jamestown to the end of the French and Indian War.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 362. The American Revolution (1763-1783). 3 Credit Hours.

The political, social, and constitutional issues that culminated in the Declaration of Independence, and the achievement of American nationhood.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 363. The Early Republic (1783-1850). 3 Credit Hours.

A study of the constitutional, political, territorial, economic, and social development of the United States from the end of the American Revolution to the Compromise of 1850.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 364. Civil War and Reconstruction (1850-1877). 3 Credit Hours.

A study of the origins of the American Civil War, emphasizing the economic, political and social, as well as military aspects of the conflict, and the course and consequence of the Reconstruction period.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 365. Emergence of Modern America (1877-1917). 3 Credit Hours.

United States from the end of Reconstruction to the First World War.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 366. America in Crisis (1917-1945). 3 Credit Hours.

The United States from World War I through World War II.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 367. Contemporary America. 3 Credit Hours.

The United States since World War II.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 368. Nature and the Environment in American History. 3 Credit Hours.

Shifting attitudes toward nature and the environment in American history; the rise of environmentalism and changes in public policy related to environmental conservation and preservation.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 369. Introduction to Urban America. 3 Credit Hours.

The changing role of the city in American history. The built environment. The interaction of the built environment and the lives of residents.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 370. Storied Pasts: 19th-Century U.S. History and Literature. 3 Credit Hours.

19th-century American intellectual and cultural history through the lens of literature. Analyzing key works of fiction, poetry and philosophy as both literary texts and historical sources, we will seek to discover how the changing themes and forms of nineteenth-century literature shaped and/or reflected larger intellectual, political and social currents. Students will read novels by authors such as Hawthorne, Melville, Twain, Jewett, Gilman, James, Wharton, and Crane, alongside historical material.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 371. Immigration, Race and Ethnicity in American History. 3 Credit Hours.

Migration and immigration in 19th- and 20th-century in the United States. How Americans have understood themselves as part of a multicultural society, and how ethnic and racial identities have been defined throughout American history.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 372. The Sixties. 3 Credit Hours.

The culture and history of the 1960s in the United States through writings, film, music, and the experience of faculty members who participated in important events during this era of major conflict and change.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 373. The Civil Rights Movement. 3 Credit Hours.

This course explores the modern Civil Rights Movement, one of the most profound occurrences in the history of the United States of America, and examines how it reshaped the nation, from politics and the economy to social relations and cultural values.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 374. History of Feminism. 3 Credit Hours.

History of feminism with a focus on the United States.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 376. American Legal and Constitutional History. 3 Credit Hours.

The development of legal thought and practice in the context of American politics, economy and ideology during the twentieth century. Special consideration will be given to social movements and their treatment under the rule of law.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 377. Sport in American History. 3 Credit Hours.

The role of sport in American culture. Sports relation to urban growth, professionalism, ethnic identity and assimilation, nationalism, and consumption.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 379. History of the Old South (1607-1861). 3 Credit Hours.

The American South from Jamestown to secession, emphasizing the development of plantation society, the rise of internal and external conflict, and the shaping of the idea of the "Old" South.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 380. The New South (since 1877). 3 Credit Hours.

History of the U.S. South from "Redemption" to the present, emphasizing Populism, Progressivism, the idea of a "New" South, and the civil rights movement.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 381. History of Florida. 3 Credit Hours.

Florida from its discovery, exploration, and colonization to the present.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 382. Ideas and Culture in Early American History. 3.00 Credit Hours.

Intellectual and cultural history in America from the colonial period to the Civil War, focusing on developments in religion, philosophy, political and social theory, and the arts.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

HIS 383. Ideas and Culture in Modern United States History. 3 Credit Hours.

American Social Movements.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 385. White Man's Burden: Building the US Empire Before 1914. 3 Credit Hours.

American statesmen long asserted they bore a "white man's burden" to "uplift and civilize" the globe. This course explores the ideology of U.S. Empire to understand how the nation went from thirteen colonies to a continental and global power.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

HIS 388. The Vietnam War. 3 Credit Hours.

U.S. involvement in Vietnam from 1945 to 1973, emphasizing the diplomatic and military components.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 389. Nineteenth-Century Europe: Barricades, Borders, and Bourgeoisie. 3 Credit Hours.

Survey of 19th-century Europe from the French Revolution to World War I, focusing on political and cultural history.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

HIS 390. Europe after Hitler. 3 Credit Hours.

Survey of European History from the end of World War II, focusing on political and cultural developments.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 391. The History of Everyday Life. 3 Credit Hours.

The History of everyday life in early modern Europe (ca. 1500-1700). We will study how Europeans experienced and made sense of their environment, their communities, relationships, time, the self, the stages of life, food, drugs, work, and recreation.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

HIS 392. Transfer Credits. 1-5 Credit Hours.

Courses taken at other institutions with no direct equivalents.

Components: LEC.

Grading: GRD.

HIS 393. Transfer Credits. 1-5 Credit Hours.

Courses taken at other institutions with no direct equivalents.

Components: LEC.

Grading: GRD.

HIS 394. Transfer Credits. 1-5 Credit Hours.

Courses taken at other institutions with no direct equivalents.

Components: LEC.

Grading: GRD.

HIS 395. World War I. 3 Credit Hours.

The military and political history of the First World War (1914-1918), beginning with a survey of military and naval developments in the early 20th Century and the diplomatic background of the war.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 396. Special Topics. 3 Credit Hours.

Content varies by semester and is indicated parenthetically following course title in class schedules.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

HIS 397. History Internship. 3 Credit Hours.

Provides history students with the opportunity to obtain credit for an internship with the approval and under the close supervision of a faculty member.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 401. Directed Readings in African History. 1-3 Credit Hours.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

HIS 411. Directed Readings in Asian History. 1-3 Credit Hours.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

HIS 412. Mahatma Gandhi and Martin Luther King Jr. A Call to Civic Engagement. 3 Credit Hours.

Selected works of M.K. Gandhi and Martin Luther King Jr. and their legacies and impact on the field of community service and civic engagement. The class will be organized into three modules - 1) academic learning inside the classroom, 2) work on similar themes in the community, 3) reflections of civic engagement before, during, and after conclusion of modules. Through a detailed study of Gandhi and King's writings, speeches, archival and visual materials we will explore their theories and praxis of engaged citizenry, political, social and economic justice. Students will be paired with City Year Miami based in Miami-Dade County that works in areas of education access and closing the gap in marginalized communities.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

HIS 421. Directed Readings in European History. 1-3 Credit Hours.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

HIS 447. Global History of Communism. 3 Credit Hours.

The evolution of both Marxian theory and communist societies. How are Marxism-Leninism, Stalinism, Maoism, and other schools of thought different from one another and from the writings of Karl Marx and Friedrich Engels? What is the history of the global communist movement in the 20th century, and during the Cold War in particular? We will discuss the Soviet Union, as well as other case studies from around the world to explore the diversity of the socialist world and its cultural, intellectual, economic, and political networks. Students will develop skills in analytical thought, vocal and written expression, and GIS tools that they will use in a StoryMap final assignment.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

HIS 451. Directed Readings in Latin-American History. 1-3 Credit Hours.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

HIS 461. Directed Readings in United States History. 1-3 Credit Hours.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

HIS 491. Directed Readings in Comparative History. 1-3 Credit Hours.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

HIS 501. Studies in African History. 3 Credit Hours.

Selected topics in African history. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 511. Studies in Asian History. 3 Credit Hours.

Selected topics in Asian history. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 515. Studies in Chinese History. 3 Credit Hours.

Selected topics in Chinese history. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 531. Studies in European History. 3 Credit Hours.

Selected topics in European history. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 534. Studies in Ancient History. 3 Credit Hours.

Selected topics in Ancient history. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 536. Studies in Medieval History. 3 Credit Hours.

Selected topics in Medieval history. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 538. Studies in Early Modern European History. 3 Credit Hours.

Selected topics in European history before the French Revolution. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 544. Studies in Modern European History. 3 Credit Hours.

Selected topics in European history after the French Revolution. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 551. Studies in Latin American History. 3 Credit Hours.

Selected topics in Latin-American history. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 553. Studies in Colonial Latin American History. 3 Credit Hours.

Selected topics in the colonial period of Latin-American history. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 554. Studies in Modern Latin American History. 3 Credit Hours.

Selected topics in Latin-American history before and after Independence. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 561. Studies in United States History. 3 Credit Hours.

Selected topics in United States history. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 564. Studies in American Intellectual and Cultural History. 3 Credit Hours.

Selected topics in American intellectual and cultural history. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 565. Studies in American Political and Diplomatic History. 3 Credit Hours.

Selected topics in American political and diplomatic history. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 569. Studies in African-American History. 3 Credit Hours.

Selected topics in African-American history. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 570. Studies in Public History. 3 Credit Hours.

Selected topics in public history. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 591. Studies in Comparative History. 3 Credit Hours.

Selected topics in Comparative History. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

HIS 592. Transfer Credits. 1-5 Credit Hours.

Courses taken at other institutions with no direct equivalents.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 593. Transfer Credits. 1-5 Credit Hours.

Courses taken at other institutions with no direct equivalents.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 594. Transfer Credits. 1-5 Credit Hours.

Courses taken at other institutions with no direct equivalents.

Components: LEC.

Grading: GRD.

HIS 595. Studies in Visual History. 3 Credit Hours.

Selected topics in the use of photographs and other visual evidence for historical purposes. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 597. Semester 1 of 2-semester senior honors thesis program. 3 Credit Hours.

A demanding and intellectually exciting two-semester honors track. It affords an opportunity for students to pursue their particular research interest and to engage with a lively cohort of other honors students in an organized seminar format.

Components: SEM.

Grading: GRD.

Typically Offered: Spring.

HIS 598. Second semester in a 2-semester senior honors thesis program. 3 Credit Hours.

The second semester of a demanding and intellectually exciting two-semester honors track. In this the second semester students will focus on interpreting their original research, presenting initial findings in the seminar format, writing a rough draft of the thesis essay, and revising that draft in order to complete and present their final honors thesis essay at the end of the semester.

Components: THI.

Grading: GRD.

Typically Offered: Fall.

HIS 599. Independent Research. 3 Credit Hours.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 602. Studies in African History. 3 Credit Hours.

Selected topics in African history. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 611. Studies in Asian History. 3 Credit Hours.

Selected topics in Asian history. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 632. Studies in Early Modern European History. 3 Credit Hours.

Selected topics in European history. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

HIS 633. Seminar in European History. 3 Credit Hours.

Selected topics in European History.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 634. Seminar in Ancient History. 3 Credit Hours.

Selected topics in Ancient History.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 636. Studies in Medieval History. 3 Credit Hours.

Selected topics in Medieval history. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 638. Studies in Early Modern European History. 3 Credit Hours.

Selected topics in European history before the French Revolution. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

HIS 641. Field Preparation: Colonial Latin America. 3 Credit Hours.

An introduction to central historical issues and historiographical debates in the field of Colonial Latin America.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 646. Studies in Modern European History. 3 Credit Hours.

Selected topics in European history after the French Revolution. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 652. Studies in Latin American History. 3 Credit Hours.

Selected topics in Latin-American history. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 654. Studies in Modern Latin American History. 3 Credit Hours.

Selected topics in Latin-American history before and after Independence. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 655. Studies in Colonial Latin American History. 3 Credit Hours.

Selected topics in the colonial period of Latin-American history. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 662. Studies in United States History. 3 Credit Hours.

Selected topics in United States history. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

HIS 664. Studies in American Intellectual and Cultural History. 3 Credit Hours.

Selected topics in American intellectual and cultural history. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 665. Studies in American Political and Diplomatic History. 3 Credit Hours.

Selected topics in American political and diplomatic history. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

HIS 669. Studies in African-American History. 3 Credit Hours.

Selected topics in African-American history. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 670. Studies in Public History. 3 Credit Hours.

Selected topics in public history. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 697. Studies in Visual History. 3 Credit Hours.

Selected topics in the use of photographs and other visual evidence for historical purposes. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

HIS 701. Research Seminar Part 1. 3 Credit Hours.

Selected topics in Comparative History.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

HIS 702. Research Seminar Part 2. 3 Credit Hours.

Selected topics in Comparative History.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

HIS 703. Directed Readings in African History. 1-3 Credit Hours.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 704. Directed Readings in Asian History. 1-3 Credit Hours.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 705. Directed Readings in European History. 1-3 Credit Hours.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 706. Directed Readings in Latin-American History. 1-3 Credit Hours.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 707. Directed Readings in American History. 1-3 Credit Hours.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 708. Directed Readings in Comparative History. 1-3 Credit Hours.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 709. Field Preparation: Colonial and Revolutionary America. 3 Credit Hours.

An introduction to central historical issues and historiographical debates in the field of Colonial and Revolutionary America.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 711. Nineteenth-Century United States Field Preparation. 3 Credit Hours.

Examination of some of the major themes recent developments and debates in nineteenth-century United States historiography from the Early Republic through Reconstruction. The seminar does not alone constitute sufficient preparation for the comprehensive exam in Modern American history, but it does seek to introduce students to some of the important trends in recent scholarly work.

Components: SEM.

Grading: GRD.

HIS 712. Field Preparation: Modern America. 3 Credit Hours.

An introduction to central historical issues and historiographical debates in the field of Modern America.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 713. Field Preparation: Medieval Europe. 3 Credit Hours.

The central historical issues and historiographical debates in the field of Medieval European History.

Components: SEM.

Grading: GRD.

Typically Offered: Spring.

HIS 714. Field Preparation: Early Modern Europe. 3 Credit Hours.

An introduction to central historical issues and historiographical debates in the field of Early Modern Europe.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 715. Modern Europe Field Preparation. 3 Credit Hours.

This course is designed to prepare students for the Modern European Field Comprehensive Exam by introducing them to leading works and diverse approaches in the study, writing, and interpretation of modern European history. The choice of readings will be selective, but in range and significance they will provide students with a foundation for further command of the field.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 716. Caribbean Field Prep. 3 Credit Hours.

Graduate student preparation for a comprehensive exam area in Caribbean history, centering on the late eighteenth through early twentieth centuries. Students will have the chance to read, discuss, and place in conversation influential works on topics including: Caribbean slavery and anti-slavery; the Haitian Revolution and its reverberations; "second slavery" in Cuba; emancipation in the British Caribbean and across the region; struggles on the parts of formerly enslaved people and their descendants over land, labor, and citizenship; the arrival and experience of Indian, Chinese, and West African indentured workers in pre-and post-emancipation Caribbean societies; the Cuban wars of independence; and the U.S. annexation of Puerto Rico and occupations of Cuba, Haiti, and the Dominican Republic. The course will focus on major themes, debates, and questions in the historiographical literature and is designed to encourage comparative analysis.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

HIS 718. Field Preparation: Modern Latin America. 3 Credit Hours.

An introduction to central historical issues and historiographical debates in the field of Modern Latin America.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 721. Historiography. 3 Credit Hours.

The philosophy, theory, and practice of history.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 722. Dissertation Prospectus Seminar. 3 Credit Hours.

Students will develop a strong dissertation prospectus. This class will operate as a writing workshop, for which each student will write and revise several draft of a prospectus that will be critiqued by the student's advisor, the professor teaching the course, and fellow students. At the end of the semester, students will give oral presentation about their proposed projects to the department.

Components: SEM.

Grading: GRD.

Typically Offered: Fall.

HIS 760. Seminar in Latin-American History. 3 Credit Hours.

Selected topics in Latin-American History.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 761. Seminar in United States History. 3 Credit Hours.

Selected topics in United States History.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 762. History as a Profession. 3 Credit Hours.

Practical experience for graduate students in designing courses; preparing lectures, conference papers and scholarly publications; and in applying for jobs and research grants

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

HIS 763. Science, Magic, and Medicine in the Early Modern World. 3 Credit Hours.

To prepare graduate students for their comprehensive examinations in early modern history by introducing them to leading works, diverse approaches, and new methodologies in the history of science, magic, and medicine. The choice of readings will be selective and may change over the course of time, but in any case the course materials will provide students with a good foundation for further exploration of the field.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 810. Master's Thesis. 1-6 Credit Hours.

The student working on his/her master's thesis enrolls for credit, in most departments not to exceed six, as determined by his/her advisor. Credit is not awarded until the thesis has been accepted.

Components: THI.

Grading: SUS.

Typically Offered: Fall & Spring.

HIS 820. Research in Residence. 1 Credit Hour.

Used to establish research in residence for the thesis for the master's degree after the student has enrolled for the permissible cumulative total in HIS 710 (usually six credits). Credit not granted. May be regarded as full time residence.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

HIS 825. Continuous Registration--Master's Study. 1 Credit Hour.

To establish residence for non-thesis master's students who are preparing for major examinations. Credit not granted. Regarded as full time residence.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

HIS 830. Doctoral Dissertation. 1-12 Credit Hours.

Required of all candidates for the Ph.D. The student will enroll for credit as determined by his/her advisor, but for not less than a total of 12 hours. Up to 12 hours may be taken in a regular semester, but not more than six in a summer session.

Components: THI.

Grading: SUS.

Typically Offered: Fall & Spring.

HIS 840. Post-Candidacy Doctoral Dissertation. 1-12 Credit Hours.

Required of all candidates for the Ph.D. who have advanced to candidacy. The student will enroll for credit as determined by his/her advisor, but not for less than a total of 12. Not more than 12 hours of HIS 740 may be taken in a regular semester, nor more than six in a summer session.

Components: THI.

Grading: SUS.

Typically Offered: Fall & Spring.

HIS 850. Research in Residence. 1 Credit Hour.

Used to establish research in residence for the Ph.D. and D.A., after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Credit not granted. May be regarded as full-time residence as determined by the Dean of the Graduate School.

Components: THI.

Grading: SUS.

Typically Offered: Fall & Spring.

Honors and Academic Enhancement (HON)

HON 323. Topics in Humanities. 1-3 Credit Hours.

Components: THI.

Grading: GRD.

Typically Offered: Fall.

HON 330. Books That Matter. 3 Credit Hours.

Especially designed for Foote Fellows, the BOOKS THAT MATTER seminar offers an opportunity to study major works of non-fiction in a seminar-style setting, under the guidance of faculty members from across the University. We examine important works which, by means of their strong, connected argumentation, challenge the way we respond to, interpret, and shape reality. Emphasis in the course falls mainly on the logical structure embedded deep within the text, and less on content per se, so that a student's effort is not directed towards a reading of "great books" but rather the discovery of "significant arguments." Our rationale is to address a fundamental need in education too often lost in the midst of other demands, interests, and requirements: by learning to read, question, and enjoy important intellectual studies of the past and present, students will be able to read, question, and enjoy what will be the influential books of non-fiction published in their lifetime, whether in public affairs, science, social science, economics, history, film and media studies, philosophy, psychology, etc. The course provides standards of measurement and value by which students can gauge how and why books succeed or fail on hard logical grounds.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

HON 333. Topics in Social Science. 1-3 Credit Hours.

Components: THI.

Grading: GRD.

Typically Offered: Fall.

HON 351. Topics in the Natural Sciences. 1-3 Credit Hours.

Components: THI.

Grading: GRD.

Typically Offered: Fall.

Human Genetics and Genomics (HGG)

HGG 601. Seminar/Journal Club. 1 Credit Hour.

All active HGG students participate in the Seminar/Journal Club each semester. Sessions rotate between seminar, journal club, and research-in-progress. Twice per month, students attend the HGG seminar speaker series. Once per month, students present their own work in short research-in-progress talks. Once per month, students participate in a journal club, featuring student-led discussions of published papers.

Components: SEM.

Grading: SUS.

Typically Offered: Fall & Spring.

HGG 621. Design and Analysis of Human Genomic Studies. 3 Credit Hours.

This course covers study designs and analytic approaches commonly used in human genetic and genomic studies. Major topic areas include 1) study designs for genetic epidemiology; 2) experimental designs for assessing variation in DNA sequence, RNA expression, and epigenetic marks; 3) analytic approaches for genetic association, gene expression, and epigenetic data; 4) evaluation of epistasis, gene-environment interaction, and application of systems biology approaches to high-dimensional genomic data. Class sessions will feature a mixture of lecture, discussion of primary literature, and hands-on computational workshops.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

HGG 630. Variation and Disease. 2 Credit Hours.

This course provides an overview of the science of genetics, including historical and modern approaches, with emphasis on the underlying mechanisms of human genomic variation and their relation to human disease. After taking this course the student will be able to list the different types of human genomic variation, explain the mechanism by which each occurs, and discuss the consequences of the variation. Where appropriate, specific examples of human disorders will be related to the variation. Topics include: chromosomal, biochemical, and DNA sequence variation, mitochondrial genome variation and epigenetic effects. The course structure consists of a combination of lectures and discussion of primary literature.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

HGG 631. Genes in Populations. 3 Credit Hours.

The course explores the relevant history and principals governing the behavior of genes in human populations. Topics include Hardy-Weinberg equilibrium; Mendelian, complex and quantitative traits; principals of selection and change in populations, neutral theory; and molecular evolution of gene families. The course is lecture based with supplemental readings.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

HGG 640. Family Studies and Genetic Analysis. 2 Credit Hours.

This course will cover the analysis of genetic data in family based data sets. Topics include: heritability, segregation analysis and linkage analysis. This course includes a computer lab component in which students will learn to use the relevant analytic programs.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

HGG 650. Advanced Topics in Molecular Genetics. 3 Credit Hours.

Topics include human microRNAs, the neurobiology of aging, structural variation, modern genome technology, among others. The course structure consists of discussions and analysis of primary literature.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

HGG 660. Bioinformatics Theory and Practice. 3 Credit Hours.

This course covers a gradient of basic to advanced bioinformatics theory, data mining, and analysis. Each class will include a lecture to explain the concepts, followed by a hands-on lab session with worksheets and exercises. Early lectures will cover in-depth searching of the major databases, alignments, and motif discovery. These themes will recur with the applications of these and other algorithms to gene expression analysis, next generation sequencing data and its analysis, and analysis of variation. Freely available web resources will be used wherever possible, and the students will learn how to use Python for some bioinformatics applications.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

HGG 680. Genome Ethics and Public Policy. 3 Credit Hours.

This course will explore current and future applications of human genetics as they pertain to the health and identity of individuals and society. Topics will include the ethical dilemmas facing clinicians, researchers, and the public pertaining to the use of genetic information in healthcare; the role of the media and other extemporaneous factors in influencing the use of human genetic information, and responsible conduct of research specifically with regard to issues unique to genetics. The emphasis will be on real examples and experiences, with a primary goal of helping students explore how their role as a researcher and/or citizen will influence and be influenced by genetic information. The course is largely discussion based, but will include extensive readings from the literature and online videos.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

HGG 681. Human Genetics Clinical Rotation. 1 Credit Hour.

The HGG graduate students participate in medical genetics clinic post clinical rounds, metabolic-sign out and journal clubs. During clinic students observe clinical evaluations and counseling, and participate in weekly didactic sessions with faculty and residents.

Components: CLN.

Grading: SUS.

Typically Offered: Fall & Spring.

HGG 689. Human Genetics and Genomics Teaching Practicum. 1 Credit Hour.

HGG students serve one semester as a teaching assistant for a core course. This experience will include giving at least one lecture, leading small group discussions, and holding regular office hours to discuss student questions. This will generally take place in the student's third or fourth year, and will be graded as a one-credit pass-fail course.

Components: PRA.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

HGG 830. Doctoral Dissertation - Pre-Candidacy. 1-12 Credit Hours.

1-12 credit course for Doctoral candidates working on pre-candidacy dissertation.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

HGG 840. Doctoral Dissertation - Post Candidacy. 1-12 Credit Hours.

1-12 credit course for Doctoral Candidates working on dissertation post candidacy.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

HGG 850. Research in Residence. 1 Credit Hour.

Used to establish research in residence for Ph.D. after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Credit not granted. May be regarded as full-time residence as determined by the Dean of the Graduate School.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

Industrial Engineering (IEN)

IEN 111. Introduction to Engineering I. 3 Credit Hours.

Use of engineering tools and computer techniques for problem solving, data acquisition, analysis, presentation, software design, and computer aided drafting. Development of design skills through several design and building competitions. Introduction to professional ethics, intellectual property, ethics, intellectual property rights, and an introduction to use of MATLAB, AutoCAD, and programming in C++.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

IEN 112. Introduction to Engineering II. 2 Credit Hours.

Continuation of IEN 111. An overview of Industrial Engineering concepts and issues important to the design and operation of industrial and service systems. Students will learn the use of software tools developed to enhance the Industrial Engineer's ability such as database management, high level programming languages, electronic spreadsheets, and computer graphics.

Prerequisite: IEN 111.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

IEN 201. Methods Analysis and Work Measurement. 3 Credit Hours.

Design of improved methods for doing work based on effective human effort. Time standardization of productive operations by work measurement, predetermined time systems, and activity sampling are discussed. Tools and charts for methods analysis are discussed and use of Microsoft Vision is emphasized and reviewed.

Prerequisite: IEN 112.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

IEN 306. Manufacturing Processes. 3 Credit Hours.

Basic and applied sciences in processing of materials. Effects of processing on the manufactured parts, selection of processing methods, and their relation with material properties. Contemporary and non-traditional processes used in manufacturing are also covered.

Prerequisite: CHM 111 or CHM 151 and PHY 205.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

IEN 310. Introduction to Engineering Probability. 3 Credit Hours.

Axioms of probability, discrete and continuous random variables, probability density functions, cumulative distribution function, expectation, conditioning, independence, functions of random variables, multiple random variables, sums of random variables, introduction to statistical analysis, estimation, and hypothesis testing. Cross-listed with EEN 310.

Prerequisite: MTH 162 and Requisite: Junior Standing.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

IEN 311. Applied Probability and Statistics. 3 Credit Hours.

This course covers fundamental probability concepts, random variables, mathematical expectation, discrete and continuous probability distributions, sampling distributions, point and interval estimation, hypothesis testing, and simple linear regression and correlation. The use of Minitab, a statistical software application, is emphasized. Examples are drawn from various disciplines.

Prerequisite: MTH 162.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

IEN 312. Applied Statistical Methods. 3 Credit Hours.

Linear regression, multiple regression, analysis of variance, and design of experiments are discussed. Cross-listed with MAS 312.

Prerequisite: IEN 310 or ECE 310 or IEN 311 or MAS 311 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

IEN 351. Industrial Safety Engineering. 3 Credit Hours.

Basic principles of accident prevention and safety engineering approach to the design of mechanical equipment, facilities, and manufacturing processes. Analysis and design of fire prevention procedures and accident control procedures in industry are included.

Requisite: Junior Status or Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

IEN 360. Productivity Engineering. 3 Credit Hours.

Definitions and scope of productivity engineering and management. The productivity cycle. Productivity measurement, evaluation, improvement—discussion and examples. Productivity planning and improvement through the application of industrial and systems engineering techniques. Discussion of individual techniques with examples. Application potential of the course in real life situations.

Prerequisite: MTH 162.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

IEN 361. Industrial Cost Analysis. 3 Credit Hours.

Analysis of financial statements and cost factors in manufacturing and service systems. Cost accounting methods, job order costing and process costing approaches. Deterministic and probabilistic estimates of cost.

Prerequisite: MTH 162. And IEN 201.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

IEN 363. Project Management for Engineers. 3 Credit Hours.

This course will help students develop a basic understanding of the key concepts, theories, tools, and methodologies of project management. Students will be introduced to the different phases of managing projects from conception to termination with particular emphasis on planning, scheduling, resource allocation, monitoring and control. The course will utilize a case-study-based approach in analyzing the techniques and methods of project management.

Requisite: Junior Status or Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

IEN 372. Emerging Technologies and the Creation of Technological Innovations. 3 Credit Hours.

A variety of emerging technologies will be discussed (nanotechnology, energy technologies, information technologies, biotechnologies, etc). The process of utilization in innovations will be covered.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

IEN 380. Engineering Economy. 3 Credit Hours.

Engineering Economy Fundamentals. Interest and money-time relationship, methods of making economic decisions, risk and uncertainty, sensitivity analysis, selections among multiple alternatives, depreciation, benefit-cost analysis, replacement studies, minimum cost analysis, and related topics.

Prerequisite: MTH 162.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

IEN 399. Internship. 1 Credit Hour.

Practical application of classroom theory through employment with firms offering positions consistent with the student's field of study. Course may be repeated.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

IEN 406. Computer-Aided Manufacturing. 3 Credit Hours.

A comprehensive view of manufacturing with a focus on design, automation, and the use of computers in manufacturing. The topics include computer-aided design, communications, programmable logic controllers, CNC machining, industrial robots, process planning, and computer-integrated manufacturing. Laboratory projects are an integral part of the course.

Prerequisite: CHM 111 or CHM 151 and PHY 205.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

IEN 407. Product Design for Manufacturing. 3 Credit Hours.

The different phases of engineering design process. Guided Iteration Methodology for product design. Topics include design for manufacturing (DFM), best practices of product realization, solid modeling using SolidWorks, quality in design, issues in patents, liability and ethics. Engineering design specifications, evaluation methods for design alternatives.

Prerequisite: IEN 406.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

IEN 441. Deterministic Models in Operations Research. 3 Credit Hours.

Introduction to deterministic mathematical models with applications to operational problems. Topics include the methodology of operations research, mathematical programming, game theory, network flow-theory, and dynamic programming. Cross-listed with MAS 441.

Prerequisite: MTH 210.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

IEN 442. Stochastic Models in Operations Research. 3 Credit Hours.

Probabilistic models in operations research. Topics include probabilistic inventory models, queuing theory, Markov chains, and probabilistic dynamic programming. Cross-listed with MAS 442.

Prerequisites: IEN 310 or ECE 310 or IEN 311 or MAS 311 and IEN 441 or MAS 441.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

IEN 465. Production and Inventory Control. 3 Credit Hours.

Production and inventory management techniques such as forecasting methods, inventory control subject to both known and uncertain demand, aggregate planning, introduction to scheduling, materials requirement planning (MRP), just-in-time (JIT) manufacturing, and introduction to scheduling are covered.

Prerequisite: IEN 310 or ECE 310 or IEN 311 or MAS 311 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

IEN 494. Senior Project. 3 Credit Hours.

Integration of Industrial Engineering principles and techniques in the design and improvement of production and service systems. Course includes preparation of project proposal, data collection, analysis, reporting, and formal presentations.

Prerequisite: IEN 547. And Requisite: Senior Standing.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

IEN 501. Manufacturing Analysis and Design I. 3 Credit Hours.

Analysis of Production Systems stressing diagnosis of problems associated with work measurement, manufacturing methodologies, and their interaction with cost factors.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

IEN 502. Manufacturing Analysis and Design II. 3 Credit Hours.

Analysis of production systems stressing diagnosis of problems of quality and production control, utilizing quantitative techniques and analytical methods.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

IEN 505. Robotics. 3 Credit Hours.

Fundamentals of robotics including kinematics and dynamics, trajectory planning, sensors and actuators, robotic vision, and case studies. Building your own robot is an integral part of hands-on laboratory exercises. Matlab controltoolbox and image analysis toolbox will be extensively used for design and analysis.

Prerequisite: IEN 406.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

IEN 507. Design of Manufacturing Systems. 3 Credit Hours.

State-of-the-art techniques and tools relevant to the design, analysis, and control of modern manufacturing systems. Topics include modeling of manufacturing systems, tools for manufacturing system analysis, manufacturing system planning and scheduling, and lean manufacturing systems.

Prerequisite: IEN 465.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

IEN 509. Automated Assembly. 3 Credit Hours.

Fundamentals of automated assembly including parts transfer systems and feeders, parts orientation and grasping techniques, product design for automated assembly (DFA), assembly robots, and performance and economics of assembly systems.

Prerequisite: IEN 406.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

IEN 512. Statistical Quality Control and Quality Management. 3 Credit Hours.

This course addresses the concepts, theories, tools and methodologies employed in the management and improvement of quality. The course examines many of the advance topics in statistical quality control including control charts and process capability studies, acceptance sampling, as well as Quality Function Deployment (QFD) and introduction to reliability. Also covered in the course are Lean Six Sigma methodology, tools and concepts.

Prerequisite: IEN 311 or MAS 311 or IEN 312 or MAS 312.

Components: THI.

Grading: GRD.

Typically Offered: Spring.

IEN 513. Quality Management in Service Organizations. 3 Credit Hours.

Course examines the issues of quality and productivity management in the service sector. Topics covered include the development and use of questionnaires, service industry applications of quality such as in banking, insurance, healthcare, transportation, government, public utilities, and retail trade.

Requisite: Senior Standing.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

 IEN 516. Introduction to Applied Data Analytics. 3 Credit Hours.

This course focuses on some of the most commonly-used data analytics models and covers the basics of data analytics using the open source software R (which is one of the fastest growing open source software platforms). Specific course topics include Data Preprocessing and Cleaning, Fundamentals of R (for basic data analytics tasks), Regression Analysis, Discriminant Analysis & Classification, Segmentation/Clustering, Model Tuning/Selection, Performance Measurement in Data Analytics, and Decision Making with Data. This course provides hands-on skills to engineering graduate students with performing statistical data analysis and decision-making utilizing common types of data sets.

Prerequisite: IEN 442. And IEN 524.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

 IEN 524. Decision Support Systems in Industrial Engineering. 3 Credit Hours.

Theory and application of decision support systems in industrial engineering. Topics include the study of model-based, data-based, knowledge-based, and communication-based decision support systems. Emphasis is placed on the selection process of the appropriate systems for various decision problems in industrial environments.

Requisite: Senior Standing.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

 IEN 547. Computer Simulation Systems. 3 Credit Hours.

Computer simulation and the development of simulation models. Application of discrete and continuous system simulation languages to systems studies is also included.

Prerequisites: IEN 442 or MAS 442.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

 IEN 548. Games and Decision Making. 3 Credit Hours.

This course covers fundamentals of decision theory and game theory. The course is research oriented and a significant part of the grading will be based on students' research. Topics include optimization with multiple variables, constrained optimization, Lagrange relaxation, utility theory, decision making under uncertainty, simultaneous move (Nash) games, sequential decision making, sequential (Stackelberg) games, games with imperfect information, contracting and coordination, and bargaining. This course is composed of lectures, in-class discussions and problem solving, homework assignments, and research paper assignments.

Prerequisite: IEN 310. And IEN 441.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

 IEN 551. Accident Prevention Systems. 3 Credit Hours.

Introduction to the basic principles of accident prevention and how to apply the safety engineering approach to the design of industrial accident prevention systems.

Prerequisite: IEN 351.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

 IEN 554. Applied Computational Biomechanics. 3 Credit Hours.

Students will become familiarized with current tools in the field of computational biomechanics for applications in ergonomics, sports performance, simulations of occupational activities and human movement in general. Through the presentation of case studies and the completion of assignments, students will gain hands-on experience on full-body simulation environments (e.g., OpenSim), biomechanically oriented finite elements packages (e.g., FEBio), and software for reconstruction of human anatomy from medical images (Seg3D).

Prerequisite: IEN 557. Or BME 375.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

IEN 557. Ergonomics and Human Factors Engineering. 3 Credit Hours.

The study of human capacities and limitations with emphasis on human performance in system design. Topics include design of displays and controls, workload, job design, human information processing, anthropometry, workplace design, biomechanics, task analysis, and research techniques in human factors engineering. Lecture, 3 hours.

Prerequisite: IEN 312 or MAS 312.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Summer.

IEN 558. Industrial Hygiene I. 3 Credit Hours.

Recognition of occupational chemical health hazards. Evaluation methods and analytical procedures used to determine level of exposure to chemical and toxic hazards. Control measures and compliance with OSHA requirements with special emphasis on industrial ventilation, and other methods of control are included.

Prerequisite: CHM 111 or CHM 151. Requisite: Senior Standing.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

IEN 559. Industrial Hygiene II. 3 Credit Hours.

Recognition of physical occupational health hazards and evaluation methods and instruments used in measuring exposure levels with special emphasis on physical hazards. Protective measures and compliance with OSHA requirements is also included. Lecture, 3 hours.

Prerequisite: CHM 111 or CHM 151. Requisite: Senior Standing.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

IEN 568. Materials Handling and Facilities Planning. 3 Credit Hours.

Analysis and design of production and service facilities, emphasis on material handling requirements. Capacity requirements, facility location, layout, storage systems and warehousing are discussed.

Requisite: Senior Standing.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

IEN 570. Engineering Management. 3 Credit Hours.

Integrating engineering discipline into the social and economic considerations of managing systems. Tools and techniques used by engineering managers including engineering project life cycle, role playing, communication, decision-making in engineering management, and managing change in engineering organizations are discussed.

Prerequisite: IEN 311 or MAS 311 or IEN 312 or MAS 312.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

IEN 571. Engineering Entrepreneurship. 3 Credit Hours.

The conversion of technological know-how and engineering theories into business enterprises. The role of technology in creating wealth, connecting technology with market, the role and characteristics of entrepreneurs, starting a business and the business plan, innovation, industrial and service organizations, and the new business environment.

Requisite: Senior Standing.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

IEN 572. Management of Technological Innovation. 3 Credit Hours.

Engineering, Science and Management Principles contributing to the development of a successful framework for Managing technology with an organization, nationally or internationally. The process of technological innovations, technological planning and forecasting, and socio-economic changes. Prerequisite: Senior or graduate standing.

Requisite: Senior Standing.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Summer.

IEN 590. Special Topics in Industrial Engineering. 1-3 Credit Hours.

Sub-titles describing the topics are shown in parentheses in the class schedule, following the title "Special Topics".

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

IEN 594. Master's Capstone Design Project. 3.00 Credit Hours.

A capstone design project for students in the five-year BSIE/MSIE program. Integration of Industrial Engineering principles and techniques in the design and improvement of production and service systems is emphasized. Offered for students in this program only.

Prerequisite: IEN 547. Requisite: Senior Standing.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

IEN 595. Special Problems. 1-3 Credit Hours.

Project course introducing methods of research through an individual investigation of current problems. Offered by special arrangement only.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

IEN 596. Special Problems. 1-3 Credit Hours.

Project course introducing methods of research through an individual investigation of current problems. Offered by special arrangement only.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

IEN 599. Cooperative Education. 1 Credit Hour.

Practical application of classroom theory through alternating semester or summer employment with industries offering positions consistent with the student's field of study. Course may be repeated. Periodic reports and conferences are required.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

IEN 601. Manufacturing Analysis and Design I. 3 Credit Hours.

Analysis of Production Systems stressing diagnosis of problems associated with work measurement, manufacturing methodologies, and their interaction with cost factors.

Prerequisite: IEN 301.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

IEN 602. Manufacturing Analysis and Design II. 3 Credit Hours.

Analysis of production systems stressing diagnosis of problems of quality and production control, utilizing quantitative techniques and analytical methods.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

IEN 605. Robotics. 3 Credit Hours.

Fundamentals of robotics including kinematics and dynamics, trajectory planning, sensors and actuators, robotic vision, and case studies. Building your own robot is an integral part of hands-on laboratory exercises. Matlab control toolbox and image analysis toolbox will be extensively used for design and analysis.

Components: LEC.

Grading: GRD.

IEN 607. Design of Manufacturing Systems. 3 Credit Hours.

State-of-the-art techniques and tools relevant to the design, analysis, and control of modern manufacturing systems. Topics include modeling of manufacturing systems, tools for manufacturing system analysis, manufacturing system planning and scheduling, and lean manufacturing systems. Requisite: Graduate Standing.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

IEN 612. Statistical Quality Control and Quality Management. 3 Credit Hours.

This course addresses the concepts, theories, tools and methodologies employed in the management and improvement of quality. The course examines many of the advanced topics in statistical quality control including control charts and process capability studies, acceptance sampling, as well as Quality Function Deployment (QFD) and introduction to reliability. Also covered in the course are Lean Six Sigma methodology, tools and concepts.

Prerequisite: IEN 311 or MAS 311 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

IEN 613. Quality Management in Service Organizations. 3 Credit Hours.

Course examines the issues of quality and productivity management in the service sector. Topics covered include the development and use of questionnaires, service industry applications of quality such as in banking, insurance, healthcare, transportation, government, public utilities, and retail trade.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

IEN 616. Introduction to Applied Data Analytics. 3 Credit Hours.

This course focuses on some of the most commonly-used data analytics models and covers the basics of data analytics using the open source software R (which is one of the fastest growing open source software platforms). Specific course topics include Data Preprocessing and Cleaning, Fundamentals of R (for basic data analytics tasks), Regression Analysis, Discriminant Analysis & Classification, Segmentation/Clustering, Model Tuning/Selection, Performance Measurement in Data Analytics, and Decision Making with Data. This course provides hands-on skills to engineering graduate students with performing statistical data analysis and decision-making utilizing common types of data sets.

Prerequisite: IEN 442. And IEN 524.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

IEN 624. Decision Support Systems in Industrial Engineering. 3 Credit Hours.

Theory and application of decision support systems in industrial engineering. Topics include the study of model-based, data-based, knowledge-based, and communication-based decision support systems. Emphasis is placed on the selection process of the appropriate systems for various decision problems in industrial environments.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

IEN 647. Computer Simulation Systems. 3 Credit Hours.

Computer simulation and the development of simulation models. Application of discrete and continuous system simulation languages to systems studies is also included.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

IEN 648. Games and Decision Making. 3 Credit Hours.

This course covers fundamentals of decision theory and game theory. The course is research oriented and a significant part of the grading will be based on students' research. Topics include optimization with multiple variables, constrained optimization, Lagrange relaxation, utility theory, decision making under uncertainty, simultaneous move (Nash) games, sequential decision making, sequential (Stackelberg) games, games with imperfect information, contracting and coordination, and bargaining. This course is composed of lectures, in-class discussions and problem solving, homework assignments, and research paper assignments.

Prerequisite: IEN 310. And IEN 441.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

IEN 651. Accident Prevention Systems. 3 Credit Hours.

Introduction to the basic principles of accident prevention and how to apply the safety engineering approach to the design of industrial accident prevention systems

Prerequisites: IEN 311 and IEN 351.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

IEN 654. Applied Computational Biomechanics. 3 Credit Hours.

Students will become familiarized with current tools in the field of computational biomechanics for applications in ergonomics, sports performance, simulations of occupational activities and human movement in general. Through the presentation of case studies and the completion of assignments, students will gain hands-on experience on full-body simulation environments (e.g., OpenSim), biomechanically oriented finite elements packages (e.g., FEBio), and software for reconstruction of human anatomy from medical images (Seg3D).

Prerequisite: IEN 557. Or BME 375.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

IEN 657. Ergonomics and Human Factors Engineering. 3 Credit Hours.

The study of human capacities and limitations with emphasis on human performance in system design. Topics include design of displays and controls, workload, job design, human information processing, anthropometry, workplace design, biomechanics, task analysis, and research techniques in human factors engineering. Lecture, 3 hours.

Requisite: Graduate Standing.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Summer.

IEN 658. Industrial Hygiene I. 3 Credit Hours.

Recognition of occupational chemical health hazards. Evaluation methods and analytical procedures used to determine level of exposure to chemical and toxic hazards. Control measures and compliance with OSHA requirements with special emphasis on industrial ventilation, and other methods of control are included.

Prerequisite: IEN 557.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

IEN 668. Materials Handling and Facilities Planning. 3 Credit Hours.

Analysis and design of production and service facilities, emphasis on material handling requirements. Capacity requirements, facility location, layout, storage systems and warehousing are discussed

Components: LEC.

Grading: GRD.

IEN 670. Engineering Management. 3 Credit Hours.

Integrating engineering discipline into the social and economic considerations of managing systems. Tools and techniques used by engineering managers including engineering project life cycle, role playing, communication, decision-making in engineering management, and managing change in engineering organizations are discussed.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

IEN 671. Engineering Entrepreneurship. 3 Credit Hours.

The conversion of technological know-how and engineering theories into business enterprises. The role of technology in creating wealth, connecting technology with market, the role and characteristics of entrepreneurs, starting a business and the business plan, innovation, industrial and service organizations, and the new business environment.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

IEN 672. Management of Technological Innovation. 3 Credit Hours.

Engineering, Science and Management Principles contributing to the development of a successful framework for Managing technology with an organization, nationally or internationally. The process of technological innovations, technological planning and forecasting, and socio-economic changes. Prerequisite: Senior or graduate standing.

Prerequisite: IEN 572.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Summer.

IEN 690. Special Topics in Industrial Engineering. 3 Credit Hours.

Sub-titles describing the topics are shown in parentheses in the class schedule, following the title "Special Topics".

Components: LEC.

Grading: GRD.

IEN 694. Master's Capstone Design Project. 3 Credit Hours.

A capstone design project for students in the five-year BSIE/MSIE program. Integration of Industrial Engineering principles and techniques in the design and improvement of production and service systems is emphasized. Offered for students in this program only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

IEN 695. Special Problems. 1-3 Credit Hours.

Project course introducing methods of research through an individual investigation of current problems. Offered by special arrangement only.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

IEN 696. Special Problems. 1-3 Credit Hours.

Project course introducing methods of research through an individual investigation of current problems. Offered by special arrangement only.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

IEN 699. Cooperative Education. 1 Credit Hour.

Practical application of classroom theory through alternating semester or summer employment with industries offering positions consistent with the student's field of study. Course may be repeated. Periodic reports and conferences are required.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

IEN 712. Design of Experiments. 3 Credit Hours.

Design and analysis of experiments, randomized blocks, Latin Squares, factorials, multiple correlation and regression, and application to response surfaces are discussed. 3 hours.

Prerequisite: IEN 311 or MAS 311 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

IEN 713. Applied Regression Analysis. 3 Credit Hours.

Theory and applications of regression based models. Focus will be on empirical model building, estimation, inference and prediction with emphasis on interpretation of results and understanding model assumptions. Key Topics will be linear regression, panel data and time series analysis.

Prerequisite: IEN 311.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

IEN 715. Quality Through Planned Experimentation. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

IEN 716. Advanced Quality Control. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

IEN 742. Linear Programming and Extensions. 3 Credit Hours.

Formulation, solution, postoptimality analysis of linear programming problems; revised simplex, parametric programming, decomposition of large-scale systems. Use of computer packages. Introduction to integer programming, network flows, and nonlinear programming applications.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

IEN 757. Ergonomics and Occupational Biomechanics. 3 Credit Hours.

Effects of human factors in the improvement of performance of systems. Human capacities, capabilities, and limitations as derived from anatomical, physiological, and psychological principles are applied to the design of tools and equipment. Incorporation of all factors into systems design to achieve better system performance is emphasized

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

IEN 758. Ergonomics and Special Populations. 3 Credit Hours.

Ergonomic issues relevant to design for older adults and special populations such as the handicapped. Primary emphasis is placed on work environments, transportation and communication systems, and home environments. Topics include cognitive and physiological characteristics of special populations, workplace design, job and equipment design, rehabilitation engineering, clinical ergonomics, and legislation such as the ADA. Lecture, 3 hours.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

IEN 760. Productivity Measurement and Evaluation. 3 Credit Hours.

Basic concepts. Productivity measurement approaches at international, national, industry, and company levels. Latest measurement models for manufacturing companies. Relationships between total and partial productivities, profit and total productivity. Productivity evaluation: theory and methodology.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

 IEN 761. Engineering Cost Management. 3 Credit Hours.

Issues of cost management, including activity based costing of engineering projects. A detailed study of how to separate, identify, understand and manage the major activities performed, and how these activities relate to customer needs. Overall view of costs associated with products, processes, and customers.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

 IEN 763. Project Management Techniques. 3 Credit Hours.

Techniques and Tools in Project Management. Use of network flow techniques including PERT/CPM, planning, systems concepts, time management, conflicts, cost and resource control, tradeoff analysis.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

 IEN 764. Supply Chain Management. 3 Credit Hours.

Supply Chain Management focuses on the flow of products, information, and money throughout the supply chain. An overview of issues, opportunities, tools, and approaches is provided. Emphasis is placed on business processes, system dynamics, control, design and re-engineering, and on the relationship between the supply chain and the company's strategic position relative to its clients and its competition. The dimensions of inter- corporate relationships with partners, including decision-making, incentives, and risk are also covered.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

 IEN 765. Advanced Production Systems. 3 Credit Hours.

Quantitative, heuristic and computer methods applied to problems of production planning, work force balancing and capacity expansion. Sequencing and scheduling models. Advanced Material Requirements Planning (MRP II). Just In Time production systems (JIT). Master Production Scheduling (MPS). Optimize Production Technology (OPT). KANBAN production planning system. Learning curve theory. Advanced forecasting and time-series analysis.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

 IEN 772. Strategic Management of Technological Innovation.. 3 Credit Hours.

Advanced topics in the management of technology emphasizing the relationship between technology and competitiveness in the global marketplace. Technology development in the U.S., Japan, and Europe, industrial R & D, strategic technological planning, and conditions for successful implementations. Case studies are used with individual and group assignments. Prerequisite: IEN 572 - Management of Technology or permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

 IEN 791. Industrial Engineering Seminar. 0 Credit Hours.

Oral presentation and discussion of current topics in Industrial Engineering.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

 IEN 792. Professional Communications Skills for Engineering Grad Students. 0 Credit Hours.

This course covers fundamental areas in professional communication for Engineering graduate students. Topic areas include: presenting research at conferences, writing manuscripts for publication, preparing the dissertation, the PhD comprehensive exams, effective teaching and mentoring, and obtaining positions in academia. Through interactive workshops, in- class exercises, brief presentations and assignments, students will have an opportunity to practice and strengthen necessary communication skills, developing collaborations, and developing effective presentation skills.

Components: MOD.

Grading: SUS.

Typically Offered: Fall & Spring.

IEN 794. Master's Project. 3 Credit Hours.

A capstone project for M.S. students in the non-thesis option.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

IEN 795. Special Problems. 1-3 Credit Hours.

Research and/or design projects through an individual investigation of current problems. Offered by special arrangement only.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

IEN 796. Special Problems. 1-3 Credit Hours.

Research and/or design projects through an individual investigation. of current problems. Offered by special arrangement only.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

IEN 799. Advanced Topics. 1-3 Credit Hours.

Subject matter offerings based upon student demand and availability of faculty. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title "Advanced Topics".

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

IEN 810. Master's Thesis. 1-6 Credit Hours.

The student working on his/her master's thesis enrolls for credit, in most departments not to exceed six, as determined by his/her advisor. Credit is not awarded until the thesis has been accepted.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

IEN 820. Research in Residence. 1 Credit Hour.

Used to establish research in residence for the thesis for the master's degree after the student has enrolled for the permissible cumulative total in IEN 710 (usually six credits). Credit not granted. May be regarded as full time residence.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

IEN 825. Continuous Registration--Master's Study. 1 Credit Hour.

To establish residence for non-thesis master's students who are preparing for major examinations. Credit not granted. Regarded as full time residence.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

IEN 830. Pre-Candidacy Doctoral Dissertation. 1-12 Credit Hours.

Doctoral dissertation credits taken prior to Ph.D. student's candidacy. The student will enroll for credit as determined by his/her advisor. Not more than 12 hours of IEN 730 may be taken in a regular semester, nor more than six in a summer session.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

IEN 840. Post-Candidacy Doctoral Dissertation. 1-12 Credit Hours.

Doctoral dissertation credits taken after Ph.D. student has been admitted to candidacy. The student will enroll for credit as determined by his/her advisor. Not more than 12 credits in IEN 740 may be taken in a regular semester, nor more than six credits in a summer session.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

IEN 850. Research in Residence. 1 Credit Hour.

Used to establish research in residence for the Ph.D. and D.A., after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Credit not granted. May be regarded as full-time residence as determined by the Dean of the Graduate School.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

Instrumental Performance (MIP)

MIP 0B1. Oboe. 2 Credit Hours.

1-hour lesson and 50 minute studio class for oboe students. Technical Requirements: Scales, arpeggios, trills. Appropriate technical exercises. Etudes by Bozza (Gillet, Prestini). Repertoire: Mozart, Telemann, Bach, Poulenc, Vaughan Williams.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP 0B3. Oboe. 2 Credit Hours.

1-hour lesson and 50 minute studio class for oboe students. Technical Requirements: Scales, arpeggios, trills. Appropriate technical exercises. Etudes by Bozza (Gillet, Prestini). Repertoire: Mozart, Telemann, Bach, Poulenc, Vaughan Williams.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP 0B5. Oboe. 1-4 Credit Hours.

Mastery of technical aspects of oboe performance. Preparation of Masters recital(s) and Oral Defense. Preparation of audition repertoire for further study or professional placement. Related areas such as reed making, specific individualized studies, instrument maintenance, chamber music and orchestral excerpts are also part of the curriculum.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP 0B6. Oboe. 1-2 Credit Hours.

Mastery of technical aspects of oboe performance. Preparation of Masters recital(s) and Oral Defense. Preparation of audition repertoire for further study or professional placement. Related areas such as reed making, specific individualized studies, instrument maintenance, chamber music and orchestral excerpts are also part of the curriculum.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP 0B7. Oboe. 1-2 Credit Hours.

Continue mastery of technical aspects of oboe performance. Preparation of DMA recitals and Oral Defense. Preparation of audition repertoire for professional placement. An overview of pedagogy materials for performance and teaching use will also be explored.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP 1. Brass Forum. 0 Credit Hours.

An informal recital setting and performance class for brass principals and majors with guest and faculty presentations.

Components: FOR.

Grading: CNC.

Typically Offered: Fall & Spring.

MIP 101. Classical Large Ensemble Placeholder. 1 Credit Hour.

Ensemble placeholder course for new students to enroll in before ensemble placement auditions during Frost Orientation. Please note, you will have to drop this course and enroll in your correct ensemble when receive your official ensemble placement from your studio professor or Dr. Rob Carnochan.

Components: ENS.

Grading: GRD.

Typically Offered: Fall.

MIP 102. Classical Chamber Ensemble Placeholder. 1 Credit Hour.

Ensemble placeholder course for new students to enroll in before ensemble placement auditions during Frost Orientation. Please note, you will have to drop this course and enroll in your correct ensemble when receive your official ensemble placement from your studio professor.

Components: ENS.

Grading: GRD.

Typically Offered: Fall.

MIP 120. Class Guitar I for Non-Music Majors. 1 Credit Hour.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP 121. Class Guitar I for Jazz Majors. 1 Credit Hour.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP 130. Afro-Caribbean Hand Drumming, Level I. 1 Credit Hour.

The study of hand drumming techniques used to perform the music of Africa and the new world African music that originated in the islands of the Caribbean and the countries of Central and Latin America. This class is taught in a workshop format.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP 131. Afro-Caribbean Hand Drumming, Level II. 1 Credit Hour.

The study of hand drumming techniques used to perform the music of Africa and the new world African music that originated in the islands of the Caribbean and the countries of Central and Latin America. Level II is a performance ensemble.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP 135. Percussion Contemporary Chamber Music. 1 Credit Hour.

Mandatory for all classical percussionists, this course focuses on the contemporary uncondacted chamber music repertoire. The goal is for students to develop and use an advanced listening/communicating skill set, while playing music with others. This course also targets to improve students' capabilities in contemporary music interpretation and performance.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP 138. Trombone Choir. 1 Credit Hour.

The study and performance of literature for small and large trombone ensembles.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP 139. Brass Chamber Music. 1 Credit Hour.

The study and performance of literature for small ensembles of similar or mixed brass instruments.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP 140. Flute Choir. 1 Credit Hour.

Reading, rehearsing, and performing the flute choir repertoire (duets, trios, quartets, quintets).

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP 141. Saxophone Ensemble. 1 Credit Hour.

The study and performance of classical and jazz literature for small saxophone ensembles.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP 143. Woodwind Chamber Music. 1 Credit Hour.

Exploring the woodwind chamber music repertoire as represented by various combinations of instruments.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP 144. Woodwind Chamber Ensemble. 1 Credit Hour.

Woodwind chamber ensemble is designed to give students knowledge of the most important literature for woodwinds through practice, rehearsal, and performance of major works for woodwind chamber ensemble.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP 145. String-Keyboard Chamber Music. 1 Credit Hour.

The study and performance of literature from the Baroque Period through the 20th Century for two or more players for string instrumentalists and strings with keyboard.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP 169. Band of the Hour Pep Band. 1 Credit Hour.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP 170. Marching Band. 1 Credit Hour.

The "Band of the Hour" Marching Band is open to all qualified undergraduate and graduate students, regardless of major. The band performs at all home Miami Hurricane football games and selected away games.

Components: ENS.

Grading: GRD.

Typically Offered: Fall.

MIP 171. Symphonic Winds. 1 Credit Hour.

Symphonic Band is a large wind band that performs significant repertoire for wind and percussion instruments. It is open to all qualified undergraduate and graduate students, regardless of major.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP 172. University Band. 1 Credit Hour.

University Band is a large ensemble offering students the opportunity to play standard repertoire of the wind band. This group is open to all wind and percussion players throughout the university, regardless of major.

Components: SEM.

Grading: GRD.

Typically Offered: Spring.

MIP 174. Brass Choir. 1 Credit Hour.

Major works for Brass Choir are studied. Special emphasis is given to orchestral repertoire.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP 176. Wind Ensemble. 1 Credit Hour.

This course offers performance opportunities for qualified wind and percussion players. Repertoire includes significant literature written for the small and large wind band.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP 180. Symphony Orchestra. 1 Credit Hour.

The Symphony Orchestra performs significant repertoire for large orchestra. It is open to all qualified undergraduate students by audition.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP 181. Instrumental Conducting I. 2 Credit Hours.

This course provides practical procedures and materials for beginning instrumental conducting students. Students demonstrate basic conducting patterns, preparations, and releases in all meters.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

MIP 182. Instrumental Conducting II. 2 Credit Hours.

This course provides practical procedures and materials for advancing instrumental conducting students. Students demonstrate refined skill in conducting musical styles and independence of gestures.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MIP 191. Tuba Ensemble. 1 Credit Hour.

The study and performance of compositions and/or transcriptions written for an ensemble of tubas and/or euphoniums.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP 192. Classical Guitar Ensemble. 1 Credit Hour.

This course focuses on sightreading, rhythm recognition, and ensemble performance through the study of exercises, scales, and diverse repertoire.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP 2. Guitar Forum. 0 Credit Hours.

An informal recital setting and performance class for guitar principals and majors with guest and faculty presentations.

Components: FOR.

Grading: CNC.

Typically Offered: Fall & Spring.

MIP 220. Class Guitar II for Non-music Majors. 1 Credit Hour.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP 270. Leadership and Instructional Strategies for Marching Band. 1 Credit Hour.

Prerequisite: MIP 170.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MIP 281. Instrumental Conducting III. 1 Credit Hour.

This course provides a synthesis of the skills demonstrated in Instrumental Conducting I and II while developing error detection skills in common performance errors.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

MIP 282. Instrumental Conducting IV. 1 Credit Hour.

Students demonstrate knowledge of instruments, instrumentation of the wind band and orchestra, and analyze scores for conception, interpretation, rehearsal, and performance.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MIP 307. Skills Lab V: Classical Improvisation. 2 Credit Hours.

Introduce students to the process of improvisation in all styles of classical music.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP 308. Skills Lab VI: Composition as Applied Improvisation. 2 Credit Hours.

Moving from the world of improvisation to composition, this course re-focuses musical expression into written form encompassing pre-tonal, tonal and post-tonal techniques through analysis, written improvisation, and model-composition.

Prerequisite: MTC 211 or MTC 240.

Components: LAB.

Grading: GRD.

Typically Offered: Spring.

MIP 399. Junior Recital. 1 Credit Hour.

A public recital of one half-hour or more. Course is required of all instrumental performance majors.

Components: PRA.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP 407. Skills Lab VII: Basic Conducting/Arranging. 2 Credit Hours.

This course in basic conducting and arranging is designed to acquaint the student by application, with the basic beat, patterns (symmetrical and asymmetrical), preparatory beats, releases, dynamics, fermati, tempo changes, elementary score study and rehearsal techniques. Elements of practical arranging will be explored as students arrange excerpts for their specific skills ensemble that address areas of conducting technique.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

MIP 408. Skills Lab VIII: Culminating Project. 2 Credit Hours.

In this class students will create, perform, and produce a culminating concert event that will incorporate all the various skills they have acquired over the course of the Experiential Music Curriculum. The music for this performance will be written (or arranged), played, and conducted by the students in the skills ensemble, and it will require skills in improvisation, technology, and promotion that have been learned in the previous Skills Ensemble classes. The instructor will work in a consultative and guidance role to help the students develop and produce this performance.

Components: LAB.

Grading: GRD.

Typically Offered: Spring.

MIP 493. Special Projects in Instrumental Performance or Conducting. 1-3 Credit Hours.

Advanced individual instruction pertaining to faculty member's area of expertise and student's area of interest. This course includes a culminating project.

Components: IND.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MIP 494. Special Topics in Instrumental Performance or Conducting. 1-3 Credit Hours.

Advanced group/classroom instruction pertaining to faculty member's expertise and students' areas of interest.

Components: SEM.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MIP 499. Senior Recital. 1 Credit Hour.

A public recital of one hour or more. Required of all performance majors.

Components: PRA.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP 5. Percussion Forum. 0 Credit Hours.

An informal recital setting and performance class for Percussion principals and majors with guest and faculty presentations.

Components: FOR.

Grading: CNC.

Typically Offered: Fall & Spring.

MIP 540. Reed Making and Maintenance for Oboe and Bassoon. 0 Credit Hours.

One Hour weekly class detailing and experiencing the processing of cane and making if reeds for oboe and bassoon, and the maintenance of those instruments.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP 541. Bassoon Repertoire and Pedagogy. 1-2 Credit Hours.

Solo and small ensemble literature of the bassoon since 1600.

Requisite: Music Majors, Upperclass Status or Permission of Instructor.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

MIP 542. Clarinet Repertoire and Pedagogy. 1-2 Credit Hours.

Solo and small ensemble literature of the clarinet since 1600.

Requisite: Music Majors, Upperclass Status or Permission of Instructor.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

MIP 543. Flute Repertoire and Pedagogy. 1-2 Credit Hours.

Solo and small ensemble literature of the flute since 1600.

Requisite: Music Majors, Upperclass Status or Permission of Instructor.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

MIP 544. Oboe Repertoire and Pedagogy. 1-2 Credit Hours.

Solo and small ensemble literature of the oboe since 1600.

Requisite: Music Majors, Upperclass Status or Permission of Instructor.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

MIP 545. Brass Repertoire and Pedagogy. 1-2 Credit Hours.

Solo and small ensemble literature of brass instruments since 1600.

Requisite: Music Majors, Upperclass Status or Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MIP 546. Percussion Repertoire and Pedagogy. 1-2 Credit Hours.

Solo and small ensemble literature of percussion instruments since 1600.

Requisite: Music Majors, Upperclass Status or Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MIP 547. Saxophone Repertoire and Pedagogy. 1-2 Credit Hours.

Solo and small ensemble literature of the saxophone since 1600.

Requisite: Music Majors, Upperclass Status or Permission of Instructor.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

MIP 548. Guitar Repertoire and Pedagogy. 1-2 Credit Hours.

Solo and small ensemble literature of the guitar since 1600.

Requisite: Music Majors, Upperclass Status or Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MIP 549. String Repertoire and Pedagogy. 1-2 Credit Hours.

An exploration of teaching string playing. Areas covered include problem-solving and communication techniques, and practical considerations in establishing a teaching studio. Students participate in hands-on teaching opportunities. Prerequisite: Advanced standing in Music and permission of instructor.

Requisite: Music Majors, Upperclass Status or Permission of Instructor.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

MIP 550. Bach Cello Suites. 1 Credit Hour.

The study and performance of the six suites for unaccompanied cello of Johann Sebastian Bach.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MIP 580. Orchestral Audition Preparation. 1 Credit Hour.

The study of the more difficult excerpts from the orchestral literature for violin, viola, violoncello, or double bass. Course may be repeated for credit.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP 593. Special Projects in Instrumental Performance or Conducting. 1-3 Credit Hours.

Advanced individual instruction pertaining to faculty member's area of expertise and student's area of interest. This course includes a culminating project.

Components: IND.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MIP 594. Special Topics in Instrumental Performance or Conducting. 1-3 Credit Hours.

Advanced group/classroom instruction pertaining to faculty member's expertise and students' areas of interest.

Components: SEM.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MIP 640. Reed Making and Maintenance for Oboe and Bassoon. 0 Credit Hours.

One hour week class detailing and experiencing the processing of cane and making of reeds for oboe and bassoon, and the maintenance of those instruments.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP 641. Bassoon Repertoire and Pedagogy. 1-2 Credit Hours.

Solo and small ensemble literature of the bassoon since 1600.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

MIP 642. Clarinet Repertoire and Pedagogy. 1-2 Credit Hours.

Solo and small ensemble literature of the clarinet since 1600.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

MIP 643. Flute Repertoire and Pedagogy. 1-2 Credit Hours.

Solo and small ensemble literature of the flute since 1600.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

MIP 644. Oboe Repertoire and Pedagogy. 1-2 Credit Hours.

Solo and small ensemble literature of the oboe since 1600.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

MIP 645. Brass Repertoire and Pedagogy. 1-2 Credit Hours.

Solo and small ensemble literature of brass instruments since 1600.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP 646. Percussion Repertoire and Pedagogy. 1-2 Credit Hours.

Solo and small ensemble literature of percussion instruments since 1600.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MIP 647. Saxophone Repertoire and Pedagogy. 1-2 Credit Hours.

Solo and small ensemble literature of the saxophone since 1600.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

MIP 648. Guitar Repertoire and Pedagogy. 1-2 Credit Hours.

Solo and small ensemble literature of the guitar since 1600.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MIP 649. String Repertoire and Pedagogy. 1-2 Credit Hours.

An exploration of teaching string playing. Areas covered include problem-solving and communication techniques, and practical considerations in establishing a teaching studio. Students participate in hands-on teaching opportunities. Prerequisite: Advanced standing in Music and permission of instructor.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

MIP 650. Bach Cello Suites. 1 Credit Hour.

The study and performance of the six suites for unaccompanied cello of Johann Sebastian Bach.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MIP 680. Orchestral Audition Preparation. 1 Credit Hour.

The study of the more difficult excerpts from the orchestral literature for violin, viola, violoncello, or double bass. Course may be repeated for credit.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP 693. Special Projects in Instrumental Performance or Conducting. 1-3 Credit Hours.

Advanced individual instruction pertaining to faculty member's area of expertise and student's area of interest. This course includes a culminating project.

Components: IND.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MIP 694. Special Topics in Instrumental Performance or Conducting. 1-3 Credit Hours.

Advanced group/classroom instruction pertaining to faculty member's expertise and students' areas of interest.

Components: ENS.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MIP 7. String Forum. 0 Credit Hours.

An informal recital setting and performance class for string principals and majors with guest and faculty presentations.

Components: FOR.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP 701. MM Recital Program Notes Preparation. 1 Credit Hour.

Students prepare extensive, original program notes, with bibliography. These notes will be made available to the audience of the second Masters recital. The notes may focus on the historical, analytical and performance aspects of the repertoire for this recital. Required in MM two-recital degree programs.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MIP 710. Graduate Conducting Seminar. 1-2 Credit Hours.

The graduate conducting seminar is an advanced study of conducting and rehearsal techniques combined with score and ensemble topics. Specific topics vary each semester. May be repeated for credit.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP 720. Concepts and Processes of Classical Improvisation. 1 Credit Hour.

Concepts and Processes of Improvisation in classical music

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MIP 730. Afro-Caribbean Hand Drumming, Level I. 1 Credit Hour.

The study of hand drumming techniques used to perform the music of Africa and the new world African music that originated in the islands of the Caribbean and the countries of Central and Latin America. Class is taught as a workshop.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP 731. Afro-Caribbean Hand Drumming, Level II. 1 Credit Hour.

The study of hand drumming techniques used to perform the music of Africa and the new world African music that originated in the islands of the Caribbean and the countries of Central and Latin America. Level II is a performance ensemble.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP 735. Percussion Contemporary Chamber Music. 1 Credit Hour.

Mandatory for all classical percussionists, this course focuses on the contemporary uncondacted chamber music repertoire. The goal is for students to develop and use an advanced listening/communicating skill set, while playing music with others. This course also targets to improve students' capabilities in contemporary music interpretation and performance.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP 738. Trombone Choir. 1 Credit Hour.

The study and performance of literature for small and large trombone ensembles.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP 739. Brass Chamber Music. 1 Credit Hour.

The study and performance of literature for small ensembles of similar or mixed brass instruments.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP 740. Flute Choir. 1 Credit Hour.

Reading, rehearsing, and performing the flute choir repertoire (duets, trios, quartets, quintets).

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP 741. Saxophone Ensemble. 1 Credit Hour.

The study and performance of classical and jazz literature for small saxophone ensembles.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP 743. Woodwind Chamber Music. 1 Credit Hour.

Exploring the woodwind chamber music repertoire as represented by various combinations of instruments.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP 744. Woodwind Chamber Ensemble. 1 Credit Hour.

Woodwind chamber ensemble is designed to give students knowledge of the most important literature for woodwinds through practice, rehearsal, and performance of major works for woodwind chamber ensemble.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP 745. String-Keyboard Chamber Music. 1 Credit Hour.

The study and performance of literature from the Baroque Period through the 20th Century for two or more players for string instrumentalists and strings with keyboard.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP 755. Seminar in Baroque Performance. 1 Credit Hour.

Students will present research on compositions representative of the Baroque period. Presentations will include interpretation, style, and historical context of both the composer and the work.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MIP 756. Seminar in Classical Performance. 1 Credit Hour.

Students will present research on compositions representative of the classical period. Presentations will include interpretation, style, and historical context of both the composer and the work.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MIP 757. Seminar in Romantic Performance. 1 Credit Hour.

Students will present research on compositions representative of the Romantic period. Presentations will include interpretation, style, and historical context of both the composer and the work.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MIP 758. Seminar in Contemporary Performance. 1 Credit Hour.

Students will present research on compositions representative of the Contemporary music. Presentations will include interpretation, style, and historical context of both the composer and the work.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MIP 770. Marching Band. 1 Credit Hour.

The "Band of the Hour" Marching Band is open to all qualified undergraduate and graduate students, regardless of major. The band performs at all home Miami Hurricane football games and selected away games.

Components: ENS.

Grading: GRD.

Typically Offered: Fall.

MIP 771. Symphonic Winds. 1 Credit Hour.

Symphonic Band is a large wind band that performs significant repertoire for wind and percussion instruments. It is open to all qualified undergraduate and graduate students, regardless of major.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP 774. Brass Choir. 1 Credit Hour.

Major works for Brass Choir are studied. Special emphasis is given to orchestral repertoire.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP 776. Wind Ensemble. 1 Credit Hour.

This course offers performance opportunities for qualified wind and percussion players. Repertoire includes significant literature written for the small and large wind band.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP 780. Symphony Orchestra. 1 Credit Hour.

The Symphony Orchestra performs significant repertoire for large orchestra. It is open to all qualified graduate students by audition.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP 781. Instrumental Conducting Workshop. 2 Credit Hours.

This course provides practical procedures and materials for beginning and advancing conducting students. Students enrolled in the four-semester sequence demonstrate basic conducting techniques, demonstration of instruments and instrumentation of the wind band and orchestra, and analyze scores for conception, interpretations, rehearsal, and performance.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

MIP 782. Instrumental Conducting II. 2 Credit Hours.

This course provides practical procedures and materials for advancing instrumental conducting students. Students demonstrate refined skill in conducting musical styles and independence of gestures.

Prerequisites: MIP 781 or MIP 317.

Components: LAB.

Grading: GRD.

Typically Offered: Spring.

MIP 791. Tuba Ensemble. 1 Credit Hour.

The study and performance of compositions and/or transcriptions written for an ensemble of tubas and/or euphoniums.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP 792. Classical Guitar Ensemble. 1 Credit Hour.

This course focuses on sightreading, rhythm recognition, and ensemble performance through the study of exercise, scales, and diverse repertoire.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP 793. Special Projects in Instrumental Performance or Conducting. 1-3 Credit Hours.

Advanced individual instruction pertaining to faculty member's area of expertise and student's area of interest. This course includes a culminating project.

Components: IND.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MIP 794. Special Projects in Instrumental Performance or Conducting. 1-3 Credit Hours.

Advanced group/classroom instruction pertaining to faculty member's expertise and students' areas of interest.

Components: SEM.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MIP 811. Master's Recital Paper. 1-3 Credit Hours.

The student working on his/her master's recital paper enrolls for credit as determined by his/her advisor. Credit is not awarded until the paper has been accepted.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

MIP 812. Master's Recital. 1 Credit Hour.

A masters recital lasting at least 60 minutes that may include some chamber works but consists primarily of solo pieces. Students are required to write Program Notes.

Components: PRA.

Grading: SUS.

Typically Offered: Fall & Spring.

MIP 813. Master's Second Recital. 1 Credit Hour.

The second recital for those taking the two-recital option in the Master of Music in Instrumental Performance degree.

Components: THI.

Grading: SUS.

Typically Offered: Fall & Spring.

MIP 814. Artist Diploma Recital. 1 Credit Hour.

The student enrolls for recital credit during the semester in which he/she presents the Artist Diploma Recital.

Components: THI.

Grading: SUS.

Typically Offered: Fall & Spring.

MIP 815. Masters Advanced Recital. 2 Credit Hours.

The second recital in the masters degree when students choose Extended Program Notes as the final project.

Components: THI.

Grading: SUS.

Typically Offered: Fall & Spring.

MIP 820. Research in Residence. 1 Credit Hour.

Used to establish research in residence and maintain full-time enrollment for the master's degree after the student has completed the required hours of thesis or project credit.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

MIP 831. Doctoral Essay. 1-12 Credit Hours.

Required of all candidates for the D.M.A. The student will enroll for credit as determined by his/her advisor, but not for less than a total of 12. Not more than 12 hours of MIP 731 may be taken in a regular semester, nor more than six in a summer session.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

MIP 832. Doctoral Recital. 1-2 Credit Hours.

Required of all candidates for the D.M.A.

Components: PRA.

Grading: SUS.

Typically Offered: Fall & Spring.

MIP 850. Research in Residence. 1 Credit Hour.

Used to establish research in residence and maintain full-time enrollment for the DMA after the student has completed the required hours of doctoral essay credit.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

MIP 9. Woodwind Forum. 0 Credit Hours.

An informal recital setting and performance class for woodwind principals and majors with guest and faculty presentations.

Components: FOR.

Grading: CNC.

Typically Offered: Fall & Spring.

MIP BA1. Bassoon. 2 Credit Hours.

1-hour lesson and 50 minute studio class for bassoon students. Technical Requirements: Method Books by Giampieri, Jancourt, Milde (Vol. 1).

Repertoire: Vivaldi Concerto, Bourdeau - Premier solo, Galliard, Handel, Marcello, Nino Rota Procaccini.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP BA3. Bassoon. 2 Credit Hours.

1-hour lesson and 50 minute studio class for bassoon students. Technical Requirements: Method Books by Giampieri, Milde (Vol. 2). Gambaro.

Repertoire: Bach, Bozza, Eigar, Jean Jean, Hindemith, Mozart, Flament.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP BA5. Bassoon. 1-4 Credit Hours.

Mastery of technical aspects of bassoon performance. Preparation of Masters recital(s) and oral defense. Preparation of repertoire for audition for further study or professional placement. Related areas such as reed making, specific individualized studies, instrumental maintenance, and orchestral excerpts are also part of the curriculum.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP BA6. Bassoon. 1-2 Credit Hours.

Mastery of technical aspects of bassoon performance. Preparation of Masters recital(s) and oral defense. Preparation of repertoire for audition for further study or professional placement. Related areas such as reed making, specific individualized studies, instrumental maintenance, and orchestral excerpts are also part of the curriculum.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP BA7. Bassoon. 1-2 Credit Hours.

Continued mastery of technical aspects of bassoon performance. Preparation of DMA recitals and oral defense. Preparation of repertoire for audition for professional placement. An overview of pedagogy materials for performance and teaching use will also be explored.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP BAD. Bassoon. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Method Books by Giampieri, Jancourt, Milde (Vol. 1). Repertoire: Bourdeau - Second Solo, David, Domenico, Dubois, Fasch, Kozeluh, Pierne, Telemann, Vivaldi.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP BAS. Secondary Bassoon. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Method Books by Giampieri, Jancourt, Milde (Vol. 1). Repertoire: Vivaldi Concerto, Bourdeau - Premier solo, Galliard, Handel, Marcello, Nino Rota Procaccini.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP CD1. Conducting. 2 Credit Hours.

1-hour lesson and 50 minute studio class for conducting students.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP CD3. Conducting. 2 Credit Hours.

1-hour lesson and 50 minute studio class for conducting students.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP CD5. Conducting. 1-4 Credit Hours.

Applied lesson and studio class for Artist Diploma students.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP CD6. Conducting. 1-2 Credit Hours.

Applied lesson and studio class for Masters students.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP CD7. Conducting. 1-2 Credit Hours.

Applied lesson and studio class for Doctoral students.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP CDC. Conducting. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP CDD. Conducting. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP CDF. Conducting. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP CDG. Conducting. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP CDH. Conducting. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP CDS. Secondary Conducting. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP CL1. Clarinet. 2 Credit Hours.

1-hour lesson and 50 minute studio class for clarinet students. Technical Requirements: Development of embouchure, breathing, and articulation.

Scale study. Etude books: Rose 32 Etudes, Baermann Method Book 3. Repertoire: Schumann, Saint-Saens, Gade, Arnold. Orchestral excerpts.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP CL3. Clarinet. 2 Credit Hours.

1-hour lesson and 50 minute studio class for clarinet students. Technical Requirements: Same as previous semesters as well as Jean Jean 16 or 18

Etudes, and Opperman Advanced Velocity Studies. Repertoire: Poulenc, Stravinsky, Bernstein, Brahms.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP CL5. Clarinet. 1-4 Credit Hours.

Applied lesson and studio class for Artist Diploma students.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP CL6. Clarinet. 1-2 Credit Hours.

Applied lesson and studio class for Masters students.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP CL7. Clarinet. 1-2 Credit Hours.

Applied lesson and studio class for Doctoral students.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP CLC. Clarinet. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Same as previous semesters as well as Cavillini Caprices, and Opperman Intermediate Velocity Studies. Repertoire: Weber, Hindemith, Burgmuller.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP CLD. Clarinet. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Same as previous semesters as well as Cavillini Caprices, and Opperman Intermediate Velocity Studies. Repertoire: Weber, Hindemith, Burgmuller.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP CLF. Clarinet. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Same as previous semesters as well as Jean Jean 16 or 18 Etudes, and Opperman Advanced Velocity Studies. Repertoire: Poulenc, Stravinsky, Bernstein, Brahms.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP CLG. Clarinet. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Same as previous semesters as well as Opperman Virtuoso Velocity Studies. Repertoire: Debussy, Rozsa, Muczynski, Berg.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP CLH. Clarinet. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Same as previous semesters as well as Opperman Virtuoso Velocity Studies. Repertoire: Debussy, Rozsa, Muczynski, Berg.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP CLS. Secondary Clarinet. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Development of embouchure, breathing, and articulation. Scale study. Etude books: Rose 32 Etudes, Baermann Method Book 3. Repertoire: Schumann, Saint-Saens, Gade, Arnold. Orchestral excerpts.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP DB1. Double Bass. 2 Credit Hours.

1-hour lesson and 50 minute studio class for double bass students.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP DB3. Double Bass. 2 Credit Hours.

1-hour lesson and 50 minute studio class for double bass students.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP DB5. Double Bass. 1-4 Credit Hours.

Advanced study of the double bass. Preparation for Master's recitals, and oral defense, orchestral repertoire, planning auditions, and insights on teaching.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP DB6. Double Bass. 1-2 Credit Hours.

Advanced study of the double bass. Preparation for Master's recitals, and oral defense, orchestral repertoire, planning auditions, and insights on teaching.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP DB7. Double Bass. 1-2 Credit Hours.

Preparation of qualifying and DMA recitals and oral defense. Continuation of advanced orchestral repertoire and methods and audition preparation.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP DBC. Double Bass. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP DBD. Double Bass. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP DBF. Double Bass. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP DBG. Double Bass. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP DBH. Double Bass. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP DBS. Secondary Doubles Bass. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP EU1. Euphonium. 2 Credit Hours.

1-hour lesson and 50 minute studio class for euphonium students. Technical Requirements: Development of embouchure, breathing, and articulation.

Appropriate major and minor scales. Repertoire: Arban, Concone, Schlossberg, Barat, Presser.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP EU3. Euphonium. 2 Credit Hours.

1-hour lesson and 50 minute studio class for euphonium students. Technical Requirements: Development of embouchure, breathing, and articulation.

Appropriate major and minor scales. Repertoire: Arban, Concone, Schlossberg, Barat, Presser.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP EU5. Euphonium. 1-4 Credit Hours.

Applied lesson and studio class for Artist Diploma students.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP EU6. Euphonium. 1-2 Credit Hours.

Applied lesson and studio class for Masters students.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP EU7. Euphonium. 1-2 Credit Hours.

Applied lesson and studio class for Doctoral students.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP EUC. Euphonium. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. ½-hour lesson for students enrolled for 1 credit. Technical Requirements: Development of embouchure, breathing, and articulation. Appropriate major and minor scales. Repertoire: Bordogni-Rochut, Peters, Jones, Vivaldi.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP EUD. Euphonium. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. ½-hour lesson for students enrolled for 1 credit. Technical Requirements: Development of embouchure, breathing, and articulation. Appropriate major and minor scales. Repertoire: Bordogni-Rochut, Peters, Jones, Vivaldi.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP EUF. Euphonium. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. ½-hour lesson for students enrolled for 1 credit. Technical Requirements: Development of embouchure, breathing, and articulation. Appropriate major and minor scales. Repertoire: Fink Stevens, Maxime-Alphones, Jacob, Hartley.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP EUG. Euphonium. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. ½-hour lesson for students enrolled for 1 credit. Technical Requirements: Development of embouchure, breathing, and articulation. Appropriate major and minor scales. Repertoire: Charlier, Bozza, Uber, Horovitz Bellstedt; band and orchestral excerpts.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP EUH. Euphonium. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. ½-hour lesson for students enrolled for 1 credit. Technical Requirements: Development of embouchure, breathing, and articulation. Appropriate major and minor scales. Repertoire: Charlier, Bozza, Uber, Horovitz Bellstedt; band and orchestral excerpts.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP EUS. Secondary Euphonium. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. ½-hour lesson for students enrolled for 1 credit. Technical Requirements: Development of embouchure, breathing, and articulation. Appropriate major and minor scales. Repertoire: Arban, Concone, Schlossberg, Barat, Presser.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP FH1. French Horn. 2 Credit Hours.

1-hour lesson and 50 minute studio class for french horn students. Technical Requirements: Development of embouchure, breathing, and articulation. Appropriate major and minor scales. Repertoire: Arban, Concone, Schlossberg, Barat, Presser.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP FH3. French Horn. 2 Credit Hours.

1-hour lesson and 50 minute studio class for french horn students. Technical Requirements: Continued transposition study, further skills development, scales and arpeggios. Studies by Bach, Maxime-Alphonse, Gallay; Belloli; orchestral repertoire. Repertoire: Mozart, Strauss, Hindemith, Dukas, Chabier.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP FH5. French Horn. 1-4 Credit Hours.

Emphasis will continue to be the advancement of repertoire experience and skill assessment. Preparation and presentation of a solo recital will be the main focus of repertoire study. In-depth study of Orchestral Literature will also begin this semester.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP FH6. French Horn. 1-2 Credit Hours.

Emphasis will be on an assessment of students' skills, needs and repertoire experience. Materials will be explored from the standard etude and solo literature that is relevant to the students' level and skill needs. Exploration will begin to choose material for a solo recital in the Spring semester.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP FH7. French Horn. 1-2 Credit Hours.

Students' skill s needs will be assessed and a course of study developed for any remedial needs. An in-depth study of appropriate literature for both solo and chamber recitals will be undertaken in preparation for a long-term degree plan. Advanced study of Orchestral Literature will begin, including listening and score study. Repertoire for an initial recital and the Qualifying Recital will be chosen and prepared.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP FHC. French Horn. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Continue transposition study. Continue development of embouchure, breathing, and articulation. Appropriate major and minor scales. Studies by Kopprasch, Maxime-Alphonse, Kling; Gallay; orchestral repertoire. Repertoire: Mozart, Strauss, Rachmaninoff, Glazounov.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP FHD. French Horn. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Continue transposition study. Continue development of embouchure, breathing, and articulation. Appropriate major and minor scales. Studies by Kopprasch, Maxime-Alphonse, Kling; Gallay; orchestral repertoire. Repertoire: Mozart, Strauss, Rachmaninoff, Glazounov.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP FHF. French Horn. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Continued transposition study, further skills development, scales and arpeggios. Studies by Bach, Maxime-Alphonse, Gallay; Belloli; orchestral repertoire. Repertoire: Mozart, Strauss, Hindemith, Dukas, Chabier.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP FHG. French Horn. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Further skills development to the highest attainable level. Studies by Reynolds, Hackelman, Neuling, Barboteo, Bach. Orchestral repertoire. Repertoire: Bozza, Gliere, Strauss, Haydn.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP FHH. French Horn. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Further skills development to the highest attainable level. Studies by Reynolds, Hackelman, Neuling, Barboteo, Bach. Orchestral repertoire. Repertoire: Bozza, Gliere, Strauss, Haydn.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP FHS. Secondary French Horn. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Development of embouchure, breathing, and articulation. Appropriate major and minor scales. Beginning transposition study. Studies by Shoemaker, Kopprasch, Maxime-Alphonse, Kling; appropriate passages from orchestral works. Repertoire: Mozart, Saint-Saens, F. Strauss, R. Strauss.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP FL1. Flute. 2 Credit Hours.

1-hour lesson and 50 minute studio class for flute students. Technical Requirements: Taffanel - Gaubert 17 Daily Exercises, Berbiguer - 18 Etudes, Andersen Little Caprices. All major and minor scales, two octaves; Moyse - De la Sonorite, 24 Petite Melodies Vol. I. Repertoire: Handel Sonatas, Godard Allegretto.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP FL3. Flute. 2 Credit Hours.

1-hour lesson and 50-minute studio class for flute students. Technical Requirements: Moyses Daily Exercises, Andersen Op. 15, Op. 63; Moyses de la Sonorite, Tone Development through Interpretation. Repertoire: Mozart G Major Concerto, Hindemith Sonata, Dubussy Syrinx.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP FL5. Flute. 1-4 Credit Hours.

Mastery of technical aspects of flute performance. Preparation of Masters recital(s) and oral defense. Preparation of repertoire for audition for further study or professional placement. Related areas such as specific individualized studies, instrumental maintenance, and orchestral excerpts are also part of the curriculum.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP FL6. Flute. 1-2 Credit Hours.

Mastery of technical aspects of flute performance. Preparation of Masters recital(s) and oral defense. Preparation of repertoire for audition for further study or professional placement. Related areas such as specific individualized studies, instrumental maintenance, and orchestral excerpts are also part of the curriculum.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP FL7. Flute. 1-2 Credit Hours.

Continue mastery of technical aspects of flute performance. Preparation of DMA recitals and oral defense. Preparation of repertoire for audition for professional placement. An overview of pedagogy materials for performance and teaching use will also be explored.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP FLC. Flute. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Taffanel - Gaubert 17 Daily Exercises, Andersen, Op. 41; Moyses - De la Sonorite, 25 Petite Melodies Vol. II, Moyses Daily Exercises - major and minor scales, thirds. Repertoire: Telemann Fantasies, CPE Bach Sonata, Faure Fantasie Chaminade Concertino.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP FLD. Flute. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Taffanel - Gaubert 17 Daily Exercises, Andersen, Op. 41; Moyses - De la Sonorite, 25 Petite Melodies Vol. II, Moyses Daily Exercises - major and minor scales, thirds. Repertoire: Telemann Fantasies, CPE Bach Sonata, Faure Fantasie Chaminade Concertino.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP FLF. Flute. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Moyses Daily Exercises, Andersen Op. 15, Op. 63; Moyses De la Sonorite, Tone Development Through Interpretation. Repertoire: Mozart G Major Concerto, Hindemith Sonata, Dubussy Syrinx.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP FLG. Flute. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Moyses Daily Exercises, Andersen Op. 15, Soussmann Etudes; Moyses De la Sonorite, Tone Development Through Interpretation. Repertoire: Poulenc Sonata, Bach Sonatas, Martinu Sonata.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP FLH. Flute. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Moyses Daily Exercises, Andersen Op. 15, Soussmann Etudes; Moyses De la Sonorite, Tone Development Through Interpretation. Repertoire: Poulenc Sonata, Bach Sonatas, Martinu Sonata.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP FLS. Secondary Flute. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Taffanel - Gaubert 17 Daily Exercises, Berbiguer - 18 Etudes, Andersen Little Caprices. All major and minor scales, two octaves; Moyses - De la Sonorite, 24 Petite Melodies Vol. I. Repertoire: Handel Sonatas, Godard Allegretto.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP GU1. Guitar. 2 Credit Hours.

1-hour lesson and 50 minute studio class for guitar students.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP GU3. Guitar. 2 Credit Hours.

1-hour lesson and 50 minute studio class for guitar students.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP GU5. Guitar. 1-4 Credit Hours.

Applied lesson and studio class for Artist Diploma students.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP GU6. Guitar. 1-2 Credit Hours.

Applied lesson and studio class for Masters students.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP GU7. Guitar. 1-2 Credit Hours.

Applied lesson and studio class for Doctoral students.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP GUC. Guitar. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP GUD. Guitar. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP GUF. Guitar. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP GUG. Guitar. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP GUH. Guitar. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP GUS. Secondary Guitar. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP HA1. Harp. 2 Credit Hours.

1-hour lesson and 50 minute studio class for harp students.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP HA3. Harp. 2 Credit Hours.

1-hour lesson and 50 minute studio class for harp students.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP HA5. Harp. 1-4 Credit Hours.

Advanced study of solo harp literature.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP HA6. Harp. 1-2 Credit Hours.

Advanced study of solo harp literature.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP HA7. Harp. 1-2 Credit Hours.

Advanced study of solo harp literature.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP HAC. Harp. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP HAD. Harp. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP HAF. Harp. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP HAG. Harp. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP HAH. Harp. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP HAS. Secondary Harp. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP OBC. Oboe. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Scales, arpeggios, trills.

Appropriate technical exercises. Etudes by Ferling (Bleuzet, Sellner). Repertoire: Saint-Saens, Hindemith, Vivaldi, Goossens, Francaix.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP OBD. Oboe. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Scales, arpeggios, trills. Appropriate technical exercises. Etudes by Ferling (Bleuzet, Sellner). Repertoire: Saint-Saens, Hindemith, Vivaldi, Goossens, Francaix.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP OBF. Oboe. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Scales, arpeggios, trills. Appropriate technical exercises. Etudes by Bozza (Gillet, Prestini). Repertoire: Mozart, Telemann, Bach, Poulenc, Vaughan Williams.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP OBG. Oboe. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Scales, arpeggios, trills. Appropriate technical exercises. Etudes by Loyon (Gillet). Repertoire: Mozart, Strauss, Martinu, Dutilleux.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP OBH. Oboe. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Scales, arpeggios, trills. Appropriate technical exercises. Etudes by Loyon (Gillet). Repertoire: Mozart, Strauss, Martinu, Dutilleux.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP OBS. Secondary Oboe. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Scales, arpeggios, trills. Appropriate technical exercises. Etudes by Barret (Brod, Luft, Sellner, Ferling). Repertoire: Albinoni, Bach, Hayde, Schumann, Britten.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP PE1. Percussion. 2 Credit Hours.

1-hour lesson and 50 minute studio class for percussion students. Technical Requirements: Development of two mallets technique. Review of basic technique and repertory on snare drum and timpani. Basic multi-percussion etudes. Repertoire: Mallet: G. H. Green, Musser, Creston, Rosauero. Snare Drum: Cirone, Delecluse, Rosauero. Timpani: Hochrainer, Writh, Goodman.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP PE3. Percussion. 2 Credit Hours.

1-hour lesson and 50 minute studio class for percussion students. Technical Requirements: Advanced four mallets technique on marimba and vibraphone. Advanced technique and repertory on snare drum and timpani. Advanced multi-percussion etudes. Orchestral excerpts. Repertoire: Mallet: Abe, Ford, Friedman, Rosauero. Snare Drum: Cirone, Delecluse, Fink, Gautrieux. Timpani: Hochrainer, Writh, Goodman.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP PE5. Percussion. 1-4 Credit Hours.

Second semester of the Masters Degree in percussion performance. The main area of focus is first recital; to be performed this semester. Exploration into solo and ensemble performance needs will continue through this semester.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP PE6. Percussion. 1-2 Credit Hours.

First semester of the Master's Degree in percussion performance. Emphasis on assessment of students' skills needs and repertoire experience. Materials covered to include standard solo and ensemble repertoire and technical work. First recital repertoire chosen from works supplementing students' needs.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP PE7. Percussion. 1-2 Credit Hours.

First of six semesters of study for a DMA in percussion performance. Students' needs assessed, and a course of study devised. Solo and ensemble works studied in-depth accordingly. Works for an initial and qualifying recital chosen.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP PEC. Percussion. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Development of four mallets technique. Intermediate technique etudes and repertory on snare drum and timpani. Intermediate multi-percussion etudes. Repertoire: Mallet: Gomez, Musser, Peters, Rosauo. Snare Drum: Cirone, Delecluse, Fink, Rosauo. Timpani: Hochrainer, Writh, Goodman.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP PED. Percussion. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Development of four mallets technique. Intermediate technique etudes and repertory on snare drum and timpani. Intermediate multi-percussion etudes. Repertoire: Mallet: Gomez, Musser, Peters, Rosauo. Snare Drum: Cirone, Delecluse, Fink, Rosauo. Timpani: Hochrainer, Writh, Goodman.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP PEF. Percussion. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Advanced four mallets technique on marimba and vibraphone. Advanced technique and repertory on snare drum and timpani. Advanced multi-percussion etudes. Orchestral excerpts. Repertoire: Mallet: Abe, Ford, Friedman, Rosauo. Snare Drum: Cirone, Delecluse, Fink, Gautrieux. Timpani: Hochrainer, Writh, Goodman.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP PEG. Percussion. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Development of advanced repertory and preparation for the final recital. Etudes and works on marimba, vibraphone, snare drum, timpani, multi-percussion, and orchestral excerpts. At least one piece at the final concert has to be a concerto-like composition performed with piano or percussion ensemble.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP PEH. Percussion. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Development of advanced repertory and preparation for the final recital. Etudes and works on marimba, vibraphone, snare drum, timpani, multi-percussion, and orchestral excerpts. At least one piece at the final concert has to be a concerto-like composition performed with piano or percussion ensemble.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP PES. Secondary Percussion. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Development of two mallets technique. Review of basic technique and repertory on snare drum and timpani. Basic multi-percussion etudes. Repertoire: Mallet: G. H. Green, Musser, Creston, Rosauro. Snare Drum: Cirone, Delecluse, Rosauro. Timpani: Hochrainer, Writh, Goodman.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP SA1. Saxophone. 2 Credit Hours.

1-hour lesson and 50 minute studio class for saxophone students.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP SA3. Saxophone. 2 Credit Hours.

1-hour lesson and 50 minute studio class for saxophone students.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP SA5. Saxophone. 1-4 Credit Hours.

Graduate level private study in classical saxophone is geared toward the individual's needs depending on the ability and skills mastered during the undergraduate level. The student will be required to seek refinement in all areas, including tone, intonation, technique, stylistic interpretation, and advanced forms of saxophone techniques. The student must be thoroughly versed in the pedagogy of the instrument. Study of advanced scales is required along with some jazz studies and advanced literature will be addressed in the private lesson format.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP SA6. Saxophone. 1-2 Credit Hours.

Graduate level private study in classical saxophone is geared toward the individual's needs depending on the ability and skills mastered during the undergraduate level. The student will be required to seek refinement in all areas, including tone, intonation, technique, stylistic interpretation, and advanced forms of saxophone techniques. The student must be thoroughly versed in the pedagogy of the instrument. Study of advanced scales is required along with some jazz studies and advanced literature will be addressed in the private lesson format.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP SA7. Saxophone. 1-2 Credit Hours.

Graduate level private study in classical saxophone is geared toward the individual's needs depending on the ability and skills mastered during the undergraduate level. The student will be required to seek refinement in all areas, including tone, intonation, technique, stylistic interpretation, and advanced forms of saxophone techniques. The student must be thoroughly versed in the pedagogy of the instrument. Study of advanced scales is required along with some jazz studies and advanced literature will be addressed in the private lesson format.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP SAC. Saxophone. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP SAD. Saxophone. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP SAF. Saxophone. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP SAG. Saxophone. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP SAH. Saxophone. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP SAS. Secondary Saxophone. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP TB1. Trombone. 2 Credit Hours.

1-hour lesson and 50 minute studio class for trombone students. Technical Requirements: Development of embouchure, breathing, articulation, sound, and slide technique. Appropriate major and minor scales. Works by Arban, Blazhevich, Pares, Rochut, Tyrell, and others. Solo literature as appropriate for the student's abilities.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP TB3. Trombone. 2 Credit Hours.

1-hour lesson and 50 minute studio class for trombone students. Technical Requirements: Continuation of technical development including upper register, advanced slide technique, and refined articulation. Works as previously listed, followed by Masson and Bitsch. Solo literature as appropriate for the student's abilities, and continuation of selected orchestral excerpts.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP TB5. Trombone. 1-4 Credit Hours.

Advanced progressive study is chosen from the following etude books, Gabriel Masson 12 Various Etudes, Marcel Bitsch 15 Rhythmical Studies, Roger Bountry 12 Etudes for High Perfection, and Brade Edwards Lip-slurs-Exercises for Tone and Technique. Additionally, solo concerto literature and contemporary works are studied and prepared to advance the student's technical and musical mastery of the trombone. Orchestral excerpts are studied to further develop and refine an appropriate sense of orchestral style.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP TB6. Trombone. 1-2 Credit Hours.

Advanced progressive study is chosen from the following etude books, Gabriel Masson 12 Various Etudes, Marcel Bitsch 15 Rhythmical Studies, Roger Bountry 12 Etudes for High Perfection, and Brade Edwards Lip-slurs-Exercises for Tone and Technique. Additionally, solo concerto literature and contemporary works are studied and prepared to advance the student's technical and musical mastery of the trombone. Orchestral excerpts are studied to further develop and refine an appropriate sense of orchestral style.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP TB7. Trombone. 1-4 Credit Hours.

Advanced progressive study is chosen from the following etude books, Gabriel Masson 12 Various Etudes, Marcel Bitsch 15 Rhythmical Studies, Roger Bounry 12 Etudes for High Perfection, and Brade Edwards Lip-slurs-Exercises for Tone and Technique. Additionally, solo concerto literature and contemporary works are studied and prepared to advance the student's technical and musical mastery of the trombone. Orchestral excerpts are studied to further develop and refine an appropriate sense of orchestral style.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP TBC. Trombone. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Continuation of previous aspects of technical development. Works as previously listed, followed by Blume, and solo literature as appropriate for the student's abilities. Introduction of orchestral excerpts as both literature and as an aid to technical and musical development.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP TBD. Trombone. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Continuation of previous aspects of technical development. Works as previously listed, followed by Blume, and solo literature as appropriate for the student's abilities. Introduction of orchestral excerpts as both literature and as an aid to technical and musical development.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP TBF. Trombone. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Continuation of technical development including upper register, advanced slide technique, and refined articulation. Works as previously listed, followed by Masson and Bitsch. Solo literature as appropriate for the student's abilities, and continuation of selected orchestral excerpts.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP TBG. Trombone. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Further development of all technical aspects of performance. Works by Masson and Bitsch, and solo literature geared towards recital performance.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP TBH. Trombone. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Further development of all technical aspects of performance. Works by Masson and Bitsch, and solo literature geared towards recital performance.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP TBS. Secondary Trombone. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Development of embouchure, breathing, articulation, sound, and slide technique. Appropriate major and minor scales. Works by Arban, Blazhevich, Pares, Rochut, Tyrell, and others. Solo literature as appropriate for the student's abilities.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP TP1. Trumpet. 2 Credit Hours.

1-hour lesson and 50 minute studio class for trumpet students. Technical Requirements: Development of embouchure, breathing, and articulation. Appropriate major and minor scales. Repertoire: Arban, Clarke, Hering, Schlossberg; orchestral excerpts.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP TP3. Trumpet. 2 Credit Hours.

1-hour lesson and 50 minute studio class for trumpet students.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP TP5. Trumpet. 1-4 Credit Hours.

Applied lesson and studio class for Artist Diploma students.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP TP6. Trumpet. 1-2 Credit Hours.

Applied lesson and studio class for Masters students.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP TP7. Trumpet. 1-2 Credit Hours.

Applied lesson and studio class for Doctoral students.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP TPC. Trumpet. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP TPD. Trumpet. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP TPF. Trumpet. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP TPG. Trumpet. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP TPH. Trumpet. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP TPS. Secondary Trumpet. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Development of embouchure, breathing, and articulation. Appropriate major and minor scales. Repertoire: Arban, Clarke, Hering, Schlossberg; orchestral excerpts.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP TU1. Tuba. 2 Credit Hours.

1-hour lesson and 50 minute studio class for tuba students. Technical Requirements: Development of embouchure, breathing, and articulation. Appropriate major and minor scales. Repertoire: Concone, Arban, Bordogni, Haddad, Hartley.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP TU3. Tuba. 2 Credit Hours.

1-hour lesson and 50 minute studio class for tuba students. Technical Requirements: Development of embouchure, breathing, and articulation. Appropriate major and minor scales. Repertoire: Bach/Bobo Ostrander, Kotsier, Hindemith, Wilder.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP TU5. Tuba. 1-4 Credit Hours.

Private lessons that focus on development of embouchure, breathing, and articulation, with emphasis on orchestral excerpts on Alphonse, Sear, Kraft, Kelleway, and others.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP TU6. Tuba. 1-2 Credit Hours.

Private lessons that focus on development of embouchure, breathing, and articulation, with emphasis on orchestral excerpts on Alphonse, Sear, Kraft, Kelleway, and others.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP TU7. Tuba. 1-2 Credit Hours.

Private lessons that focus on development of embouchure, breathing, and articulation, with emphasis on orchestral excerpts on Cinema, Snedecor, Wilder, Gould and others.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP TUC. Tuba. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Development of embouchure, breathing, and articulation. Appropriate major and minor scales. Repertoire: Vasiliev, Kopprash, Gallay, Frankenpohl, Nelhybel, Bernstein.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP TUD. Tuba. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Development of embouchure, breathing, and articulation. Appropriate major and minor scales. Repertoire: Vasiliev, Kopprash, Gallay, Frankenpohl, Nelhybel, Bernstein. Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP TUF. Tuba. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Development of embouchure, breathing, and articulation. Appropriate major and minor scales. Repertoire: Bach/Bobo Ostrander, Kotsier, Hindemith, Wilder. Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP TUG. Tuba. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Development of embouchure, breathing, and articulation. Appropriate major and minor scales. Repertoire: Cimera, Maenz, Broughton, Persichetti, orchestral excerpts. Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP TUH. Tuba. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Development of embouchure, breathing, and articulation. Appropriate major and minor scales. Repertoire: Cimera, Maenz, Broughton, Persichetti, orchestral excerpts. Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP TUS. Secondary Tuba. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Development of embouchure, breathing, and articulation. Appropriate major and minor scales. Repertoire: Concone, Arban, Bordogni, Haddad, Hartley. Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP VA1. Viola. 2 Credit Hours.

1-hour lesson and 50 minute studio class for viola students. Technical Requirements: Right hand and left hand position evaluation and adjustment if necessary. Scales and etudes as assigned. Repertoire: Solo literature appropriate for level and major. Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP VA3. Viola. 2 Credit Hours.

1-hour lesson for students enrolled for 2-4 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Scales and etudes as assigned. Repertoire: Solo literature appropriate for level and major. Solo literature appropriate for level and major. Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP VA5. Viola. 1-4 Credit Hours.

Mastery of technical aspects of viola performance. Preparation of Masters recital(s) and oral defense. Preparation of repertoire for audition for further study or professional placement.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP VA6. Viola. 1-2 Credit Hours.

Mastery of technical aspects of viola performance. Preparation of Masters recital(s) and oral defense. Preparation of repertoire for audition for further study or professional placement.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP VA7. Viola. 1-2 Credit Hours.

Continued mastery of technical aspects of viola performance. Preparation of qualifying recital and DMA recitals and oral defense. Preparation of repertoire for audition for further study or professional placement.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP VAC. Viola. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Scales and etudes as assigned. Repertoire: Solo literature appropriate for level and major. Solo literature appropriate for level and major.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP VAD. Viola. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Scales and etudes as assigned. Repertoire: Solo literature appropriate for level and major. Solo literature appropriate for level and major.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP VAF. Viola. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Scales and etudes as assigned. Repertoire: Solo literature appropriate for level and major. Solo literature appropriate for level and major.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP VAG. Viola. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Scales and etudes as assigned. Repertoire: Solo literature appropriate for level and major. Solo literature appropriate for level and major.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP VAH. Viola. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Scales and etudes as assigned. Repertoire: Solo literature appropriate for level and major. Solo literature appropriate for level and major.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP VAS. Secondary Viola. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Right hand and left hand position evaluation and adjustment if necessary. Scales and etudes as assigned. Repertoire: Solo literature appropriate for level and major.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP VC1. Violoncello. 1-2 Credit Hours.

1-hour lesson and 50 minute studio class for violoncello students. Technical Requirements: Development of basic bow strokes, vibrato, and position changes. Appropriate major scales and arpeggios. Etudes as needed. Repertoire: Vivaldi Sonatas, Saint-Saens Concerto, Hayden C Major Concerto, Beethoven Sonata 1 or 2, Bach Suite 1 or 2.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP VC3. Violoncello. 1-2 Credit Hours.

1-hour lesson and 50 minute studio class for violoncello students. Technical Requirements: Popper etudes, Duport etudes. Repertoire: Dvorak Concerto, Hayden D Major Concerto, Shostakovitch Sonata, Bach Suite No. 4.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP VC5. Violoncello. 1-4 Credit Hours.

Applied lesson and studio class for Artist Diploma students.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP VC6. Violoncello. 1-2 Credit Hours.

Applied lesson and studio class for Masters students.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP VC7. Violoncello. 1-2 Credit Hours.

Applied lesson and studio class for Doctoral students.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP VCC. Violoncello. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: All major and minor scales and arpeggios. Etudes as needed. Repertoire: Lalo Concerto, Boccherini B-flat, Beethoven or Brahms Sonatas, Bach Suite No. 3.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP VCD. Violoncello. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: All major and minor scales and arpeggios. Etudes as needed. Repertoire: Lalo Concerto, Boccherini B-flat, Beethoven or Brahms Sonatas, Bach Suite No. 3.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP VCF. Violoncello. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Popper etudes, Duport etudes. Repertoire: Dvorak Concerto, Hayden D Major Concerto, Shostakovitch Sonata, Bach Suite No. 4.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP VCG. Violoncello. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Popper etudes, Piatti etudes. Repertoire: Schumann Concerto, Bach Suites No. 5 or No. 6.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP VCH. Violoncello. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Popper etudes, Piatti etudes. Repertoire: Schumann Concerto, Bach Suites No. 5 or No. 6.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP VCS. Secondary Violoncello. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Development of basic bow strokes, vibrato, and position changes. Appropriate major scales and arpeggios. Etudes as needed. Repertoire: Vivaldi Sonatas, Saint-Saens Concerto, Hayden C Major Concerto, Beethoven Sonata 1 or 2, Bach Suite 1 or 2.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP VN1. Violin. 2 Credit Hours.

1-hour lesson and 50 minute studio class for violin students. Technical Requirements: Flesch Scale System, Schradieck School of Technic, Sevcik Shifting Studies, Sevcik Trill Studies. Fiorello - 36 Etudes and Caprices, Kreutzer - 42 Etudes. Repertoire: J. S. Bach, Beethoven, Mozart, Haydn, De Beriot.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP VN3. Violin. 2 Credit Hours.

1-hour lesson and 50 minute studio class for violin students. Technical Requirements: Flesch Scale System, Dont 42 Caprices, Gavinies 24 Matinees, Vieuxtemps 12 Studies. Repertoire: J. S. Bach, Beethoven, Brahms, Vaughan Williams, Ravel, Sarasate, Sibelius, Vieuxtemps, Shostakovich.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP VN5. Violin. 1-4 Credit Hours.

Applied lesson and studio class for Artist Diploma students.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP VN6. Violin. 1-2 Credit Hours.

Applied lesson and studio class for Masters students.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP VN7. Violin. 1-2 Credit Hours.

Applied lesson and studio class for Doctoral students.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP VNC. Violin. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Flesch Scale System, Schradieck School of Technic, Sevcik Shifting Studies, Sevcik Trill Studies. Fiorello - 36 Etudes and Caprices, Kreutzer - 42 Etudes, Rode 24 Etudes and Caprices. Rovelli 12 Caprices. Repertoire: J. S. Bach, Beethoven, Vivaldi, Mozart, Bruch, Saint-Saens, Mendelssohn, Vieuxtemps, Tartini-Kreilser, Wieniawski.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP VND. Violin. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Flesch Scale System, Schradieck School of Technic, Sevcik Shifting Studies, Sevcik Trill Studies. Fiorello - 36 Etudes and Caprices, Kreutzer - 42 Etudes, Rode 24 Etudes and Caprices. Rovelli 12 Caprices. Repertoire: J. S. Bach, Beethoven, Vivaldi, Mozart, Bruch, Saint-Saens, Mendelssohn, Vieuxtemps, Tartini-Kreilser, Wieniawski.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP VNF. Violin. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Flesch Scale System, Dont 42 Caprices, Gavinies 24 Matinees, Vieuxtemps 12 Studies. Repertoire: J. S. Bach, Beethoven, Brahms, Vaughan Williams, Ravel, Sarasate, Sibelius, Vieuxtemps, Shostakovich.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP VNG. Violin. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Flesch Scale System, Galamian Contemporary Violin Technique. Paganini 24 Caprices, Wieniawski Ecole Moderne. Repertoire: J. S. Bach, Beethoven, Ysaye, Franck, Faure, Paganini, Brahms, Bartok.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP VNH. Violin. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Flesch Scale System, Galamian Contemporary Violin Technique. Paganini 24 Caprices, Wieniawski Ecole Moderne. Repertoire: J. S. Bach, Beethoven, Ysaye, Franck, Faure, Paganini, Brahms, Bartok.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP VNS. Secondary Violin. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Flesch Scale System, Schradieck School of Technic, Sevcik Shifting Studies, Sevcik Trill Studies. Fiorello - 36 Etudes and Caprices, Kreutzer - 42 Etudes. Repertoire: J. S. Bach, Beethoven, Mozart, Haydn, De Beriot.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

Intensive English Program (IEP)

IEP 1. Level Undetermined. 0 Credit Hours.

Components: LEC.

Grading: GRD.

IEP 11. RW Level Undetermined. 0 Credit Hours.

Reading and Writing class for students whose English level has not been determined.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

IEP 111. Level I - Written Communication. 0 Credit Hours.

Components: LEC.

Grading: GRD.

IEP 112. Level I - Oral Communication. 0 Credit Hours.

Components: LEC.

Grading: GRD.

IEP 113. Level I Workshop. 0 Credit Hours.

Components: LEC.

Grading: GRD.

IEP 114. Level I - Reading. 0 Credit Hours.

Components: LEC.

Grading: GRD.

IEP 12. OC Level Undetermined. 0 Credit Hours.

Oral Communication class for students whose English level has not been determined.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

IEP 121. Level II - Written Communication. 0 Credit Hours.

Components: LEC.

Grading: GRD.

IEP 122. Level II - Oral Communications. 0 Credit Hours.

Components: LEC.

Grading: GRD.

IEP 123. Level I and II Workshop. 0 Credit Hours.**Components:** LEC.**Grading:** GRD.**IEP 124. Level II Reading. 0 Credit Hours.****Components:** LEC.**Grading:** GRD.**IEP 131. Level III Written Communication. 0 Credit Hours.****Components:** LEC.**Grading:** GRD.**IEP 132. Level III - Oral Communication. 0 Credit Hours.****Components:** LEC.**Grading:** GRD.**IEP 133. Level III Workshop. 0 Credit Hours.****Components:** LEC.**Grading:** GRD.**IEP 134. Level III Reading. 0 Credit Hours.****Components:** LEC.**Grading:** GRD.**IEP 141. Level IV - Reading / Writing. 0 Credit Hours.****Components:** LEC.**Grading:** GRD.**IEP 142. Level IV - Oral Communication. 0 Credit Hours.****Components:** LEC.**Grading:** GRD.**IEP 151. Level V - Reading / Writing. 0 Credit Hours.****Components:** LEC.**Grading:** GRD.**IEP 152. Level V - Oral Communication. 0 Credit Hours.****Components:** LEC.**Grading:** GRD.**IEP 153. Level IV/V - Selected Topics. 0 Credit Hours.****Components:** LEC.**Grading:** GRD.**IEP 154. Level IV/V Selected Topics. 0 Credit Hours.****Components:** LEC.**Grading:** GRD.**IEP 155. ST-UM Transition. 0 Credit Hours.**

This course will provide orientation, skills, assistance and support for IEP/UM students as they transition to a full load of credit courses.

Components: LEC.**Grading:** GRD.**Typically Offered:** Fall, Spring, & Summer.**IEP 171. LLM and IEP - Reading and Writing. 0 Credit Hours.**

This course focus on reading, writing, and vocabulary skills to assist LLM students to enhance their general, academic, and legal English.

Components: LEC.**Grading:** GRD.**Typically Offered:** Spring.**IEP 172. LLM and IEP - Oral Communication. 0 Credit Hours.**

This course focus on oral communication skills to assist LLM students to enhance their general, academic, and legal English.

Components: LEC.**Grading:** GRD.**Typically Offered:** Spring.

Interdisciplinary Studies (IDS)

IDS 699. Directed Study. 1-6 Credit Hours.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

IDS 825. Master Study. 1-6 Credit Hours.

Components: THI.

Grading: GRD.

Typically Offered: Spring & Summer.

IDS 830. Pre-Candidacy Dissertation Research. 1-12 Credit Hours.

Required of all candidates for the Ph.D. The student will enroll for credit as determined by his/her advisor but not for less than a total of 24. Not more than 12 hours of IDS 730 may be taken in a regular semester, nor more than six in a summer session. Where a student has passed his/her (a) qualifying examinations, and (b) is engaged in an assistantship, he/she may still take the maximum allowable credit stated above.

Components: THI.

Grading: SUS.

Typically Offered: Fall & Spring.

IDS 840. Post-Candidacy Dissertation. 1-6 Credit Hours.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

IDS 850. Research and Residence. 1-6 Credit Hours.

Used to establish research in residence for the Ph.D., after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Credit not granted. May be regarded as full-time residence as determined by the Dean of the Graduate School.

Components: THI.

Grading: SUS.

Typically Offered: Fall.

International Studies (INS)

INS 101. Global Perspectives. 3 Credit Hours.

Introduces students to the study of international relations focusing on the continuing threat of national and ethnic conflict; terrorism; environmental and health concerns; globalization; economic interdependence, and poverty. Students are provided an overview of the evolution of international affairs in the modern era and are introduced to the various scholarly approaches for an understanding of international affairs.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

INS 102. Global Economics. 3 Credit Hours.

The international economy. This course develops the analytical tools underlying "the economic way of thinking" and applies them to two main topics: the environment and international trade.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

INS 103. World in Crisis. 3 Credit Hours.

A global overview of critical issues of the world in the 21st century is the primary objective of this course. In an interdisciplinary framework experts from the University's faculty will lecture and participate in panels discussing issues such as globalization, military conflict, proliferation of weapons of mass destruction, transnational terrorism, ethnic conflict, global climate change, global financial issues, global wealth disparities and global poverty, immigration and refugee crises, epidemic diseases. Students will learn about conflict in the Middle East, China, its rising economic and military strength, renewed Russian worldwide assertiveness, failed states, and generally, problems of global governance.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

INS 104. Global Perspectives Discussion Section. 0 Credit Hours.

Components: DIS.

Grading: GRD.

Typically Offered: Fall & Spring.

INS 105. Global Perspectives Discussion Section 2. 0 Credit Hours.**Components:** LEC.**Grading:** GRD.**Typically Offered:** Fall & Spring.**INS 201. Globalization and Change in World Politics. 3 Credit Hours.**

The academic and public policy debates regarding the multiple impacts of the globalization of the world economy on the politics of nation-states and on the dynamics of the international system itself.

Prerequisite: INS 101.**Components:** LEC.**Grading:** GRD.**Typically Offered:** Fall & Spring.**INS 202. INS Methodology. 3 Credit Hours.**

The approaches, methods and techniques used for designing and conducting international studies research.

Components: LEC.**Grading:** GRD.**Typically Offered:** Spring.**INS 210. INS Topics. 3 Credit Hours.**

Special topics taken at other institutions with no direct equivalents.

Components: LEC.**Grading:** GRD.**Typically Offered:** Fall, Spring, & Summer.**INS 310. Advanced Topics in INS. 3 Credit Hours.****Prerequisite:** INS 101 or POL 203.**Components:** LEC.**Grading:** GRD.**Typically Offered:** Fall, Spring, & Summer.**INS 311. Advanced Topics in INS II. 3 Credit Hours.****Prerequisite:** POL 202 or POL 203.**Components:** LEC.**Grading:** GRD.**Typically Offered:** Fall, Spring, & Summer.**INS 319. Empire: Global Legacies. 3 Credit Hours.**

A review of the key features of the Roman, Chinese, Russian, Ottoman, Spanish, and British empires and their global legacies. Different perspectives and conceptualizations on empires. Major characteristics of the empires studied and their enduring resonances in specific regions and globally.

Prerequisite: INS 101.**Components:** LEC.**Grading:** GRD.**Typically Offered:** Fall & Spring.**INS 320. Global Economics II. 3 Credit Hours.**

Macroeconomics and its application to the study of the international economy. Measurement of income and level of development; determinants of economic growth; inflation and unemployment; open economy macroeconomics.

Prerequisite: INS 102 or ECO 211 or ECO 212.**Components:** LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**INS 321. Global Political Economy. 3 Credit Hours.**

The implications of the globalization of trade, production, finance, and culture on equity, social welfare and the quality of democratic institutions and practices in both the Global North and the Global South.

Prerequisite: INS 102 or ECO 211 or ECO 212.**Components:** LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**INS 322. Economics of Development and the Environment. 3 Credit Hours.**

Structural changes that accompany economic growth that impact the environment and sustainable development.

Prerequisite: INS 102 or ECO 211 or ECO 212.**Components:** LEC.**Grading:** GRD.**Typically Offered:** Fall.

INS 324. The History of Zionism. 3 Credit Hours.

The religious, cultural, historical, political and social underpinnings of the development of Zionism that led to the creation of the State of Israel. Through readings, analysis of speeches and essays, exploration of films and the internet, the class will move through time from the origins of the Zionist idea to the present.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

INS 325. Israel: The Making of a State. 3 Credit Hours.

An introduction to the creation of the State of Israel in its historical context, emphasizing the period of 1935-55: the struggle for Israel's establishment, the making of the state and the early challenges Israel faced. The class will use documents, texts, testimony, poetry, music and film.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

INS 330. Introduction of Comparative Studies. 3 Credit Hours.

Introduces students to the comparative method and to the theories and concepts required to analyze political transformation of states, societies, economies and culture in a globalization world.

Prerequisite: INS 101 or POL 203.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

INS 335. Democratization. 3 Credit Hours.

A comparative overview of the problems of introducing democratic and market economic institutions into areas where they have not flourished and how to maintain them in established democracies.

Prerequisite: INS 101 or POL 203.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

INS 341. Nationalism, Ethnicity and Conflict. 3 Credit Hours.

Examines theories of ethnic and national conflict focusing on contemporary issues throughout the world.

Prerequisite: INS 101 or POL 203.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

INS 344. Gender and Politics. 3 Credit Hours.

Compares the roles played by men and women in political systems worldwide; examines public policy outcomes with significant gender-based effects, including policies on sexuality and reproductive health, gender-based violence, work and the family, and access to education.

Prerequisite: INS 101 or POL 203.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

INS 352. Panoramic View of the Middle East. 3 Credit Hours.

The Middle East and a basic understanding of the factors, forces and processes shaping developments in the modern and contemporary history of this important world region.

Prerequisite: INS 101 or POL 203.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

INS 357. Global Food: A Hands-On Approach. 3 Credit Hours.

Application of principles of permaculture via designing and creating a small "global farm" on campus to grow perennial food crops which are unique to the South Florida environment. We learn by doing, cultivating plants that hold the solution to world hunger problems.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

INS 367. Foreign Policy Topics. 3 Credit Hours.

Prerequisite: INS 101 or POL 203.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

INS 380. Democracy and Globalization in Latin America. 3 Credit Hours.

The global dimensions of Latin American politics, emphasizing democratization and its discontents; human rights; the emergence of transnational civil society; and the impacts of market reforms on development, equity and social inclusion.

Prerequisite: INS 101 or POL 203.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

INS 385. Latin American Topics. 3 Credit Hours.

Prerequisite: INS 101 or POL 203.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

INS 391. The European Union. 3 Credit Hours.

The course will combine 6 objectives: 1)to investigate the historical development of Europe as a civilization and as an idea through review of some main historical and political factors and ideologies from 1815-present; 2)to survey the main organizations and experiments in European integration before/after World War II; 3)to analyze the historical development of the European communities; 4)to examine major institutions of the European Union; 5)to analyze the main European Union policies and current issues; 6)to reflect upon the future of the nation-state and the idea of a united Europe, the role of transformed ideologies, and the rebirth of nationalism while pondering about future scenarios for European integration.

Prerequisite: INS 101.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

INS 394. European Topics. 3 Credit Hours.

Prerequisite: POL 202 or POL 203.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

INS 410. INS Advanced Seminar. 3 Credit Hours.

Prerequisite: INS 102 or INS 201 or POL 202.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

INS 411. Advanced Seminar. 3 Credit Hours.

Prerequisite: INS 201.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

INS 415. Independent Study. 1-6 Credit Hours.

Individualized research done under the guidance of selected faculty member. Depending upon the requirements established by the instructor, the student will be responsible for a research paper corresponding to the number of credits taken.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

INS 418. Honors Thesis. 3 Credit Hours.

Honors thesis research. This course is required for students seeking magna or summa cum laude and those seeking departmental honors. A thesis committee comprised of three members, two from International Studies and one from the university faculty must be established. The thesis advisor must also be from International Studies.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

INS 419. Honors Thesis II. 3 Credit Hours.

Honors thesis writing.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

INS 420. Global Trade. 3 Credit Hours.

Economic principles in global issues such as comparative advantage; specialization and trade; macroeconomics in the open economy; commercial policy; globalization; inequalities, within and among nations; and governance.

Prerequisite: INS 102.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

INS 421. Poverty and the Environment. 3 Credit Hours.

The processes by which a growing economy creates wealth in the form of goods and services while simultaneously increasing poverty and pollution.

Prerequisite: INS 102.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

INS 430. Comparative Studies Seminar. 3 Credit Hours.

Prerequisite: INS 201.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

INS 450. History of Economic Thought. 3 Credit Hours.

A review of the contributions made by some of the most influential authors and schools of thought to the fields of political economy and economics.

Examination of the links of ideas, theories, and policy approaches on economic phenomena with moral philosophy and other realms of knowledge.

Emphasis is placed on the contributions made by the classics of political economy and their continuities and discontinuities with respect to pre-classical and post-classical ones.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

INS 460. United Nations Seminar. 3 Credit Hours.

The organization and functions of the UN, including its structure, network of agencies, and issues in which it is involved. Emphasis is given to reforms, the Millennium Development Goals, and problematic relationships among the UN member states.

Prerequisite: INS 201.

Components: SEM.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

INS 503. International Relations Topics. 3 Credit Hours.

Selected topics in International Relations Theory. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

INS 504. Int Rel Topics II. 3 Credit Hours.

Selected topics in International Relations Theory. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

INS 509. International Migration and the Health Care System. 3 Credit Hours.

An exposure to one of the most critical aspects of development globally: the migration-development nexus. The centrality of this issue has in current debates on development. Research and policy-making approaches to different aspects of this nexus. Several countries and regions are covered throughout the semester. Development of research skills through systematic participation in specific projects.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

INS 510. Issues in Ins. 3 Credit Hours.

Analysis of current issues of international importance.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

INS 515. Independent Study. 1-6 Credit Hours.

Advanced level research done under the guidance of a selected faculty member. This course can be used as one of the two 500-level requirements for International Studies majors.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

INS 518. Global Migration and Development. 3 Credit Hours.

An examination of the nexus between migration and the health care system. Immigrants as professionals in the medical field; immigrants as people in need to health care services. Many countries have relied on immigration to cover critical shortages of professionals while others suffer from the exodus of professionals. The impact of immigration on these systems through an increase in the demand for medical services and other mechanisms. An examination of research and policy approaches to these issues.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

INS 519. Internship: Knowledge Partnership Civic Engagement. 1-3 Credit Hours.

The Knowledge Partnership Internship and Civic Engagement course offers students the opportunity to apply their academic/theoretical training to a practical internship experience. In addition to the internship component, there is a civic engagement component, and a total of three arranged class sessions held over the course of a semester.

Components: FLD.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

INS 520. Microeconomics for INS. 3 Credit Hours.

Microeconomics for students of international studies. Topics will include rationality, market failure and comparative advantage.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

INS 521. International Economic System Topics II. 3 Credit Hours.

Selected topics in International Economics. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

INS 522. Latin American Political Economy. 3 Credit Hours.

Latin American political economy including analysis of market reform and integration of the region into the world economy.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

INS 524. Int'l Econ Topics II. 3 Credit Hours.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

INS 530. Comparative Analysis. 3 Credit Hours.

Advanced overview of the comparative method. Required for students specializing in Comparative Studies at the graduate level.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

INS 532. Globalization and Human Rights. 3 Credit Hours.

The integration of markets has many concerned for the political and economic rights of the common citizen. This course examines The effect of globalization on the human rights standards throughout the world.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

INS 533. Transnational Social Movements. 3 Credit Hours.

Focuses on global civic activism and contentious politics, with particular attention to transnational non-state actors - NGOs, social movements, environmental protection, and the emergence of a global civil society.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

INS 534. Military, State and Society. 3 Credit Hours.

The role of the military in state formation; questions of military rule, civilian control, and social structures in contemporary world politics.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

INS 536. Comparative Political Regimes. 3 Credit Hours.

Literature concerned with the transition from authoritarianism to democracy in various parts of the world.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

INS 537. Comparative Political Economy. 3 Credit Hours.

Compares how domestic politics and macroeconomic policies interact with globalization. Case studies include welfare states in the U.S. and Europe, East Asian development, post communist transitions and market restructuring in Latin America and Africa.

Components: SEM.

Grading: GRD.

Typically Offered: Fall.

INS 540. National Security. 3 Credit Hours.

The central issues concerning European security since World War II, with emphasis on the period since the end of the cold war.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

INS 542. Drug-Trafficking in the Americas. 3 Credit Hours.

The political economy of the U.S.-Latin American drug trade in the 20th Century along with the dynamics of the U.S.-led war on drugs through the first years of the Twenty First Century.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

INS 543. National Security and Foreign Policy. 3 Credit Hours.

Explores alternative conceptualizations of "security" and the new challenges to U.S. national security that have emerged in the Post-Cold War era.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

INS 551. Regional Topics II. 3 Credit Hours.

Selected topics in International Business. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

INS 560. U.S. Foreign Policy. 3 Credit Hours.

The leading approaches to the analysis of American foreign policy. Particular emphasis will be placed on the post-Cold War period and the new challenges to U.S. foreign policy of the 21st century.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

INS 561. Negotiation and Bargaining. 3 Credit Hours.

Examines the nature of diplomatic negotiation through readings and discussion of international negotiation and through the case method, selecting several cases of high-level policy issues in which the United States has been a principal actor.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

INS 562. International Peace and Conflict Resolution. 3 Credit Hours.

The major sources of conflict, and what resources are available for making and keeping the peace? This class introduces students to the most fundamental concerns of the field of International Relations (IR), and especially of its sub-field IPCR.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

INS 563. International Organizations. 3 Credit Hours.

The role, function, and impact on states of international governmental and non-governmental organizations in critical areas like peace and security, human rights, economic development, and environmental degradation.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

INS 564. International Law. 3 Credit Hours.

How international law affects the conduct of states. Issues include jurisdiction, diplomatic immunity, the use of armed force, peaceful dispute settlement among states, human rights, and the International Criminal Court.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

INS 565. The World Before European Domination. 3 Credit Hours.

The historical roots of the contemporary international system. Its objective is to question the standard Eurocentric perspective on the rise of the West to a dominant position in the global system.

Components: SEM.

Grading: GRD.

Typically Offered: Spring.

INS 566. U.S.-Latin American Relations. 3 Credit Hours.

Political, economic and strategic aspects of U.S.-Latin American relations; the historical experience and contemporary issues, including the influence of extra-regional parties such as Europe and China.

Components: SEM.

Grading: GRD.

Typically Offered: Fall.

INS 570. Globalization and Health. 3 Credit Hours.

Globalization and its benefits and threats to public health; the relationship between global economic, political, social, cultural, environmental and technological changes and their impact on human health.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

INS 571. International Development and Human Welfare. 3 Credit Hours.

Health and development links; macroeconomic policies and their impact on social equity; poverty and structural inequities; and other key issues that influence human development.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

INS 572. Global Health Policy and Ethics. 3 Credit Hours.

National, regional and global health policies with special consideration to ethical and human rights issues; policies and the moral considerations that shape public health policy.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

INS 573. Disasters, Terrorism and Global Public Health. 3 Credit Hours.

The historical processes and present trends of disasters, terrorism, humanitarian emergencies and their impact on human health, safety and security.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

INS 580. Latin American Comparative Politics. 3 Credit Hours.

The major intellectual debates shaping the field of comparative politics including: (1) development, (2) military politics, (3) democratization and (4) the emergence of new social movements.

Components: SEM.

Grading: GRD.

Typically Offered: Fall.

INS 581. Politics and Ideology in Latin America. 3 Credit Hours.

The roles played by both "class" and the "new social movements" in the emergence of new modes of political representation.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

INS 584. Latin American Thought. 3 Credit Hours.

The evolution of Latin American thought through political and intellectual history; the classical writings of the main "pensadores", and a comparative analysis of contemporary ideological trends.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

INS 586. Brazil in Transition. 3 Credit Hours.

The social, economic, cultural transformations shaping Brazilian politics. In addition to visiting Rio de Janeiro and Salvador, there will be seminars with Brazilian academics and social and political activists.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

INS 590. European-Latin American Relations. 3 Credit Hours.

This course deals primarily with five main themes: shared history between Europe and Latin America; mutual transfer of ideas (ideologies and political thought), perceptions (images and stereotypes), people (voluntary and slavery), and goods (trade and investment); foreign policies of main European states and the European Community toward Latin America; an analysis of some specific country cases (Spain, especially) and issues (regional integration, among them); and how the above have affected inter-American relations and the hegemonic role of the United States.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

INS 591. The European Union. 3 Credit Hours.

The European Union's history, institutions, policies and contemporary issues.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

INS 592. European Union and the World. 3 Credit Hours.

The European Union's development, its main institutions and policies followed by an analysis of the main features of the European Union's external relations.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

INS 593. European Security. 3 Credit Hours.

Regional security in Europe, focusing on NATO expansion, EU expansion, Russian foreign policy, and related issues.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

INS 594. European Topics. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

INS 595. European Social Movements. 3 Credit Hours.

The major social movements active today throughout Europe including those concerned with the environment, agriculture, poverty, racism, defending social democracy, the rights of workers, minorities, and women.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

INS 596. Post-Soviet Topics. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

INS 599. Special Topics. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

INS 601. IR Theory. 3 Credit Hours.

Introduces students to key historic events, themes, concepts, and theories that have animated the practice and scholarship of international relations.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

INS 603. Dissertation Proposal. 3 Credit Hours.

A workshop designed to assist doctoral students in the preparation of a proposal for their dissertation research projects.

Components: SEM.

Grading: GRD.

Typically Offered: Spring.

INS 604. Int Rel Topics II. 3 Credit Hours.

Selected topics in International Relations Theory. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

INS 605. Int Relations Topics. 3 Credit Hours.

Selected topics in International Relations Theory. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

INS 606. Issues in International Studies. 3 Credit Hours.

Analysis of current issues of international importance.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

INS 607. International Economic System Topics II. 3 Credit Hours.

Selected topics in International Economics. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

INS 608. Intl Econ Topics. 3 Credit Hours.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

INS 609. Globalization and Human Rights. 3 Credit Hours.

The integration of markets has many concerned for the political and economic rights of the common citizen. This course examines The effect of globalization on the human rights standards throughout the world.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

INS 610. Graduate Seminar in INS. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

INS 611. International Relations Methodology II. 3 Credit Hours.

Introduces graduate students to issues of research design and research methods in International Relations. The course will focus on three main methodological approaches in political science: qualitative case study, quantitative research and formal modeling. Apart from examining the principles guiding the choice of methods (and the trade offs involved in that choice), the course will examine how these methods have been applied to the study of three major sub-fields of international relations: international political economy, security studies, and international environmental regimes. It also aims to provide the students with basic knowledge on how to apply these methods to their own research.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

INS 612. Graduate Seminar in Qualitative Research Methods. 3 Credit Hours.

The main goal of this seminar is to enable students to become proficient in qualitative research methods. The seminar covers specific research methods and techniques, their relevance and limitations, their relationships with philosophical perspectives, epistemological and methodological debates, and ethical and practical considerations involved in qualitative research. Ethnographic methods, the use of social network analysis in qualitative research, the logics of inquiry in case study methods, grounded theory, and types of discourse and contents analysis, are amongst the topics covered. This is a hands-on graduate seminar in which the students are encouraged to think creatively on which method(s) could make their research of complex political, social, and cultural phenomena more rigorous and sophisticated by applying methods and techniques learned in class.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

INS 613. Transnational Social Movemen. 3 Credit Hours.

Focuses on global civic activism and contentious politics, with particular attention to transnational non-state actors - NGOs, social movements, environmental protection, and the emergence of a global civil society.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

INS 614. Comparative Political Regimes. 3 Credit Hours.

Literature concerned with the transition from authoritarianism to democracy in various parts of the world.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

INS 616. National Security. 3 Credit Hours.

The central issues concerning European security since World War II, with emphasis on the period since the end of the cold war.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

INS 617. National Security and Foreign Policy. 3 Credit Hours.

Explores alternative conceptualizations of "security" and the new challenges to U.S. national security that have emerged in the Post-Cold War era.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

INS 618. Regional Topics II. 3 Credit Hours.

Selected topics in International Business. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

INS 619. Internship. 1-3 Credit Hours.

A research paper is required for this course. The student works with a selected faculty member who determines the length and scope of the project. The Student is responsible for finding the internship position.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

INS 620. International Migration and the Health Care System. 3 Credit Hours.

Critical aspects of development globally: the migration-development nexus. The centrality this issue has in current debates on development. Research and policy-making approaches to different aspects of this nexus. Several countries and regions are covered throughout the semester. Development of research skills through systematic participation in specific projects.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

INS 622. Advanced Seminar in International Economics. 3 Credit Hours.

This is a seminar in International Economics at the graduate level. The first part consists of a rigorous but nontechnical presentation of international trade theory, followed by a discussion of the main arguments for protection and their validity. The third part of the course analyzes the process of globalization; its meaning, measurement and effects. A final brief section is devoted to the determination of exchange rates and the international monetary system.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

INS 627. Negotiation and Bargaining. 3 Credit Hours.

Examines the nature of diplomatic negotiation through readings and discussion of international negotiation and through the case method, selecting several cases of high-level policy issues in which the United States has been a principal actor.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

INS 628. International Peace and Conflict Resolution. 3 Credit Hours.

The major sources of conflict, and what resources are available for making and keeping the peace? This class introduces students to the most fundamental concerns of the field of International Relations (IR), and especially of its sub-field IPCR.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

INS 629. International Organizations. 3 Credit Hours.

The role, function, and impact on states of international governmental and non-governmental organizations in critical areas like peace and security, human rights, economic development, and environmental degradation.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

INS 630. Advanced Seminar in Comparative Studies. 3 Credit Hours.

Components: SEM.

Grading: GRD.

Typically Offered: Fall.

INS 637. Comparative Political Economy. 3 Credit Hours.

Compares how domestic politics and macroeconomic policies interact with globalization. Case studies include welfare states in the U.S. and Europe, East Asian development, post communist transitions and market restructuring in Latin America and Africa.

Components: SEM.

Grading: GRD.

Typically Offered: Fall.

INS 638. U.S.-Latin American Relations. 3 Credit Hours.

Political, economic and strategic aspects of U.S.-Latin American relations; the historical experience and contemporary issues, including the influence of extra-regional parties such as Europe and China.

Components: SEM.

Grading: GRD.

Typically Offered: Fall.

INS 639. Globalization and Health. 3 Credit Hours.

Globalization and its benefits and threats to public health; the relationship between global economic, political, social, cultural, environmental and technological changes and their impact on human health.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

INS 641. Advanced ISC Seminar. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

INS 642. Drug-Trafficking in the Americas. 3 Credit Hours.

The political economy of the U.S.-Latin American drug trade in the 20th Century along with the dynamics of the U.S.-led war on drugs through the first years of the Twenty First Century.

Components: SEM.

Grading: GRD.

Typically Offered: Fall.

INS 644. International Development and Human Welfare. 3 Credit Hours.

Health and development links; macroeconomic policies and their impact on social equity; poverty and structural inequities; and other key issues that influence human development.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

INS 645. Disasters, Terrorism and Global Public Health. 3 Credit Hours.

The historical processes and present trends of disasters, terrorism, humanitarian emergencies and their impact on human health, safety and security.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

INS 646. Politics and Ideology in Latin America. 3 Credit Hours.

The roles played by both "class" and the "new social movements" in the emergence of new modes of political representation.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

INS 647. Latin American Thought. 3 Credit Hours.

The evolution of Latin American thought through political and intellectual history; the classical writings of the main "pensadores", and a comparative analysis of contemporary ideological trends.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

INS 648. Brazil in Transition. 3 Credit Hours.

The social, economic, cultural transformations shaping Brazilian politics. In addition to visiting Rio de Janeiro and Salvador, there will be seminars with Brazilian academics and social and political activists.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

INS 649. European-Latin American Relations. 3 Credit Hours.

This course deals primarily with five main themes: shared history between Europe and Latin America; mutual transfer of ideas (ideologies and political thought), perceptions (images and stereotypes), people (voluntary and slavery), and goods (trade and investment); foreign policies of main European states and the European Community toward Latin America; an analysis of some specific country cases (Spain, especially) and issues (regional integration, among them); and how the above have affected inter-American relations and the hegemonic role of the United States.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

INS 650. Advanced Regional Seminar. 3 Credit Hours.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

INS 653. The European Union. 3 Credit Hours.

The European Union's history, institutions, policies and contemporary issues.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

INS 654. European Union and the World. 3 Credit Hours.

The European Union's development, its main institutions and policies followed by an analysis of the main features of the European Union's external relations.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

INS 655. Post-Soviet Topics. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

INS 656. Special Topics. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

INS 657. U.S. Foreign Policy. 3 Credit Hours.

The leading approaches to the analysis of American foreign policy. Particular emphasis will be placed on the post-Cold War period and the new challenges to U.S. foreign policy of the 21st century.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

INS 664. International Law. 3 Credit Hours.

How international law affects the conduct of states. Issues include jurisdiction, diplomatic immunity, the use of armed force, peaceful dispute settlement among states, human rights, and the International Criminal Court.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

INS 665. The World Before European Domination. 3 Credit Hours.

The historical roots of the contemporary international system. Its objective is to question the standard Eurocentric perspective on the rise of the West to a dominant position in the global system.

Components: SEM.

Grading: GRD.

Typically Offered: Spring.

INS 672. Global Health Policy and Ethics. 3 Credit Hours.

National, regional and global health policies with special consideration to ethical and human rights issues; policies and the moral considerations that shape public health policy.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

INS 693. European Security. 3 Credit Hours.

Regional security in Europe, focusing on NATO expansion, EU expansion, Russian foreign policy, and related issues.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

INS 694. European Topics. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

INS 699. Readings in International Studies. 1-3 Credit Hours.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

INS 810. Master's Thesis. 1-6 Credit Hours.

The student working on his/her master's thesis enrolls for credit, in most departments not to exceed six, as determined by his/her advisor. Credit is not awarded until the thesis has been accepted.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

INS 820. Research in Residence. 1 Credit Hour.

Used to establish research in residence for the thesis for the master's degree after the student has enrolled for the permissible cumulative total in INS 710 (usually six credits). Credit not granted. May be regarded as full time residence.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

INS 825. Continuous Registration--Master's Study. 1 Credit Hour.

To establish residence for non-thesis master's students who are preparing for major examinations. Credit not granted. Regarded as full time residence.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

INS 830. Doctoral Dissertation. 1-12 Credit Hours.

A total of 12 hours of INS 730 is required of all candidates for the Ph.D. Not more than 12 dissertation credits may be taken during the Fall or Spring semesters, nor more than six in a summer session.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

INS 840. Post-candidacy Doctoral Dissertation. 1-12 Credit Hours.

Required of all candidates for the Ph.D. who have advanced to candidacy. The student will enroll for credit as determined by his/her advisor, but not for less than a total of 12. Not more than 12 hours of INS 740 may be taken in a regular semester, nor more than six in a summer session.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

INS 850. Research in Residence. 1 Credit Hour.

Used to establish research in residence for the Ph.D. and D.A., after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Credit not granted. May be regarded as full-time residence as determined by the Dean of the Graduate School.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

Italian (ITA)

ITA 101. Elementary Italian I. 3 Credit Hours.

Drill in pronunciation, grammatical principles, reading and translation, oral and written exercises. Normally closed to students who have completed two years of high school Italian. Closed to native speakers.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ITA 102. Elementary Italian II. 3 Credit Hours.

Continuation of ITA 101. Closed to native speakers.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ITA 106. Elementary Italian for Romance Language Speakers. 3 Credit Hours.

ITA 106 is the first of two courses specifically designed for students who are either heritage learners or native speakers of a Romance language (Spanish, Portuguese, French, and so on). It will draw on students' already existing knowledge of their own language so as to improve and accelerate the Italian learning experience.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ITA 195. Transfer Credit. 1-3 Credit Hours.

Awarded for 100-level course work at another institution for which UM has no direct equivalent.

Components: LEC.

Grading: CNC.

Typically Offered: Fall, Spring, & Summer.

ITA 201. Intermediate Italian I. 3 Credit Hours.

Integrated grammar review. Diverse selection of readings: stories, plays, essays, interviews. Practice in speaking and in writing. Class conducted in Italian.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ITA 202. Intermediate Italian II. 3 Credit Hours.

Different genres of texts (portraits, descriptions, short stories, film reviews, magazines) are used to explore different ways of writing and to prepare students for 300-level work. Structured in a workshop format, the course also develops conversational skills. Class conducted in Italian. Writing credits. Closed to native speakers.

Prerequisite: ITA 201 or ITA 206.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ITA 206. Intermediate Italian for Romance Language Speakers. 3 Credit Hours.

ITA 206 is the second of two courses created especially for students who speak another Romance language such as Spanish, French, Portuguese, and so on. As with the first level, students will be further exposed to the linguistic parallels between Italian and their own language, with the goal of being able to comprehend and communicate in Italian at increasingly complex levels.

Prerequisite: ITA 106.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ITA 280. 21st Century Italian Cinema, Society and Culture. 3 Credit Hours.

This course studies key cultural, political and societal issues of 21st century Italy through contemporary film. The course is taught in Italy and offers an in-depth experience of Italian culture happening in the "now," both on and off-screen, through class discussions, guest professors, directors, actors, and site-visits. The course is taught primarily in English, with some Italian terminology. Offered only in the summer study abroad program in Italy.

Prerequisite: ENG 106 or ENG 107.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

ITA 295. Transfer Credit. 1-3 Credit Hours.

Awarded for 200-level course work at another institution for which UM has no direct equivalent.

Components: LEC.

Grading: CNC.

Typically Offered: Fall, Spring, & Summer.

ITA 301. Interpreting Literary and Cultural Texts in Italian. 3 Credit Hours.

Tools for the interpretation and analysis of Italian literary and cultural materials. Acquisition of terminology and theories through the study of the main literary genres (prose, poetry, and drama) and a complementary genre of cultural analysis (e.g., film studies, cultural studies, etc.). Emphasis on critical writing skills. Taught in Italian. Closed to native speakers formally educated in Italian.

Prerequisite: ITA 202.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ITA 310. Topics in Italian Studies in Translation. 3 Credit Hours.

Intensive study, in English translation, of a topic, theme, author, period, or literary movement. May be repeated when the topic varies. May be used toward the Italian minor in accordance with Department of Modern Languages and Literatures stipulations.

Prerequisite: ENG 106 or ENG 107.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ITA 312. Italian Civilization. 3 Credit Hours.

The intellectual life of Italy, political and social institution arts, letters, and sciences. Collateral readings and reports.

Prerequisite: ENG 106 or ENG 107.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ITA 314. Topics in Early Modern Italian Literature in Translation. 3 Credit Hours.

AN introduction to one or more aspects of Italian literature of the early/modern Renaissance period in translation: e.g., the courtier, epic poems, the rebirth of classical theater.

Prerequisite: ENG 106 or ENG 107.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ITA 315. Topics in Gender and Sexuality in Translation. 3 Credit Hours.

This course presents issues dealing with gender and sexuality in Italy in a variety of chronological settings, using the appropriate sources for the topic (e.g., films, newsprint and TV ads, novels). This course does not fulfill the foreign language requirement.

Prerequisite: ENG 106 or ENG 107.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ITA 316. Topics in 18th- and 19th-Century Italian Literature in Translation. 3 Credit Hours.

An introduction to one or more aspects of Italian literature of the 18th and 19th centuries in translation: e.g., the role of opera in Italian culture; the literature of the Italian Risorgimento; the historical novel. This course does not fulfill the foreign language requirement.

Prerequisite: ENG 106 or ENG 107.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ITA 317. Topics in 20th Century Italian Literature in Translation. 3 Credit Hours.

An introduction to one or more aspects of Italian literature of the 20th century in translation: e.g., the experience of war, the child narrator in Calvino and Ammaniti, the experimental novels of the 1960s and '70s. This course does not fulfill the foreign language requirement.

Prerequisite: ENG 106 or ENG 107.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ITA 319. Travels Italy. 3 Credit Hours.

Develops an understanding of Italy's contemporary image in the world by, first, presenting some of the earlier representations of Italy and Italians from Dante, through the Renaissance and Baroque periods, to the present; and second, by looking at the various cultures coming into contact with the Italian one. It attempts to come to grips with notions of representation, ethnicity, ethnocentrism, and stereotypes. Taught in English and does not fulfill CAS language requirement.

Prerequisite: ENG 106 or ENG 107.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ITA 321. Special Topics in Italian Literature. 3 Credit Hours.

Literature, film and/or the arts through a specific topic. May be repeated when the topic varies. Taught in Italian.

Prerequisite: ITA 202.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ITA 330. Topics in Gender and Sexuality in Italian Culture. 3 Credit Hours.

Issues dealing with gender and sexuality in Italy in a variety of chronological settings, using the appropriate sources for the topic (e.g., films, newsprint and TV ads, novels). May be repeated when the topic varies. Taught in Italian.

Prerequisite: ITA 202.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ITA 363. Medieval and Renaissance Topics in Italian. 3 Credit Hours.

Italian culture and literature from its earliest document through the Renaissance. Taught in Italian.

Prerequisite: ITA 202.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ITA 364. 17th-19th Century Topics in Italian. 3 Credit Hours.

Italian culture and literature from the Baroque to the nineteenth century. Taught in Italian.

Prerequisite: ITA 202.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ITA 365. 20th-21st Century Topics in Italian. 3 Credit Hours.

Italian culture and literature of the twentieth and twenty-first century. Taught in Italian.

Prerequisite: ITA 202.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ITA 394. Italian Internship. 1-3 Credit Hours.

The internship is intended to provide the student with an opportunity to apply analytical, interpretive, expressive, and creative skills developed in coursework. Internships ordinarily take place outside the University. They involve UM-faculty supervision as well as supervised on-site experience in an Italian-speaking cultural, business, or not-for-profit organization. Student needs to fill out the internship application form. Normally 40 internship hours are required per credit earned (the host will supply documentary evidence of hours worked).

Components: PRA.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ITA 395. Transfer Credits. 1-3 Credit Hours.

Awarded for 300-level course work at another institution for which UM has no direct equivalent.

Components: LEC.

Grading: CNC.

Typically Offered: Fall, Spring, & Summer.

ITA 396. Transfer Credits. 1-3 Credit Hours.

Awarded for course work at another institution for which UM has no direct equivalent.

Components: LEC.

Grading: GRD.

ITA 397. Transfer Credits. 1-3 Credit Hours.

Awarded for course work at another institution for which UM has no direct equivalent.

Components: LEC.

Grading: GRD.

ITA 398. Transfer Credits. 1-3 Credit Hours.

Awarded for course work at another institution for which UM has no direct equivalent.

Components: LEC.

Grading: GRD.

ITA 399. Transfer Credits. 1-3 Credit Hours.

Awarded for course work at another institution for which UM has no direct equivalent.

Components: LEC.

Grading: GRD.

ITA 432. Italian for Business and for Business Travelers. 3 Credit Hours.

This course will allow non-native speakers of Italian communicate with native Italian speakers in a business environment by providing students with the basic vocabulary and professional expressions that are most often used in the business arena. Target business areas will be addressed through specific exercises, individual presentations, pair and group work, class discussion, preparing a Portfolio and a Final written Project, while working with authentic materials.

Prerequisite: ITA 212.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ITA 495. Transfer Credit. 1-3 Credit Hours.

Awarded for 400-level course work at another institution for which UM has no direct equivalent.

Components: LEC.

Grading: CNC.

Typically Offered: Fall, Spring, & Summer.

ITA 592. Directed Readings. 1-3 Credit Hours.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ITA 593. Directed Readings. 1-3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ITA 625. Italian for Graduate Research. 0 Credit Hours.

Grammatical structuring, verb tenses, and word families necessary for reading text with minimal use of a dictionary. May fulfill the Foreign Language Reading Competency Requirement (consult your graduate advisor).

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ITA 641. Elementary ITA I for Graduate Students. 1 Credit Hour.

Designed to develop graduate students' communicative abilities in speaking, reading, writing, and comprehending Italian, and to provide an introduction to the Italian-speaking world.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ITA 642. Elementary ITA II for Graduate Research. 1 Credit Hour.

Continuation of ITA 641. Designed to develop graduate students' communicative abilities in speaking, reading, writing, and comprehending Italian, and the continued study of the Italian-speaking world.

Prerequisite: ITA 641.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ITA 651. Intermediate ITA I for Graduate Research. 1 Credit Hour.

For graduate students with previous study of elementary-level Italian. Designed to enhance graduate students' communication skills in the Italian language at the intermediate level. Intended principally for students who will carry out research in areas related to the Italian-speaking world.

Prerequisite: ITA 642.

Components: LEC.

Grading: CNC.

Typically Offered: Fall, Spring, & Summer.

ITA 652. Intermediate ITA II for Graduate Research. 1 Credit Hour.

For students with previous study of intermediate-level Italian. Designed to enhance graduate student's communication skills in the Italian language at the high-intermediate level. Intended principally for students who will carry out research in areas related to the Italian-speaking world.

Prerequisite: ITA 651.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ITA 691. Directed Readings. 1-3 Credit Hours.

Components: IND.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ITA 692. Directed Readings. 1-3 Credit Hours.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

Japanese (JPN)

JPN 101. Elementary Japanese I. 3 Credit Hours.

Basic introduction to conversation, grammar, reading, elementary composition for students with no background in Japanese. The course is designed to develop basic skills in speaking, listening, reading and writing of the modern Japanese language. Hiragana, Katakana (Japanese syllabary), and 48 Kanji (Chinese characters formulated as a Japanese writing system) will be introduced in the course. Closed to native speakers.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

JPN 102. Elementary Japanese II. 3 Credit Hours.

Continuation of JPN 101. Further development, language skills in speaking, listening, reading and writing of the modern Japanese language. Japanese culture and customs will be taught by way of media and/or other resources. Closed to native speakers.

Prerequisite: JPN 101.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

JPN 195. Transfer Credit. 1-3 Credit Hours.

Awarded for 100-level course work at another institution for which UM has no direct equivalent.

Components: LEC.

Grading: CNC.

Typically Offered: Fall, Spring, & Summer.

JPN 201. Intermediate Japanese I. 3 Credit Hours.

Further expansion of language skills (grammar, composition and reading) while introducing students to aspects of Japanese customs, history and culture. Closed to native speakers.

Prerequisite: JPN 102.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

JPN 202. Intermediate Japanese II. 3 Credit Hours.

Continuation of JPN 201. Further development of reading, writing, listening and speaking skills in Japanese, including honorific and respectful expressions. Closed to native speakers.

Prerequisite: JPN 201.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

JPN 203. Advanced Japanese I. 3 Credit Hours.

Continuation of JPN 202. Develops students' ability to use Japanese in a more advanced way. The course emphasizes accurate comprehension, expansion of vocabulary, and development of the ability to use increasing complex grammatical and sentence structures. In addition to improving their language abilities, students will also be exposed to different areas of Japanese culture.

Prerequisite: JPN 202.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

JPN 204. Advanced Japanese II. 3 Credit Hours.

Develops students' ability to use Japanese in a more advanced way by continuing Japanese 203's emphasis on accurate comprehension, expansion of vocabulary, and development of the ability to use increasingly complex grammatical and sentence structures. Students will also be exposed to and analyze different areas of Japanese culture.

Prerequisite: JPN 203.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

JPN 210. Introduction to Japanese Culture. 3 Credit Hours.

The major aesthetic, social and political factors that have shaped contemporary and traditional Japanese culture and society. The historical evolution of Japanese culture will be approached through film, literature and art. Students will revisit related historical sites to enhance awareness and understanding of the topics. The course will be taught primarily in English, with some Japanese terminology. Offered only in the summer abroad program in Japan. No language requirement.

Prerequisite: JPN 102.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

JPN 295. Transfer Credit. 1-3 Credit Hours.

Awarded for 200-level course work at another institution for which UM has no direct equivalent.

Components: LEC.

Grading: CNC.

Typically Offered: Fall, Spring, & Summer.

JPN 394. Internship. 3 Credit Hours.

Internships are intended to provide students with an opportunity to apply analytical and creative skills developed in other coursework. Internships usually take place outside the University. They involve UM-faculty supervision as well as supervised on-site experience in a Japanese-speaking cultural, business, or non-for-profit organizations. Students need to fill out the internship application form. Normally 40 internship hours are required per credit earned (the host will supply documentary evidence of hours worked). Permission of a faculty member in JPN required.

Prerequisite: JPN 204.

Components: PRA.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

JPN 395. Transfer Credit. 1-3 Credit Hours.

Awarded for 300-level course work at another institution for which UM has no direct equivalent.

Components: LEC.

Grading: CNC.

Typically Offered: Fall, Spring, & Summer.

JPN 432. Business Japanese. 3 Credit Hours.

Designed for students who have completed JPN 202 or two years of Japanese at the college level and are interested in acquiring practical knowledge and communication skills required to deal with real-life business situations. The focus of the course is oral/aural communication skills. In addition, students will read authentic essays and newspaper articles and will also compose a variety of documents that play an important role in running a business.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

JPN 447. Advance Conversation Through Japanese Theatrical Texts. 3 Credit Hours.

Students will develop conversational skills and acquire a better understanding of sociocultural dynamics by practicing Japanese performing arts, such as Rakugo (comic story telling), Manzai (standup comedy), voice-acting for animation of folk stories, and scenes from contemporary Japanese theater. Students will also develop independent study skills and communication skills in different social settings.

Prerequisite: JPN 203.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

JPN 495. Transfer Credit. 1-3 Credit Hours.

Awarded for 400-level course work at another institution for which UM has no direct equivalent.

Components: LEC.

Grading: CNC.

Typically Offered: Fall, Spring, & Summer.

JPN 641. Elementary JPN I for Graduate Students. 0 Credit Hours.

Designed to develop graduate students' communicative abilities in speaking, reading, writing and comprehending Japanese at the elementary level and to provide an introduction to Japanese Studies.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

JPN 642. Elementary JPN II for Graduate Students. 0 Credit Hours.

Prerequisite: JPN 641.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

JPN 651. Intermediate JPN I for Graduate Research. 0 Credit Hours.

Prerequisite: JPN 642.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

JPN 652. Intermediate JPN II for Graduate Research. 0 Credit Hours.

Prerequisite: JPN 651.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

JPN 653. Advanced JPN I for Graduate Research. 0 Credit Hours.

Prerequisite: JPN 652.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

JPN 654. Advanced JPN II for Graduate Research. 1 Credit Hour.

For graduate students with previous study of advanced-low level Japanese. Designed to enhance graduate students' communication skills in the Japanese language at the advanced-intermediate level. Intended principally for students who will carry out research in areas related to Japanese Studies.

Prerequisite: JPN 653.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

Journalism and Media Management (JMM)

JMM 102. Understanding Media and Content in the Digital Age. 3 Credit Hours.

This course examines how traditional and new media industries are economically structured and how various media content influences audiences and culture. Historical, technological, and regulatory issues related to the different media platforms will also be discussed from a comparative perspective.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

JMM 106. Visual Design. 3 Credit Hours.

This course is an introduction to the principles of design, typography, color theory, usability and interactivity as they apply to the layout and design of content for print and digital media.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

JMM 108. Writing for the Digital Age. 3 Credit Hours.

This course provides students with an understanding of writing styles appropriate for communicating in the digital age, with particular emphasis on grammar, spelling, syntax and clarity. It provides a solid foundation for further practice and specialization in various types of multimedia communication.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

JMM 206. Special Topics in Journalism and Media Management I. 3 Credit Hours.

This course subject matter varies according to announced special topics. See class schedule for details.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

JMM 208. Fundamentals of Newsgathering. 3 Credit Hours.

Skill development in gathering facts and other material for, and in preparation of, news stories in a variety of genres across platforms. Focus on gathering information from multiple sources, analyzing and organizing information for dissemination, and presenting the most pertinent facts clearly and cohesively to multiple media outlets.

Prerequisites: JMM 111 or JMM 108.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

JMM 210. Writing About the Arts. 3 Credit Hours.

The aim of JMM 210 is to help you develop skills in writing and reporting about entertainment and the arts.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

JMM 221. Introduction to Documentary Photography. 3 Credit Hours.

Course is designed to develop skills in visual storytelling. Students will learn to produce images and recognize what makes good photographs in terms of content, composition, and technical quality.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

JMM 233. Television Performance. 3 Credit Hours.

Introduction to communication concepts and skills involved in on-camera duties such as anchoring, interviewing and live reporting.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

JMM 235. Radio Production and Performance. 3 Credit Hours.

Introduction to equipment and procedures of radio. Production of radio programs and formats, editing, announcing, sequencing program elements, and designing program formulas are discussed.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

JMM 245. Introduction to Electronic Media Production. 3 Credit Hours.

Introduction to the theory, process, and procedure of electronic media production. Lecture and laboratory are included.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

JMM 285. Applied Statistics for Journalism and Media Management. 3 Credit Hours.

This course provides students an introduction to descriptive and bivariate inferential statistics to better understand and use media research and analysis. Computer applications are included.

Prerequisite: MTH 101. Or ALEKS Score 60+ or 630 Math SAT + or 28 Math ACT+.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

JMM 300. Journalism Practicum. 1-3 Credit Hours.

Prescribed study and supervised work with faculty and staff of the student news paper or related news media. Students receive first-hand knowledge and experience in a working news environment.

Components: PRA.

Grading: GRD.

Typically Offered: Fall & Spring.

JMM 301. Media Research and Analysis. 3 Credit Hours.

Survey of qualitative and quantitative research methods used to collect and analyze data on media audiences. Course also covers metrics used by media industries. Practice in conducting small-scale audience measurement is included.

Pre-requisite: JMM 102.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

JMM 302. Electronic Media Law. 3 Credit Hours.

Course provides analysis of laws and other forces that influence broadcasting, cable, and online media operations. Examines the application of the First Amendment to media operations with a focus on press law.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

JMM 303. Communication Law and Policy. 3 Credit Hours.

A study of First Amendment law and theories concerning libel, privacy, copyright, advertising, corporate communications, reporter privilege, free-press/fair trial, pornography, access to government information, broadcasting and new communication technologies. Discussion of international perspectives on media regulation

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

JMM 304. Web and Media Analytics. 3 Credit Hours.

This course covers the computations, interpretations, and applications of metrics used to measure media audiences across electronic, print, and online platforms.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

JMM 305. Legal Issues in Media Management. 3 Credit Hours.

Examination of the legal environment affecting contemporary media businesses including broadcasting, advertising, public relations, web-based media, and print publications. Focus on U.S. law, with introduction of international and comparative perspectives.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

JMM 306. Special Topics in Journalism and Media Management II. 3 Credit Hours.

This course subject matter varies according to announced special topics. See class schedule for details.

Requisite: Sophomore Standing or Higher.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

JMM 307. Mobile Journalism. 3 Credit Hours.

This course provides an introduction to the fundamental procedures in the production and development of mobile storytelling.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

JMM 309. Data Journalism. 3 Credit Hours.

This course teaches data analysis and interactive deployment of the World Wide Web and other digital platforms. Students will learn to analyze data for journalistic work and will be expected to create and deploy database-driven applications.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

JMM 313. Media Sales. 3 Credit Hours.

Operation of sales departments within media outlets. Course includes the preparation and delivery of sales presentations as well as the use of audience reports.

Prerequisite: JMM 102.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

JMM 314. Media Programming. 3 Credit Hours.

Course covers categories and sources for selecting program materials used in radio, television, cable television, and other program services. Strategies employed in devising program schedules and understanding audience behaviors are also covered.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

JMM 317. Broadcast Journalism. 3 Credit Hours.

Preparation of materials for presentation through the broadcast/cable media with emphasis on news writing for oral presentation by studio anchors and field reporters. Course examines issues facing the profession of broadcast journalism, radio, and TV reporting techniques and news program formats.

Prerequisite: JMM 245.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

JMM 319. History of Journalism. 3 Credit Hours.

The development and impact of American journalism.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

JMM 331. Information Graphics and Visualization. 3 Credit Hours.

Introduction to informal graphic procedures and practices as they pertain to print and online media. Layout and design typography, mechanical production techniques, and production vocabulary will be an integral part of this course.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

JMM 333. Social Media and Journalism. 3 Credit Hours.

Examination of best practices for use of social media for gathering, disseminating, and promoting information.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

JMM 341. Web Design. 3 Credit Hours.

This course covers the basic aspects of interaction design and web development, focusing on production processes. It provides an overview of web design concepts including usability, accessibility, information architecture, basic animation, and graphic design; all discussed in the context of the web environment. This course further offers an introduction to fundamental and emerging web trends.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

JMM 345. Intermediate Electronic Media Production. 3 Credit Hours.

Planning and execution of complex field, studio, and multimedia production in a variety of lengths and formats. High level skills in television control room situations and non-linear editing will be used to produce audio, video, and online content.

Prerequisite: JMM 245.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

JMM 361. Advanced Documentary Photography. 3 Credit Hours.

Advanced Documentary Photography is a class designed to improve the visual storytelling news gathering, and photographic technical skills introduced in the introductory course.

Prerequisite: JMM 221.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

JMM 381. Newspaper Editing and Layout. 3 Credit Hours.

Introduction to electronic editing and development of skills in copy editing, headline writing, picture editing, and newspaper layout.

Prerequisite: JMM 208.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

JMM 382. Publication Planning and Editing. 3 Credit Hours.

Introduction to editing and design, with emphasis on the development of skills in editing copy and photos, writing headlines, news judgment, and designing print publications and websites.

Prerequisites: JMM 216 or JMM 208, JMM 106.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

JMM 401. Editorial Interpretation of Contemporary Events. 3 Credit Hours.

Critical examination of fundamental issues in public life. Preparation of editorials and interpretive articles for mass media are included.

Prerequisites: JMM 216 or JMM 208.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

JMM 402. Strategic Media Management. 3 Credit Hours.

This course focuses on strategy analysis, formulation, implementation, and evaluation in managing media enterprises. Media cases are used to apply and discuss strategies.

Pre-requisite: JMM 102.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

JMM 403. Media Industry Trends. 3 Credit Hours.

Economic concepts, practices, and issues as they relate to the mass media industry.

Requisite: Junior Status.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

JMM 404. Latinos and the Media. 3 Credit Hours.

This course examines the history, politics, production and reception of Latino-oriented media. It considers Latino media production processes, as well as Latina/o audiences' immigration, incorporation and media reception patterns. The course takes advantage of Miami as a vibrant immigration media production site through field trips and independent research projects.

Requisite: Sophomore Standing or Higher.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

JMM 406. Special Topics in Journalism and Media Management III. 3 Credit Hours.

This course subject matter varies according to announced special topics. See class schedule for details.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

JMM 407. Media Entrepreneurship. 3 Credit Hours.

Students generate comprehensive business plans for a proposed media enterprise. Organizational, financial, and marketing aspects of starting a media business are discussed.

Requisite: Senior Standing.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

JMM 408. International Electronic Media Systems. 3 Credit Hours.

Seminar on world broadcasting systems and trans-national communication services. Discussion of contemporary issues involving electronic media systems worldwide.

Requisite: Junior Status or Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

JMM 409. Advanced Feature Design. 3 Credit Hours.

Advanced newspaper, magazine, and electronic design. Students will develop the skills necessary to produce strong visual packages combining type, photography, artwork, and white space. The course will cover advanced design and traditional reproduction techniques for art and copywriting as well as on-line presentations.

Prerequisite: JMM 106. Or STC 202. Or STC 203.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

JMM 414. Evolution and Impact of Television Content: The American Sitcom. 3 Credit Hours.

The seminar will examine how social, economic and political factors impacted the development and evolution of the content of sitcoms, as well as the impact such content had on American society.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

JMM 417. Advanced Broadcast Journalism. 3 Credit Hours.

This capstone course concentrates on gathering and preparing news stories for presentation in news programs. Includes field reporting, editing, preparation of visual and aural TV elements, writing, producing and performing for on-air presentation. Lecture and laboratory are included.

Prerequisites: JMM 245, JMM 317.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

JMM 419. Interactive Storytelling. 3 Credit Hours.

This course explores how storytelling is reinventing itself utilizing the new digital communication tools available. It will cover linear and non-linear storytelling techniques and production processes.

Prerequisites: JMM 106 and JMM 245 and JMM 341. Requisite: Junior Standing.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

JMM 422. Programming for Interactivity. 3 Credit Hours.

This course is a multimedia class that will teach the fundamental programming skills required to create compelling online multimedia stories.

Programming taught in this class caters specifically for non-programmers who want to learn how to present their work online in an interactive manner.

Prerequisite: JMM 341.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

JMM 427. Television Newscast. 3 Credit Hours.

Studio anchoring, newscast producing, and field reporting for news and public affairs programming.

Prerequisite: JMM 417.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

JMM 429. Interactive Data Visualization. 3 Credit Hours.

This course is a seminar designed to introduce interactive data visualization concepts in a web environment. Students will be introduced to code libraries which assist in this task, best practices for interactivity and data visualization. The course will also briefly cover working with data (i.e., how to find sources, cleaning and preparing data for visualizations, etc.).

Prerequisite: JMM 331 and JMM 422.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

JMM 434. Media Distribution for Film and Television. 3 Credit Hours.

This course covers the various aspects of the distribution process for films and television programs through conventional and emerging channels.

Requisite: Junior Status or Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

JMM 435. Media Technology. 3 Credit Hours.

This course examines the deployment, use, and impact of communication technologies in various media contexts from an economic, regulatory, and social perspective.

Requisite: Junior Status.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

JMM 442. Online Journalism. 3 Credit Hours.

A study of the issues, skills and practices related to the online presentation of news and information in a convergent media environment.

Prerequisites: JMM 216 or JMM 208.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

JMM 443. Covering the Arts. 3 Credit Hours.

The aim of this course is to help you develop skills in writing and reporting about entertainment and the arts, from covering business and government news related to the arts, to telling the stories of people leaving a mark in the art world, to reviewing and critiquing works. You will report stories, write reviews and maintain a blog in the discipline of your choice.

Prerequisites: JMM 216 or JMM 208.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

JMM 444. Public Affairs Reporting. 3 Credit Hours.

Emphasis on reporting, writing and analysis about institutions, issues and actions of local government, and their effects on society.

Prerequisites: JMM 216 or JMM 208.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

JMM 445. Advanced Electronic Media Production. 3 Credit Hours.

The integration of the producer's role and the structure of program design as they relate to day-to-day production operations. Lecture and laboratory are included.

Prerequisite: JMM 345.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

JMM 446. Travel Writing. 3 Credit Hours.

A study of the major types and styles of travel news and features stories for newspapers, magazines, newsletters, and websites.

Prerequisites: JMM 216 or JMM 208.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

JMM 447. In-depth Journalism and Media Convergence. 3 Credit Hours.

A capstone experience that requires students to use effectively their full range of journalistic knowledge, newsgathering, and writing skills to prepare news and information for different media platforms.

Prerequisites: JMM 216 or JMM 208.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

JMM 448. Sports and the Media. 3 Credit Hours.

This course examines the relationship between sports and the media, including stakeholders and the financial component of sports and media, sports production and content, and sports media audience. The course provides an understanding of the social and economic relationships between sports and media and the effects those relationships have on sports consumers.

Requisite: Sophomore Standing or Higher.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

JMM 461. Seminar in News Ethics and Problems. 3 Credit Hours.

Ethical, practical, and professional problems of news communicators in society.

Requisite: Junior Status or Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

JMM 495. Internship in Journalism and Media Management. 1-3 Credit Hours.

Prescribed study and supervised work with professionals in Journalism and Media Management.

Requisite: Sophomore Status, cumulative GPA of 2.5, and Permission of Instructor.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

JMM 499. Projects and Directed Research. 1-3 Credit Hours.

Individual study. No more than three credits may be counted toward a Communication major or minor.

Components: IND.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

JMM 510. Comparative Media Systems. 3 Credit Hours.

This course deals with issues in international news gathering and distribution, giving special attention to Latin America and the Caribbean. The class takes a comparative approach, looking at media systems in the United States and other nations.

Requisite: Sophomore Standing or Higher.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

JMM 511. Global Media. 3 Credit Hours.

An analysis of issues and practices surrounding globalization, regionalization, and global/local as they relate to media industries, journalism, and communication.

Requisite: Sophomore Standing or Higher.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

JMM 513. Computer-Assisted Reporting. 3 Credit Hours.

Use of computer applications for newsgathering with emphasis on the World Wide Web, commercial online services, and database tools.

Prerequisites: JMM 216 or JMM 208.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

JMM 515. Reporting and the Internet. 3 Credit Hours.

Overview of uses of online computer services for newsgathering and distribution with emphasis on the Internet.

Prerequisites: JMM 216 or JMM 208.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

JMM 517. Television News Reporting. 3 Credit Hours.

Gathering and preparation of news stories for presentation in news programs. Includes field reporting, editing, preparation of visual and aural elements, writing, producing and performing for on-air presentation.

Prerequisite: JMM 345.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

JMM 521. Seminar in Visual Storytelling. 3 Credit Hours.

An advanced seminar class designed to enhance the knowledge and practice of the visual storytelling narrative. This seminar stresses the importance of converging media, still images, video, and sound. Particular emphasis will be placed upon the creation of a multimedia portfolio.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

JMM 522. Advance Infographics and Data Visualization. 3 Credit Hours.

This course is an introduction to the visual display of information in digital and interactive media, with a special focus on the encoding of data by means of statistical charts, maps, and diagrams.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

JMM 523. Sports Reporting. 3 Credit Hours.

An analysis of sports journalism that will develop students' skills in sports reporting and sports writing. Discussions range across the entire field of sports reporting, including broadcasting, but the greatest emphasis is concentrated on sports reporting and writing for newspapers and magazines.

Prerequisites: JMM 216 or JMM 208.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

JMM 527. Television News Producing. 3 Credit Hours.

Studio anchoring, newscast producing and field reporting for news and public affairs programming. Live field reporting and field and studio interviewing techniques are covered.

Prerequisites: JMM 417 or JMM 517.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

JMM 531. Database Journalism. 3 Credit Hours.

This course teaches data analysis and interactive deployment of data of the World Wide Web and other digital platforms.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

JMM 533. Social Media. 3 Credit Hours.

Examination of best practices for use of social media for gathering, disseminating, and promoting information.

Prerequisite: JMM 208.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

JMM 537. The Business of Modern Journalism. 3 Credit Hours.

Provides an examination of the evolving business models for legacy news organizations as well as discussion of entrepreneurial opportunities for news content in new media and digital platforms.

Prerequisites: JMM 216 or JMM 208.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

JMM 541. Advanced Audio Video Narratives. 3 Credit Hours.

This course examines uses of audio and video to communicate journalism. Students learn to investigate, gather content, and produce documentary stories primarily for online distribution.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

JMM 544. Feature Writing. 3 Credit Hours.

Analyzing and writing feature articles for magazines, newspapers, and other news media.

Prerequisites: JMM 216 or JMM 208.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

JMM 547. Magazine Planning. 3 Credit Hours.

This course is a magazine planning class where students will create a 32-page print/digital cross-platform niche publication from scratch. It will be based on a business model creating a design and content for a specific audience.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

JMM 550. 3D Design and Graphics. 3 Credit Hours.

This course focuses on the use of 3D Design software for communication and how to integrate with other print and digital technologies.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

JMM 551. Advanced Programming. 3 Credit Hours.

This course explores the role of the programmer as journalist. Students will perform the basic tasks of journalism from a programmatic perspective including: gathering, distilling and presenting information. Students will learn how to gather information from public databases and government websites. They will learn how to automate processes for filtering information and learn how to present this information in a visual and interactive news report. Students will also learn how to combine multiple sources of information, to personalize information for the end reader, and account for the relevant permutations of the data. Students will learn to build and query databases as well as mine and visually present the information using programming languages such as PHP and Python. Rapid development frameworks such as Django, Zendand, Symfony will also be covered in the class.

Components: LEC.

Grading: SUS.

Typically Offered: Summer.

JMM 560. Team Multimedia Project. 1-3 Credit Hours.

Students will work in a team to produce a documentary multimedia project in conjunction with one or more partner universities. Students will study the genre of documentary multimedia storytelling, research their assigned topic(s), content-gather, edit, wireframe, design and program the project and produce it on multiple platforms depending on the topic and intended audience. Students will use audio, photographic, video, infographic and text reporting tools in producing the project. They will also study methodologies for evaluating multimedia and beta test the site using established research methodologies.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

JMM 592. Special Topics in Journalism and Media Management. 3 Credit Hours.

This course subject matter varies according to announced special topic. See class schedule for details.

Requisite: Junior Or Senior Or Graduate Status.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

JMM 599. Advanced Projects and Directed Research. 1-6 Credit Hours.

Individual study. Course may be repeated to a maximum of six credits.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

JMM 601. Editorial Interpretation of Contemporary Events. 3 Credit Hours.

Critical examination of fundamental issues in public life. Preparation of editorials and interpretive articles for mass media are included.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

JMM 605. News Technologies. 3 Credit Hours.

This course emphasizes how television, digital, and multimedia technologies contribute to the storytelling process. Understanding of production theories and news processes will be gained through hands on work with television and multimedia projects.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

JMM 606. Multimedia Design. 3 Credit Hours.

This is a project-based course in multimedia design, with emphasis on visual concepts and graphics development. Students will be learning about the various software packages to design and integrate interaction into their projects. Topics covered include preparing existing content for multimedia journalism, animation, layout for interactive media, typography, photography and usability.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

JMM 607. Broadcast Journalism. 3 Credit Hours.

Advanced instruction in techniques of news writing and field reporting, including conducting research for stories, preparing complete field packages for newscasts, filing live remotes, and conducting interviews.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

JMM 608. Long-Form Public Affairs Programming. 3 Credit Hours.

Development and production of longer form news, information magazine, and documentary style programming.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

JMM 609. Internship in Journalism and Media Management. 1-3 Credit Hours.

Prescribed study and supervised work with professionals in newspapers, magazines, web sites or related news media.

Components: IND.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

JMM 610. Comparative Media Systems. 3 Credit Hours.

This course deals with issues in international news gathering and distribution, giving special attention to Latin America and the Caribbean. The class takes a comparative approach, looking at media systems in the United States and other nations.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

JMM 611. Newswriting and Reporting Seminar. 3 Credit Hours.

Development of newswriting and reporting skills for news media.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

JMM 612. History of Journalism Seminar. 3 Credit Hours.

The development and impact of journalism in America traced through industry leaders and events.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

JMM 613. Computer-Assisted Reporting. 3 Credit Hours.

Use of computer applications for newsgathering with emphasis on the World Wide Web, commercial online services, and database tools.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

JMM 614. Law and Ethics in Journalism and Media Management. 3 Credit Hours.

This course focuses on two critically important areas of the law for both aspiring media professionals and those seeking management opportunities. Principles of free speech, deeply rooted in the First Amendment to the U.S. Constitution, delve into such topics as defamation, privacy, access to information, obscenity, and intellectual property. The course also introduces students to the fundamentals of business law as it pertains to the media industry with an emphasis on employment, workplace management, and business contracts. Ethical issues are addressed throughout the course.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

JMM 615. Writing and Reporting Across Platforms. 3 Credit Hours.

An introduction to professional operating practices in multimedia journalism with emphasis on news writing and news production skills.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

JMM 616. Evolution and Impact of Television Content: The American Sitcom. 3 Credit Hours.

The seminar will examine how social, economic and political factors impacted the development and evolution of the content of sitcoms, as well as the impact such content had on American society.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

JMM 617. Television News Reporting. 3 Credit Hours.

Gathering and preparation of news stories for presentation in news programs. Includes field reporting, editing, preparation of visual and aural elements, writing, producing and performing for on-air presentation.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

JMM 618. International Journalism. 3 Credit Hours.

News gathering, transmission, and distribution outside the United States, with emphasis on Latin America.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

JMM 619. Interactive Storytelling. 3 Credit Hours.

Digitization allows us to merge several forms of media that were not connected in the past. This course is intended as an exploration of how storytelling is re-inventing itself utilizing the new digital communication tools available to us today. This course will cover linear and non-linear storytelling techniques and production processes.

Prerequisites: JMM 628 and JMM 622 and JMM 630 and CIM 690.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

JMM 620. Reporting and the Internet. 3 Credit Hours.

Overview of uses of online computer services for newsgathering and distribution with emphasis on the Internet.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

JMM 621. Global Media. 3 Credit Hours.

An analysis of issues and practices surrounding globalization, regionalization, and global/local as they relate to media industries, journalism, and communication.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

JMM 622. Infographics and Data Visualization. 3 Credit Hours.

This course is an introduction to the visual display of information in digital and interactive media, with a special focus on the encoding of data by means of statistical charts, maps, and diagrams.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

JMM 623. Sports Reporting. 3 Credit Hours.

An analysis of sports journalism that will develop students' skills in sports reporting and sports writing. Discussions range across the entire field of sports reporting, including broadcasting, but the greatest emphasis is concentrated on sports reporting and writing for newspapers and magazines.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

JMM 624. Seminar in Editing and Design for Print and Websites. 3 Credit Hours.

Theory and practice in news media copy editing, layout, and design.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

JMM 625. Advanced Newsgathering and Writing Seminar. 3 Credit Hours.

Refining news writing and reporting skills for the media.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

JMM 626. Specialized Writing and Reporting Seminar. 3 Credit Hours.

Techniques in writing and reporting about specialized and complex subjects for news media.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

JMM 627. Television News Producing. 3 Credit Hours.

Studio anchoring, newscast producing and field reporting for news and public affairs programming. Live field reporting and field and studio interviewing techniques are covered.

Components: LAB.

Grading: GRD.

JMM 628. Seminar in Visual Storytelling. 3 Credit Hours.

An advanced seminar class designed to enhance the knowledge and practice of the visual storytelling narrative. This seminar stresses the importance of converging media, still images, video, and sound. Particular emphasis will be placed upon the creation of a multimedia portfolio.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

JMM 629. Interactive Data Visualization. 3 Credit Hours.

This course is a seminar designed to introduce interactive data visualization concepts in a web environment. Students will be introduced to code libraries which assist in this task, best practices for interactivity and data visualization. The course will also briefly cover working with data (i.e., how to find sources, cleaning and preparing data for visualizations, etc.).

Prerequisite: JMM 622 and JMM 630.

Components: LAB.

Grading: GRD.

JMM 630. Programming for Interactivity. 3 Credit Hours.

This course is a multimedia class that will teach the fundamental programming skills required to create compelling online multimedia stories.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

JMM 631. Database Journalism. 3 Credit Hours.

This course teaches data analysis and interactive deployment of data of the World Wide Web and other digital platforms.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

JMM 632. Current Issues in Media Management. 3 Credit Hours.

This course addresses how recent developments in media technology, regulation, content, and measurement have influenced the structure and economics of the media industry. Given the rapid evolution of the media business across platforms, topics are likely to vary from year to year. Media cases are used to discuss appropriate strategies and decision-making and help students think as media managers.

Requisite: Graduate Standing.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

JMM 633. Social Media. 3 Credit Hours.

Examination of best practices for use of social media for gathering, disseminating, and promoting information.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

JMM 634. Media Distribution for Film and Television. 3 Credit Hours.

This course covers the various aspects of the distribution process for films and television programs through conventional and emerging channels.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

JMM 635. The Broadcasting, Cable, and Electronic Media Industry. 3 Credit Hours.

Examination of broadcasting, cable, and related electronic media from a business perspective.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

JMM 636. Content Strategy in the Media Industry. 3 Credit Hours.

What distinguishes the media industry from other sectors is the primacy of content. This course examines the practices involved in developing, distributing, scheduling, and monetizing media content, especially in the video space. Programming strategies are discussed across traditional and emergent media platforms.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

JMM 637. The Business of Modern Journalism. 3 Credit Hours.

Provides an examination of the evolving business models for legacy news organizations as well as discussion of entrepreneurial opportunities for news content in new media and digital platforms.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

JMM 640. Web Design. 3 Credit Hours.

This course covers the basic aspects of interaction design and web development, focusing on production processes. It provides an overview of web design concepts including usability, accessibility, information architecture, basic animation, and graphic design; all discussed in the context of the web environment. This course further offers an introduction to fundamental and emerging web trends.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

JMM 641. Advanced Audio Video Narratives. 3 Credit Hours.

This course examines uses of audio and video to communicate journalism. Students learn to investigate, gather content, and produce documentary stories primarily for online distribution.

Prerequisite: JMM 628.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

JMM 642. Audience Research and Analysis. 3 Credit Hours.

This course covers the primary research methods and metrics used to measure media audiences. Discussion of data collection procedures includes survey research, experimental design, content analysis, focus groups, and the growing use of big data analysis. Media metrics center on broadcast ratings and online exposure measurement. Applications or small-scale projects are conducted for practice.

Requisite: Graduate Standing.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

JMM 643. Media Industry Trends. 3 Credit Hours.

Economic concepts, practices, and issues as they relate to the mass media industry.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

JMM 644. Feature Writing. 3 Credit Hours.

Analyzing and writing feature articles for magazines, newspapers, and other news media.

Components: LAB.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

JMM 646. Travel Writing. 3 Credit Hours.

A study of the major types and styles of travel news and features stories for newspapers, magazines, newsletters, and websites.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

JMM 647. Magazine Planning. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

JMM 648. Sports and the Media. 3 Credit Hours.

This course examines the relationship between sports and the media, including stakeholders and the financial component of sports and media, sports production and content, and sports media audiences. The course provides an understanding of the social and economic relationships between sports and media and the effects those relationships have on sports consumers.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

JMM 649. Team Multimedia Project. 1-3 Credit Hours.

Students will work in a team to produce a documentary multimedia project in conjunction with one or more partner universities. Students will study the genre of documentary multimedia storytelling, research their assigned topic(s), content-gather, edit, wireframe, design and program the project and produce it on multiple platforms depending on the topic and intended audience. Students will use audio, photographic, video, infographic and text reporting tools in producing the project. They will also study methodologies for evaluating multimedia and beta test the site using established research methodologies.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

JMM 650. 3D Design and Graphics. 3 Credit Hours.

This course focuses on the use of 3D Design software for communication and how to integrate with other print and digital technologies.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

JMM 651. Advanced Programming. 3 Credit Hours.

This course explores the role of the programmer as journalist. Students will perform the basic tasks of journalism from a programmatic perspective including: gathering, distilling and presenting information. Students will learn how to gather information from public databases and government websites. They will learn how to automate processes for filtering information and learn how to present this information in a visual and interactive news report. Students will also learn how to combine multiple sources of information, to personalize information for the end reader, and account for the relevant permutations of the data. Students will learn to build and query databases as well as mine and visually present the information using programming languages such as PHP and Python. Rapid development frameworks such as Django, Zend and Symfony will also be covered in the class.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

JMM 653. Practicum in Producing News. 1-3 Credit Hours.

The mechanics of planning and executing professional style newscasts and/or long-form television news program.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

JMM 654. Writing for Publication. 1-3 Credit Hours.

This course focuses on writing principles and practices of the news media. It is designed to give the student exposure and practical experience in writing for the print media.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

JMM 655. Media Technology. 3 Credit Hours.

This course examines the deployment, use, and impact of communication technologies in various media contexts from an economic, regulatory, and social perspective.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

JMM 657. Media Entrepreneurship. 3 Credit Hours.

Students generate comprehensive business plans for a proposed media enterprise. Organizational, financial, and marketing aspects of starting a media business are discussed.

Requisite: Graduate Standing.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

JMM 692. Special Topics in Journalism and Media Management. 3 Credit Hours.

This course subject matter varies according to announced special topic. See class schedule for details.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

JMM 695. Special Topics in Journalism. 3 Credit Hours.

This course subject matter varies according to announced special topic. See class schedule for details.

Components: IND.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

JMM 696. Special Topics in Visual Journalism. 1-6 Credit Hours.

This course subject matter varies according to announced special topic. See class schedule for details.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

JMM 699. Advanced Projects and Directed Research. 1-6 Credit Hours.

Individual study. Course may be repeated to a maximum of six credits.

Components: IND.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

JMM 815. Multimedia Project. 1-6 Credit Hours.

Students, in consultation with program faculty, will complete a final project that reflects in-depth knowledge and analysis of a subject and professional competence in multimedia storytelling. Course may be repeated to a maximum of six credits.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

Judaic Studies (JUS)

JUS 205. Holocaust Survivor Service Internship. 3 Credit Hours.

Interns will gain meaningful experiences that will offer them an opportunity to become involved in service-oriented activities. This will give them a deep insight and unique understanding of the historical significance of the Holocaust while providing valuable services to the survivors of Nazi atrocities.

Components: DIS.

Grading: CNC.

Typically Offered: Fall.

JUS 206. Holocaust Survivor Service Internship. 3 Credit Hours.

Components: SEM.

Grading: CNC.

Typically Offered: Spring.

JUS 231. Jewish Civilization: Society, Culture and Religion. 3 Credit Hours.

Introduction to Jewish civilization from Abraham to present.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

JUS 250. The Holocaust Through Film, Memoir and Testimony. 3 Credit Hours.

The purpose of the course is to introduce students to the history of the Holocaust through classroom dialogue, film, and literature analysis. Involving students in major ethical and moral issues raised in the study of the Holocaust by encouraging students to think critically, explore choices, and make decisions based on a code of conduct that reflects a commitment to humanity.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

JUS 301. Studies in Judaica. 3 Credit Hours.

Special topics offering at the 300-level for students pursuing a major/minor in Judaic Studies.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

JUS 314. The Rise of Judaism. 3 Credit Hours.

The history and literature of early Judaism, covering the period from the fall of Jerusalem in 587/586 BCE to the beginnings of rabbinic Judaism and the formation of the Mishnah (ca.200 CE).

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

JUS 324. The History of Zionism. 3 Credit Hours.

The religious, cultural, historical, political and social underpinnings of the development of Zionism that led to the creation of the State of Israel. Through readings, analysis of speeches and essays, exploration of films and the internet, the class will move through time from the origins of the Zionist idea to the present.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

JUS 325. Israel: The Making of a State. 3 Credit Hours.

The creation of the state of Israel in its historical context, emphasizing the period of 1945-55: The struggle for Israel's establishment, the making of the state and the early challenges Israel faced. The class will use documents, text, testimony, poetry, music and film.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

JUS 338. History of the Holocaust. 3 Credit Hours.

Focus on the roots, events and results of the Nazis' nearly successful annihilation of Jewish men, women, and children living under the Swastika. We will study Hitler's political aims, his Aryan superiority mythology, his domestic and foreign policies, and his conquests. We will also investigate how Germans, admired for their culture, became instruments of mass murder. Also included in this survey are the heroism of Jewish resisters and gentile rescuers who stood in direct opposition to the silence of the Christian churches and inactivity of the nearly all nations in the face of the Jewish disaster.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

JUS 340. History of Modern Germany Since 1815. 3 Credit Hours.

German history from the Congress of Vienna in 1815 to the end of the Second World War. The course concentrates on the social, political, and cultural history of Germany between Bismarck and Hitler. The main topics of discussion include: The German states before and during the revolutions of 1848, German unification and Prussian policy during the 1850s and 1860s, Bismarck's foreign policy and the political history of the Empire from 1871 to 1914, the origins and the course of the First World War, the Versailles Treaty and the history of the Weimar Republic, Hitler's rise to power and the politics of Nazi Germany between 1933 and 1939, Germany during the Second World War and the Holocaust. To bring the past to life, lectures will occasionally be supplemented by documentary films.

Components: LEC.

Grading: GRD.

JUS 352. Panoramic View of the Middle East. 3 Credit Hours.

The course is designed to provide a comprehensive introduction to the Middle East and a basic understanding of factors, forces, and processes shaping developments in the modern and contemporary history of this important world region.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

JUS 360. Hollywood and Popular Culture: The American Jewish Experience. 3 Credit Hours.

The image of the Jew and the Jewish experience in American Cinema.

Prerequisite: JUS 231 or HIS 102.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

JUS 365. Literature of the Holocaust. 3 Credit Hours.

The destruction of European Jewry has generated a substantial body of literature, including survivor accounts, novels, poetry, and theological and philosophical inquiries. Firstly this course will review the history of the Holocaust; then a range of works will be read and discussed in terms of questions associated with the memorialization of victims. Non-literary responses to the Holocaust will also be examined: excerpts will be shown from the films *The Last of the Unjust*, *Shoah*, and *The Quarrel*, and we will listen to Steve Reich's musical composition *Different Trails*.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

JUS 375. Religion and Democracy in Israel. 3 Credit Hours.

Israel's evolution as a nation and a society by focusing on how religion impacts ethnicity, culture, and democracy.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

JUS 380. Archaeology of Palestine. 3 Credit Hours.

Survey of the major archaeological excavations and surveys of Palestine, how this is used to interpret biblical narrative and give context to the emergence of Judaism and Christianity.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

JUS 401. Studies in Judaica. 1-3 Credit Hours.

Designed to enable students interested in some phase of Judaic Studies to study extensively in that field of interest.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

JUS 410. Special Topics. 1-3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

JUS 411. Special Topics. 1-3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

JUS 421. Internship in Judaic Studies. 1-3 Credit Hours.

Prescribed study and supervised work with practitioners in Judaic services.

Components: DIS.

Grading: CNC.

Typically Offered: Fall & Spring.

JUS 498. Senior Thesis. 3 Credit Hours.

Partial requirement for Departmental Honors in Judaic Studies. Thesis to be a documented essay in any area of Judaic Studies written under the direction of a member of the faculty.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

JUS 499. Senior Thesis. 3 Credit Hours.

Partial requirement for Departmental Honors in Judaic Studies. Thesis to be a documented essay in any area of Judaic Studies written under the direction of a member of the faculty.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

Keyboard Performance (MKP)

MKP 0R1. Organ. 2 Credit Hours.

1-hour lesson and 50 minute studio class for organ students. Technical Requirements: Gleason, Method of Organ Playing: selected exercises from Manual Technique and Pedal Technique. Repertoire: Gleason, Method of Organ Playing: Compositions for Manuals, Studies and Compositions for Manuals and Pedal; selected chorale preludes and smaller-scale preludes and fugues by Bach, Buxtehude, Brahms, and others; basics of hymn playing.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP 0R3. Organ. 2 Credit Hours.

1-hour lesson and 50 minute studio class for organ students. Technical Requirements: Gleason, Method of Organ Playing: selected exercises from Pedal Scales, Broken Chords, Advanced Exercises. Repertoire: Selected compositions by Bach and representative Baroque, Classical, Romantic, and Modern composers. Hymn playing and organ accompanying techniques.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP 0R5. Organ. 1-4 Credit Hours.

Requires successful completion of an undergraduate degree in piano performance, and approval of student's advisor (studio teacher). Course may be taken for 2 credits (1-hour lesson) or 1 credit (30-minute lesson) as part of Artist Diploma. The course covers private instruction on organ-related performance techniques and repertory. The level of repertory will be determined by instructor based on the student's performance level. A jury examination in front of a faculty committee is required each semester for students taking the course for 2 credits.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP 0R6. Organ. 1-2 Credit Hours.

Requires successful completion of an undergraduate degree in piano performance, and approval of student's advisor (studio teacher). Course may be taken for 2 credits (1-hour lesson) or 1 credit (30-minute lesson) as part of masters degree. The course covers private instruction on organ-related performance techniques and repertory. The level of repertory will be determined by instructor based on the student's performance level. A jury examination in front of a faculty committee is required each semester for students taking the course for 2 credits.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP 0R7. Organ. 1-2 Credit Hours.

Requires successful completion of a graduate degree in piano performance, and approval of student's advisor (studio teacher). Course may be taken for 2 credits (1-hour lesson) or 1 credit (30-minute lesson) as part of doctoral degree. The course covers private instruction on organ-related performance techniques and repertory. The level of repertory will be determined by instructor based on the student's performance level. A jury examination in front of a faculty committee is required each semester for students taking the course for 2 credits.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP 111. Non-Major Class Piano I. 1 Credit Hour.

This course is designed for the adult beginner who has an interest in playing keyboard instruments for pleasure. Students with no previous musical or keyboard experience learn the fundamentals of music theory and apply them to playing the keyboard at the beginning level.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP 112. Non-Major Class Piano II. 1 Credit Hour.

Designed for the adult beginner who has an interest in playing keyboard instruments for pleasure, this course builds on the concepts introduced in MKP 111. Students continue to learn the fundamentals of music theory and apply them to playing the keyboard.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP 140. Keyboard Studies I. 1 Credit Hour.

Major and minor five finger patterns, beginning repertoire, major scales and arpeggios, basic chord progressions, for types of triads, dominant seventh chords, beginning sight reading, harmonization, transposition, and improvisation skills.

Requisite: Frost School of Music.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

MKP 141. Keyboard Studies II. 1 Credit Hour.

Minor scales and arpeggios, modal scales, five types of seventh chords and inversions, and more extensive chord progressions. Study of repertoire and the development of sight-reading, harmonization, transposition, and improvisation skills are continued.

Requisite: Frost School of Music.

Components: LAB.

Grading: GRD.

Typically Offered: Spring.

MKP 185. Musical Theatre Accompanying. 1 Credit Hour.

A class designed to improve the skills of pianists with a particular interest in musical theatre piano accompaniment. Students will study in a classroom setting.

Requisite: Frost School of Music.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP 186. Vocal Accompanying I. 1 Credit Hour.

Pianists will attend seminars where the principles of accompanying classical and musical theatre singers are addressed. Students are assigned to accompany applied voice lessons and ensembles.

Requisite: Frost School of Music.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP 187. Vocal Accompanying II. 1 Credit Hour.

Pianists attend seminars where the principles of accompanying classical and musical theatre singers are addressed. Students are assigned to accompany applied voice lessons and ensembles.

Requisite: Frost School of Music.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP 189. Accompanying, Level I. 1 Credit Hour.

Development of sightreading skills and score preparation.

Requisite: Frost School of Music.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP 190. Accompanying, Level II. 1 Credit Hour.

Progressive development of individual vocal/instrumental and ensemble accompanying, sightreading, score reading, and improvising from a lead sheet.

Requisite: Frost School of Music.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP 191. Accompanying, Level III. 1 Credit Hour.

Progressive development of all types of accompaniment skills including; clef and score reading, transposition, possible recital, opera theater, choral ensemble, and/or orchestral accompanying.

Prerequisite: MKP 190.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP 220. Computers, Keyboards, and Music. 2 Credit Hours.

An introduction to basic computing skills for the musician that explores computers, keyboards, and other MIDI- (Musical Instrument Digital Interface) related instruments as tools for the musician. Topics include electronic keyboards, computer hardware and software, MIDI sequencing, computer-assisted musical notation, and teaching strategies using new technologies. Students gain hands-on experience while completing projects in each of the above areas.

Prerequisite: MKP 102.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP 240. Keyboard Studies III. 2 Credit Hours.

Dominant seventh arpeggios, secondary dominants, and work more extensively with chord progressions. Students also learn Theme and Variation form, Sonata form, and characteristics of the musical style periods. Study of repertoire and the development of sight-reading, harmonization, and the improvisation skills are continued. Transposition of instrumental music to concert pitch, and beginning choral and instrumental score reading are introduced. Students will continue playing major and minor scales at an increased level of difficulty.

Requisite: Frost School of Music.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

MKP 241. Keyboard Studies IV. 2 Credit Hours.

Diminished seventh arpeggios, augmented, and Neapolitan sixth chords, Three-Part Rondo forms, extended chord structures, and a variety of chord Progressions that modulate. Study of repertoire and the development of sight-reading, harmonization, transposition, and improvisation skills are continued. Choral and instrumental score reading, modal scales, and major and minor scales are performed at an increased level of difficulty.

Requisite: Frost School of Music.

Components: LAB.

Grading: GRD.

Typically Offered: Spring.

MKP 399. Junior Recital. 1 Credit Hour.

A public recital of one half-hour or more. Course is required of all performance majors.

Requisite: Frost School of Music.

Components: PRA.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP 493. Special Projects in Keyboard Performance or Pedagogy. 1-3 Credit Hours.

Advanced individual instruction pertaining to faculty member's area of expertise and student's area of interest. This course includes a culminating project.

Requisite: Frost School of Music.

Components: IND.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MKP 494. Special Topics in Keyboard Performance or Pedagogy. 1-3 Credit Hours.

Advanced group/classroom instruction pertaining to faculty member's expertise and students' areas of interest.

Components: SEM.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MKP 499. Senior Recital. 1 Credit Hour.

A public recital of one hour or more. Course is required of all performance majors.

Requisite: Frost School of Music.

Components: PRA.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP 547. Keyboard Pedagogy. 3 Credit Hours.

Methods and materials for teaching keyboard instruments with a focus on private lesson instruction. Topics include teacher profile, general teaching considerations, the business of teaching, the beginning student, second- and third-year students, teaching materials, and an introduction to new technology in piano teaching.

Requisite: Frost School of Music.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MKP 548. Intermediate to Advanced Repertoire. 3 Credit Hours.

A class dedicated to a survey and discussion of a wide range of teaching materials including teaching exercises, etudes, and performance literature? both well known and under appreciated. Topics include reference literature and web resources, piece assigning considerations and leveling, and detailed discussion of selected materials with specific teaching and remedial strategies. Annotated bibliography with MIDI-file attachments of incipits to be submitted at the end of the semester for a grade.

Requisite: Frost School of Music.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MKP 549. Keyboard Pedagogy II: Keyboard Pedagogy Diagnostics. 3 Credit Hours.

1st class of each week: round-table discussion of private teaching strategies using video taped performance excerpts of students at various levels. 2nd class of each week: a focus on a wide range of teaching repertoire covering intermediate to advanced levels with an emphasis on problem prevention and solving.

Requisite: Frost School of Music.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MKP 550. Keyboard Pedagogy III: Practice Strategies. 3 Credit Hours.

Focus on practice strategy at the keyboard using Philip Johnston's Practice Revolution as a springboard for discussion. Topics also include recent findings and leading researchers in cognitive neuroscience and "brain-based learning," as well as resources available for musician wellness and injury prevention.

Requisite: Frost School of Music.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP 589. Keyboard Accompanying Program in Salzburg, Austria. 0 Credit Hours.

Course is conducted at Salzburg College, Austria. Students receive comprehensive and intensive coaching in piano and accompanying from Dr. Posnak and other internationally acclaimed guest artists. Piano students study piano (2 cr.) and accompanying (1 cr.).

Requisite: Frost School of Music.

Components: LEC.

Grading: AUD.

Typically Offered: Spring.

MKP 593. Special Projects in Keyboard Performance or Pedagogy. 1-3 Credit Hours.

Advanced individual instruction pertaining to faculty member's area expertise and student's area of interest. This course includes a culminating project.

Requisite: Frost School of Music.

Components: IND.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MKP 594. Special Topics in Keyboard Performance or Pedagogy. 1-3 Credit Hours.

Advanced group/classroom instruction pertaining to faculty to faculty member's expertise and students' areas of interest.

Components: SEM.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MKP 6. Piano Forum. 0 Credit Hours.

A non-credit performance class for all piano majors and principals. Majors are required to perform once each semester with the approval of the applied teacher.

Requisite: Frost School of Music.

Components: FOR.

Grading: CNC.

Typically Offered: Fall & Spring.

MKP 612. Seminar in Romantic Performance. 1 Credit Hour.

This course is designed as a performance class for graduate piano majors. Class members will be responsible for presentation of major compositions representative of the period. Research will be required for each presentation concentrating on interpretation, stylistic requirements of the period and the historical context of the composers and work.

Requisite: Frost School of Music.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MKP 647. Keyboard Pedagogy. 3 Credit Hours.

Methods and materials for teaching keyboard instruments with a focus on private lesson instruction. Topics include teacher profile, general teaching considerations, the business of teaching, the beginning student, second- and third-year students, teaching materials, and an introduction to new technology in piano teaching.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MKP 648. Intermediate to Advanced Repertoire. 3 Credit Hours.

A class dedicated to a survey and discussion of a wide range of teaching materials including teaching exercises, etudes, and performance literature both well known and under appreciated. Topics include reference literature and web resources, piece assigning considerations and leveling, and detailed discussion of selected materials with specific teaching and remedial strategies. Annotated bibliography with MIDI-file attachments of incipits to be submitted at the end of the semester for a grade.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MKP 649. Keyboard Pedagogy II: Keyboard Pedagogy Diagnostics. 3 Credit Hours.

1st class of each week: round-table discussion of private teaching strategies using video taped performance excerpts of students at various levels. 2nd class of each week: a focus on a wide range of teaching repertoire covering intermediate to advanced levels with an emphasis on problem prevention and solvin

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MKP 650. Keyboard Pedagogy III: Practice Strategies. 3 Credit Hours.

Focus on practice strategy at the keyboard using Philip Johnston's Practice Revolution as a springboard for discussion. Topics also include recent findings and leading researchers in cognitive neuroscience and "brain-based learning," as well as resources available for musician wellness and injury prevention.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP 689. Keyboard Accompanying Program in Salzburg, Austria. 0 Credit Hours.

Course is conducted at Salzburg College, Austria. Students receive comprehensive and intensive coaching in piano and accompanying from Dr. Posnak and other internationally acclaimed guest artists. Piano students study piano (2 cr.) and accompanying (1 cr.).

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MKP 693. Special Projects in Keyboard Performance. 1-3 Credit Hours.

Advanced individual instruction pertaining to faculty member's area of expertise and student's area of interest. This course includes a culminating project.

Components: IND.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MKP 694. Special Topics in Keyboard Performance or Pedagogy. 1-3 Credit Hours.

Advanced group/classroom instruction pertaining to faculty member's expertise and students' areas of interest.

Components: SEM.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MKP 710. Seminar in Baroque Performance. 1 Credit Hour.

This course is designed as a performance class for graduate DMA piano majors. Class members will be responsible for presentation of major compositions representative of the period. Research will be required for each presentation concentrating on interpretation, stylistic requirements of the period and the historical context of the composers and work.

Requisite: Frost School of Music.

Components: SEM.

Grading: GRD.

Typically Offered: Fall.

MKP 711. Seminar in Classical Performance. 1 Credit Hour.

This course is designed as a performance class for graduate piano majors. Class members will be responsible for presentation of major compositions representative of the period. Research will be required for each presentation concentrating on interpretation, stylistic requirements of the period and the historical context of the composers and work.

Requisite: Frost School of Music.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MKP 712. Seminar in Romantic Performance. 1 Credit Hour.

This course is designed as a performance class for graduate piano majors. Class members will be responsible for presentation of major compositions representative of the period. Research will be required for each presentation concentrating on interpretation, stylistic requirements of the period and the historical context of the composers and work.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MKP 713. Seminar in Contemporary Music. 1 Credit Hour.

This course is designed as a performance class for graduate piano majors. Class members will be responsible for presentation of major compositions representative of the period. Research will be required for each presentation concentrating on interpretation, stylistic requirements of the period and the historical context of the composers and work.

Requisite: Frost School of Music.

Components: SEM.

Grading: GRD.

Typically Offered: Spring.

MKP 747. Seminar in Keyboard Pedagogy. 3 Credit Hours.

Focus on college-level teaching and professional development for a pianist. Topics include group piano teaching materials and strategies, syllabi and exam-objective rubric creation, pedagogy curriculum building, pedagogy text survey, administrative duties overview, preparation for the job market including job search and interview process, and C. V. building avenues such as publication, workshop/lecture presentation, editing teaching repertoire, and training in music technology.

Requisite: Frost School of Music.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MKP 750. Keyboard Pedagogy Research Seminar. 1 Credit Hour.

Research, reading and writing in keyboard pedagogy on topics either historical or current. An in-depth research or project on a topic as approved by KPED faculty culminates in a written paper with annotated bibliography. Course may be repeated for credit.

Requisite: Frost School of Music.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP 780. Keyboard Pedagogy Internship. 1 Credit Hour.

The student team-teaches a piano class or a private student with an instructor. The Program Director observes and critiques the student, and the student videotapes lessons and offers critiques of their own teaching following a guideline.

Requisite: Frost School of Music.

Components: PRA.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP 785. Musical Theatre Accompanying. 1 Credit Hour.

A class designed to improve the skills of pianists with a particular interest in musical theatre piano accompaniment. Students will study in a classroom setting.

Requisite: Frost School of Music.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP 786. Vocal Accompanying I. 1 Credit Hour.

Pianists attend seminars where the principles of accompanying classical and musical theatre singers are addressed. Students are assigned to accompany applied voice lessons and ensembles.

Requisite: Frost School of Music.

Components: ENS.

Grading: GRD.

MKP 787. Vocal Accompanying II. 1 Credit Hour.

Pianists attend seminars where the principles of accompanying classical and musical theatre singers are addressed. Students are assigned to accompany applied voice lessons and ensembles.

Requisite: Frost School of Music.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP 788. Graduate Seminar in Accompanying. 1 Credit Hour.

Study and performance of major vocal and chamber music literature as related to the accompanist and chamber musician. Course may be repeated for credit.

Requisite: Frost School of Music.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP 789. Accompanying, Level I. 1 Credit Hour.

Development of sightreading skills and score preparation.

Requisite: Frost School of Music.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP 790. Accompanying, Level II. 1 Credit Hour.

Progressive development of individual vocal/instrumental and ensemble accompanying, sightreading, score reading, and improvising from a lead sheet.

Requisite: Frost School of Music.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP 791. Accompanying, Level III. 1 Credit Hour.

Progressive development of all types of accompaniment skills including clef and score reading, transposition, possible recital, opera theater, choral ensemble, and/or orchestral accompanying.

Requisite: Frost School of Music.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP 793. Special Projects in Keyboard Performance or Pedagogy. 1-3 Credit Hours.

Advanced individual instruction pertaining to faculty member's area of expertise and student's area of interest. This course includes a culminating project.

Requisite: Frost School of Music.

Components: IND.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MKP 794. Special Topics in Keyboard Performance or Pedagogy. 1-3 Credit Hours.

Advanced group/classroom instruction pertaining to faculty member's expertise and students' areas of interest.

Requisite: Frost School of Music.

Components: SEM.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MKP 811. Master's Recital Paper. 1-3 Credit Hours.

The student working on his/her master's recital paper enrolls for credit as determined by his/her advisor. Credit is not awarded until the paper has been accepted.

Requisite: Frost School of Music.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

MKP 812. Master's Recital. 1 Credit Hour.

The student enrolls for recital credit during the semester in which he/she presents the master's recital.

Requisite: Frost School of Music.

Components: PRA.

Grading: SUS.

Typically Offered: Fall & Spring.

MKP 813. Master's Pedagogy Project. 1-3 Credit Hours.

The student working on his/her master's pedagogy project enrolls for credit as determined by his/her advisor. Credit is not awarded until the project paper is accepted.

Requisite: Frost School of Music.

Components: THI.

Grading: SUS.

Typically Offered: Fall & Spring.

MKP 814. Artist Diploma Recital. 1 Credit Hour.

The student enrolls for recital credit during the semester in which s/he presents the Artist Diploma recital.

Components: THI.

Grading: SUS.

Typically Offered: Fall & Spring.

MKP 815. Masters Second Recital. 1 Credit Hour.

The second recital in the masters degree as an elective option as approved by an advisor. The program should consist of memorized solo piano repertoire, with an optional inclusion of representative chamber or concerto repertoire instead of, or in combination with, the solo repertoire.

Components: THI.

Grading: SUS.

Typically Offered: Fall & Spring.

MKP 820. Research in Residence. 1 Credit Hour.

Used to establish research in residence and maintain full-time enrollment for the master's degree after the student has completed the required hours of thesis or project credit.

Requisite: Frost School of Music.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

MKP 831. Doctoral Essay. 1-12 Credit Hours.

Required of all candidates for the D.M.A. The student will enroll for credit as determined by his/her advisor, but not for less than a total of 12. Not more than 12 hours of MKP 731 may be taken in a regular semester, nor more than six in a summer session.

Requisite: Frost School of Music.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

MKP 832. Doctoral Recital. 1-2 Credit Hours.

Required of all candidates for the D.M.A.

Requisite: Frost School of Music.

Components: PRA.

Grading: SUS.

Typically Offered: Fall & Spring.

MKP 850. Research in Residence. 1 Credit Hour.

Used to establish research in residence and maintain full-time enrollment for the DMA after the student has completed the required hours of doctoral essay credit.

Requisite: Frost School of Music.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

MKP HC1. Harpsichord. 2 Credit Hours.

1-hour lesson and 50 minute studio class for harpsichord students.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP HC3. Harpsichord. 2 Credit Hours.

1-hour lesson and 50 minute studio class for harpsichord students

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP HC5. Harpsichord. 1-4 Credit Hours.

Requires successful completion of an undergraduate degree in piano performance, and approval of student's advisor (studio teacher). Course may be taken for 2 credits (1-hour lesson) or 1 credit (30-minute lesson) as part of Artist Diploma. The course covers private instruction on harpsichord-related performance techniques and repertory. The level of repertory will be determined by instructor based on the student's performance level. A jury examination in front of a faculty committee is required each semester for students taking the course for 2 credits.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP HC6. Harpsichord. 1-4 Credit Hours.

Requires successful completion of an undergraduate degree in piano performance, and approval of student's advisor (studio teacher). Course may be taken for 2 credits (1-hour lesson) or 1 credit (30-minute lesson) as part of Masters Degree. The course covers private instruction on harpsichord-related performance techniques and repertory. The level of repertory will be determined by instructor based on the student's performance level. A jury examination in front of a faculty committee is required each semester for students taking the course for 2 credits.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP HC7. Harpsichord. 1-2 Credit Hours.

Requires successful completion of a graduate degree in piano performance, and approval of student's advisor (studio teacher). Course may be taken for 2 credits (1-hour lesson) or 1 credit (30-minute lesson) as part of doctoral degree. The course covers private instruction on harpsichord-related performance techniques and repertory. The level of repertory will be determined by instructor based on the student's performance level. A jury examination in front of a faculty committee is required each semester for students taking the course for 2 credits.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP HCC. Harpsichord. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP HCD. Harpsichord. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP HCF. Harpsichord. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP HCG. Harpsichord. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP HCH. Harpsichord. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP HCS. Secondary Harpsichord. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP ORC. Organ. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Gleason, Method of Organ Playing: selected exercises from Manual Technique, Pedal Exercises and Scales. Repertoire: Gleason, Method of Organ Playing: selected Compositions for Manuals and Pedals; intermediate-level works by Bach, Mendelssohn, Franck, and others; Additional hymn playing techniques.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP ORD. Organ. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Gleason, Method of Organ Playing: selected exercises from Manual Technique, Pedal Exercises and Scales. Repertoire: Gleason, Method of Organ Playing: selected Compositions for Manuals and Pedals; intermediate-level works by Bach, Mendelssohn, Franck, and others; Additional hymn playing techniques.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP ORF. Organ. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Gleason, Method of Organ Playing: selected exercises from Pedal Scales, Broken Chords, Advanced Exercises. Repertoire: Selected compositions by Bach and representative Baroque, Classical, Romantic, and Modern composers. Hymn playing and organ accompanying techniques.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP ORG. Organ. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Nilson, A System of Technical Studies in Pedal Playing for the Organ; selected exercises. Repertoire: Selected works by composers from all style periods, with an emphasis on the French Romantic and Modern French schools. Advanced service-playing techniques.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP ORH. Organ. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Nilson, A System of Technical Studies in Pedal Playing for the Organ; selected exercises. Repertoire: Selected works by composers from all style periods, with an emphasis on the French Romantic and Modern French schools. Advanced service-playing techniques.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP ORS. Secondary Organ. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Gleason, Method of Organ Playing; selected exercises from Manual Technique and Pedal Technique. Repertoire: Gleason, Method of Organ Playing: Compositions for Manuals, Studies and Compositions for Manuals and Pedal; selected chorale preludes and smaller-scale preludes and fugues by Bach, Buxtehude, Brahms, and others; basics of hymn playing.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP PI1. Piano. 2 Credit Hours.

1-hour lesson and 50 minute studio class for piano students. Technical Requirements: To show a comprehensive foundation in basic/advanced keyboard skills. Repertoire: Appropriate repertoire as required.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP PI3. Piano. 2 Credit Hours.

1-hour lesson and 50 minute studio class for piano students. Technical Requirements: Complete Junior Recital as required. Repertoire: Appropriate repertoire as required.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP PI5. Piano. 1-4 Credit Hours.

Requires successful completion of an undergraduate degree in piano performance, and approval of student's advisor (studio teacher). Course may be taken for 2 credits (1-hour lesson) or 1 credit (30-minute lesson) as part of Artist Diploma. The course covers private instruction on performance techniques and repertory. The level of repertory will be determined by instructor based on the student's performance level. A jury examination in front of a faculty committee is required each semester for students taking the course for 2 credits.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP PI6. Piano. 1-2 Credit Hours.

Requires successful completion of an undergraduate degree in piano performance, and approval of student's advisor (studio teacher). Course may be taken for 2 credits (1-hour lesson) or 1 credit (30-minute lesson) as part of masters degree. The course covers private instruction on performance techniques and repertory. The level of repertory will be determined by instructor based on the student's performance level. A jury examination in front of a faculty committee is required each semester for students taking the course for 2 credits.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP PI7. Piano. 1-2 Credit Hours.

Requires successful completion of a graduate degree in piano performance, and approval of student's advisor (studio teacher). Course may be taken for 2 credits (1-hour lesson) or 1 credit (30-minute lesson) as part of doctoral degree. The course covers private instruction on performance techniques and repertory. The level of repertory will be determined by instructor based on the student's performance level. A jury examination in front of a faculty committee is required each semester for students taking the course for 2 credits.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP PIC. Piano. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: To show a comprehensive foundation in basic/advanced keyboard skills. Repertoire: Appropriate repertoire as required.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP PID. Piano. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: To show a comprehensive foundation in basic/advanced keyboard skills. Repertoire: Appropriate repertoire as required.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP PIF. Piano. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Complete Junior Recital as required. Repertoire: Appropriate repertoire as required.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP PIG. Piano. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Complete Senior Recital as required. Repertoire: Appropriate repertoire as required.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP PIH. Piano. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Complete Senior Recital as required. Repertoire: Appropriate repertoire as required.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP PIS. Secondary Piano. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: To show a comprehensive foundation in basic/advanced keyboard skills. Repertoire: Appropriate repertoire as required.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

Kinesiology (KIN)

KIN 100. Leadership, Management, and Ethics in Sports. 3 Credit Hours.

Students will gain an understanding of skills and philosophies of leadership, management, and ethic necessary for a position in the sport industry.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

KIN 105. Introduction to Athletic Training and Sports Medicine. 3 Credit Hours.

In this practical, hands-on course, the students will learn to identify basic sport injuries that afflict the major joints of the body, and review basic methods to treat these injuries. The student will also learn how nutrition, improper biomechanics, and poor training can all impact sport performance. Plus, participants will be given the opportunity to learn and practice techniques or procedures (such as athletic taping or bracing) that may be useful in minimizing the incidence of injury.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

KIN 110. Explorations in Sports Medicine. 3 Credit Hours.

This class will consist of an introduction to the field of Sports Medicine and Exercise Science. Basic information relevant to appropriate exercise prescription, proper nutritional habits, implications on health, longevity and performance will be addressed. Hands-on practical experiences will supplement theoretical concepts learned in the classroom setting.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

KIN 137. Introduction to the Theory, Application, and Practice of Yoga. 2 Credit Hours.

A critical examination of theories underlying yoga practice, benefits of different styles, using specific techniques to target practitioners' needs.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

KIN 140. Introduction to Athletic Training. 2 Credit Hours.

Introduction to the profession of athletic training. Introduction to Athletic Training with emphasis on study of the sports medicine team, legal concerns, nutrition, and pre-participation physicals. Course will discuss the basic principles of injury prevention including the role of conditioning, equipment, and protective padding. Emphasis will be familiarization with various community and university agencies, as well as the University of Miami athletic training staff, and policies and procedures used in the clinic/athletic facilities.

Corequisite: KIN 141. Requisite: Athletic Training, Pre-Athletic Training, and Sophomore Status.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

KIN 141. Introduction to Athletic Training Lab. 1 Credit Hour.

Introduction to clinical athletic training for pre-athletic training major. Hands-on knowledge for the entry level athletic training student. Observation hours in the athletic training room will give the student the opportunity to use the knowledge, skills, and techniques learned in this course. The student must complete 35 clinical observation hours. There is a \$65 lab fee for this class.

Corequisite: KIN 140. Requisite: ATHT, PAT Majors only and a Sophomore Status.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

KIN 145. Responding to Emergencies. 3 Credit Hours.

Students will become familiar with accident, injury, and illness situations, techniques for immediate first aid, and legal parameters involved when administering emergency care. There is a \$45 lab fee for this class.

Requisite: ATHT Majors only and Sophomore Status.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

KIN 150. General Nutrition for Health and Performance. 3 Credit Hours.

Fundamentals and theories of nutrition with a specific focus on nutrition for both sports and fitness.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 155. Biological Bases for Physical Activity and Health. 3 Credit Hours.

This course serves as an introduction to the field of exercise physiology. Students will learn the biological need for physical activity, discuss specific mechanisms on how physical activity reduces disease risk and understand the relationship between physical activity and chronic diseases such as coronary heart disease, obesity, diabetes, cancer, aging and mental health.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 184. Athletic and Sport Injuries. 3 Credit Hours.

Students will become familiar with athletic injuries in sports that occur over the principal joints in the body and the inclusion of anatomical structures that are frequently damaged. Basic operational treatments and rehabilitation programs after surgery will be discussed.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 200. Survey of Sports Administration. 3 Credit Hours.

Students will examine the employment opportunities and skills needed in professional, collegiate, and amateur sports as well as the health and fitness industry.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

KIN 201. Introduction to Sport Administration. 3 Credit Hours.

Basic overview of the fields of sport management. Majors must receive a grade of C or higher.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

KIN 202. Applied Nutrition for Health and Performance. 3 Credit Hours.

The study of nutrition, diet analysis, biochemical processes in energy metabolism, nutrition and health problems, and nutrition as it relates to physical performance. The class will have 3 sections: 1) nutritional links to chronic disease; 2) nutrition before, during and after exercise bout; and 3) nutritional supplements for health and performance.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 203. Introduction to Gaming and Casino Management. 3 Credit Hours.

The course will focus on the management of gaming and casino operations. Gambling has emerged as a major segment of the sport industry, comprising 10% of sport expenditures and injecting over \$20B annually into the economy. Students will be exposed to the managerial requirements and organizational structures of various gaming operations. They will also learn about the history of the gaming industry and its impact on the South Florida and the Caribbean economy. The course will provide an introductory level of knowledge regarding the managerial nuances which make working within the industry unique to the traditional sport business environments.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 206. Sport Facilities and Event Management. 3 Credit Hours.

This course is an overview of the policy and procedures necessary to organize and develop sport events and facilities. In depth review of all programs, functions and procedures necessary for the operation of events and facilities are examined.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 210. Foundations in Athletic Training. 2 Credit Hours.

Students will be introduced to the study of etiology and mechanisms of injury, pathology, and recognition of clinical signs and symptoms of athletic injury. The student must complete 50 clinical observation hours, which are required for the retention process of the Athletic Training Program.

Requisite: Sophomore Standing or Higher.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

KIN 211. Introduction to Campus Recreation. 3 Credit Hours.

This course is an introductory course and provides a broad overview of campus recreation. It will include information on how to plan, and execute programs such as intramurals, club sports and fitness and wellness. Risk management will be stressed in every aspect in the field along with other important topics such as sponsorships, budgeting, and evaluating programs and employees. Students will gain an understanding of what campus recreation is and its importance to a healthy lifestyle on campus.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 212. Elements of Sports Psychology. 3 Credit Hours.

Introduction to the field of sport and exercise psychology by examination of psychological theories and research related to sport and exercise behavior.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 221. Exercise Physiology: Biochemistry and Skeletal Muscle. 3 Credit Hours.

This course will offer an overview of the biochemistry pertaining to neuroendocrine responses, nutrition, and neuromuscular function; as well as the physiological and biochemical plasticity within skeletal muscle associated with various interventions, diseases, injuries, and aging. Majors must receive a grade of B- or higher.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

KIN 222. Exercise Physiology Laboratory Practicum: Neuromuscular. 3 Credit Hours.

This course examines the nature of data collection in exercise physiology. Students will receive information on collection theory and its application to the measurement of a number of physiological systems during exercise. The course is designed to establish a clear linkage between the chronic and acute changes that occur during exercise and the laboratory methods that are used to assess those changes. Co-requisite: KIN 221.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

KIN 230. Medical Terminology and Documentation. 1 Credit Hour.

Terminology, note writing, and documentation techniques in sports medicine. A treatment cycle model will be introduced.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

KIN 232. Basic Human Physiology. 3 Credit Hours.

This course presents a general overview of the major systems of the human organism with an examination of how they function in the human body. Majors must receive B- or higher.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

KIN 233. Basic Anatomy Lab. 2 Credit Hours.

This course presents a general overview of the anatomy of the major body systems, such as the skeletal, muscular, cardiovascular, nervous, digestive, respiratory and reproductive systems as well as the integumentary system and special senses.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

KIN 234. Functional Human Anatomy. 3 Credit Hours.

The study of human anatomy specifically for the sports medicine practitioner.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 235. Personal and Community Health. 3 Credit Hours.

Overview of current strategies and practices for healthy living, including health maintenance and disease prevention.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

KIN 245. Kinesiology. 3 Credit Hours.

Structure and function of Neurology, Osteology, Arthrology and Myology, with emphasis on the mechanics of the movement of the human body.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

KIN 250. Orthopedic Assessment: Lower Extremity. 3 Credit Hours.

Common types of orthopedic/sports dysfunctions to the lower extremity will be discussed. Injuries will be discussed from the following viewpoints: etiology and mechanism of injury, pathology, recognition and evaluation techniques, protocols, and prevention.

Corequisite: KIN 251. Requisite: Athletic Training.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

KIN 251. Orthopedic Assessment: Lower Extremity Lab. 1 Credit Hour.

Techniques used to evaluate orthopedic and sports injuries occurring to the lower extremity. The student must complete 100 clinical education hours. Clinical education hours will emphasize lower extremity orthopedic assessment, goniometry, manual muscle testing techniques, and gait evaluations.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

KIN 256. Globalization of Sport. 3 Credit Hours.

This course will address the intertwined relationship between globalization, sport, and development from a critical global perspective. This course highlights the extent to which contemporary sport cultures are the result of an interplay between local and global forces. We will explore the international character of professional and amateur sports including international competitions, league expansions beyond national boundaries, and the movement of athletes. Course topics include international sport organization, international competition, sport governance, international dispute resolution, international sports law, and new media.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 257. Research Experience in Exercise Physiology. 3 Credit Hours.

This course provides students the opportunity to be immersed in the research process within the discipline of exercise physiology. This includes the entire research process starting with conceptualization of the study and proceeding through research design, implementation (assessment and equipment use), data handling, statistical analysis, and culminating in preparation of manuscripts or presentations.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

KIN 260. Orthopedic Assessment: Upper Extremity. 3 Credit Hours.

Common types of orthopedic/sports dysfunctions to the upper extremity will be discussed. Injuries will be discussed from the following viewpoints: etiology and mechanism of injury, pathology, recognition and evaluation techniques, protocols, and prevention.

Corequisite: KIN 261. Prerequisite: KIN 251. Requisite: Athletic Training.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

KIN 261. Orthopedic Assessment: Upper Extremity Lab. 1 Credit Hour.

Techniques used to evaluate orthopedic and sports injuries occurring to the upper extremity. The student must complete 100 clinical education hours. Clinical education hours will emphasize upper extremity orthopedic assessment, goniometry, and manual muscle testing techniques.

Corequisite: KIN 260.

Components: LAB.

Grading: GRD.

Typically Offered: Spring.

KIN 264. General Medical Conditions Evaluation. 2 Credit Hours.

This class is the study of the clinical signs and symptoms of General Medical conditions that will present to the Certified Athletic Trainer. Emphasis will be placed on the techniques and instrumentation used for performing appropriate evaluation procedures.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

KIN 297. Practicum in Sport Administration. 1-3 Credit Hours.

A comprehensive program of observation and supervised experience for one semester under the direction of a professional in the sports field.

Supervised by Sport Administration program Internship Director. Course only open to Sport Administration Majors & Minors.

Components: PRA.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

KIN 301. Athletic Injuries and Sport First Aid. 3 Credit Hours.

Course will help coaches, camp counselors, teachers, personal trainers, and athletes of all levels to fulfill the role of being a competent first responder to athletic injuries and illnesses. Upon completion of this course, students will have knowledge of basic sport first aid skills, anatomy and sport injury terminology, and knowledge of specific athletic injuries and illnesses. These will include head injuries, sudden illnesses, weather-related problems, upper and lower body musculoskeletal injuries, respiratory emergencies and illnesses, and internal injuries. Students will also learn basic hands-on skills such as splinting, taping, and bracing as it relates to preventing and treating athletic injuries.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

KIN 302. Sport Marketing. 3 Credit Hours.

This course is designed as a marketing course that deals exclusively with Sport Marketing. Students are expected to develop comprehensive marketing and sponsorship plans. This course will require moderate to heavy computer knowledge. This course is designed to maximize the practical applications of marketing theory to the sport business environment.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 305. Careers in Sports. 3 Credit Hours.

This course is designed to provide a basic overview of careers in the sports industry. Students will develop an understanding of the foundations of sport administration and various topics related to the professional growth within this field. The course will also provide basic fundamentals and skills to prepare students for potential employment within the sports world.

Components: DIL.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

KIN 306. Essential Leadership in Sports and the Professions. 3 Credit Hours.

A variety of leadership and management skills will be examined, including communication, problem solving, conflict management, group dynamics, and leadership theory. Practical application to sport and allied professions will be included. Self-assessment opportunities and exercises will be utilized.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 308. Ethical Decision Making in Sport and the Professions. 3 Credit Hours.

This course will examine ethical dilemmas in decision-making and other contemporary issues in sports management and campus and community environment. Real and hypothetical situations will be utilized. This course is a designated Upper Level Communication Requirement. Advanced written, digital and/or oral communication proficiencies will be emphasized in this course. Credit for ENG 105 and ENG 106 (or equivalent) is required for this course.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

KIN 310. Adolescent Growth and Maturation. 3 Credit Hours.

This course is an in-depth study of pediatric exercise physiology with special emphasis on growth, maturation, physical activity, and performance. Topics include a comprehensive summary of biological growth and maturation, processes that impact physical performance. Additionally, students will learn the basis of training pediatric populations.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 321. Introduction to Systemic Exercise Physiology. 3 Credit Hours.

The structure, function, and training of the cardiorespiratory system. Special emphasis on structural changes in the systems with exercise and their influence on cardiovascular performance, body composition, exercise efficiency and health.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

KIN 322. Exercise Physiology Laboratory Practicum: Cardiorespiratory. 3 Credit Hours.

This course concentrates on collection of cardiorespiratory data. In addition, the application of these data to exercise prescription for specific athletic and non-athletic populations will be covered. Corequisite: ESS 321.

Components: LAB.

Grading: GRD.

Typically Offered: Spring.

KIN 330. Medical Terminology. 3 Credit Hours.

Terminology, note writing, and documentation techniques in sports medicine/athletic training.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

KIN 340. Strength and Conditioning. 3 Credit Hours.

Introduction to Sport Specific Strength Training. Students will learn the practice of Olympic Weight Lifting and related exercise techniques.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

KIN 344. Gross Anatomy for Kinesiology and Sport Sciences. 3 Credit Hours.

Human dissection of the major muscles, arteries and nerves of the body.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 345. Kinesiology. 3 Credit Hours.

Structure and function of the skeletal, joint, and muscular systems, with emphasis on the mechanics of the movement of the human body and its relationship to sport and physical performance.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 365. Exercise Programming. 3 Credit Hours.

This class is the study of the theory and principles behind the development of exercise programs. Students will learn how to accurately evaluate and develop individual exercise prescription based upon sound scientific research. Exercise prescriptions will be developed in accordance with the guidelines set forth by the National Strength and Conditioning Association and the American College of Sports Medicine. This course is a designated Upper Level Communication Requirement; Advanced written, digital and/or oral communication proficiencies will be emphasized in this course. Credit for ENG105 and ENG106 (or equivalent) is required for this course.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

KIN 366. Exercise Physiology Laboratory: Assessment. 3 Credit Hours.

This lab course is designed to complement the ESS 365 lecture course (Principles of Exercise Prescription): Cardiovascular. Students will apply practical field assessments for body composition, aerobic capacity, muscular fitness, and joint range of motion, and will employ exercise strategies to improve each of the assessed fitness components. Students will also prescribe exercises to improve performance-based fitness, such as coordination, balance, agility, speed and power while learning proper exercise training techniques. Must be a declared Exercise Physiology (EXPH) major and receive a grade of "C" or better to satisfy requirements.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 370. Sociocultural Aspects of Athletic Training and Sports Medicine. 3 Credit Hours.

Sports Medicine can produce the "perfect storm" of unique medical situations that lead to ethical dilemmas. This class will explore topics of professional and moral behavior, cultural competence, foundational behaviors of professional practice, and ethical decision-making in the fields of Athletic Training and Sports Medicine. Students will be required to read numerous case studies and novels that depict these issues.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

KIN 399. Neuromuscular Basis for Training. 3 Credit Hours.

A critical examination of neuromuscular training techniques, their strengths, weaknesses and scientific bases.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 401. Legal Aspects of Sport. 3 Credit Hours.

This course will focus on legal issues applicable to sport administration, including tort law, risk management, negligence, and constitutional law. Relevant legal cases and concepts will be incorporated.

Prerequisite: KIN 201 + Sophomore or Higher.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

KIN 402. Sport Sponsorship and Promotion. 1-3 Credit Hours.

This course is designed to provide a detailed examination of the relationship between sport and corporate sponsorship. Topics covered will include the theoretical premise of sponsorship, alignment marketing, strategic communication through sponsorship, determining the value of sponsorship, and evaluation of sponsorship activities. Perspectives from the property offering a sponsorship and from the organization functioning as the sponsor will be considered.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

KIN 403. Sport Information Management. 3 Credit Hours.

This course centers upon the development of those skills that are necessary for Sport Information Directors. Specifically, these traditionally include marketing, media, promotion, and public relations. This course hopes to provide detailed knowledge to allow the student to participate in these activities in a professional manner.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

KIN 405. Finance and Budget in Sport Administration. 3 Credit Hours.

This course seeks to develop those financial skills necessary to understand a wide variety of financial concepts that impact sport managers. Such topics would include but not be limited to: Sport franchise value/valuations; economic impact of sport; risk-return models; financial statement analysis, and budgeting.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

KIN 410. Problems and Issues in Sport Administration. 3 Credit Hours.

This course is designed as a seminar course. Topical issues in high school, collegiate and professional sport are presented and discussed in detail. A number of student-centered activities are introduced to aid in the development of the student.

Requisites: SPAD Majors and Senior Status.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

KIN 412. Psychophysiology. 3 Credit Hours.

The study of the physiological effects of acute vs. chronic training on homeostatic function, musculoskeletal systems, energy system function, cardiovascular system, and the pulmonary system. Students will be able to understand and interpret terminology and research literature published in the field.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

KIN 415. Evidence Based Sports Medicine. 3 Credit Hours.

This course will introduce the student to clinical epidemiology and the evaluation of the efficacy of prevention, diagnostic, and treatment strategies in athletic training and sport medicine.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

KIN 416. Research Methods in Exercise Physiology. 3 Credit Hours.

This course will introduce the student to clinical epidemiology and the evaluation of the efficacy of prevention, diagnostic, and treatment strategies in exercise physiology and related professions.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

KIN 417. Research Methods for the Sport Sciences. 3 Credit Hours.

This course seeks to provide a full introduction to research methods in sport studies.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

KIN 421. Advanced Systemic Exercise Physiology. 3 Credit Hours.

This course examines the short and long term physical responses to exercise and provides a general overview of the field of exercise physiology with reference to the latest trends in modern physiological research.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

KIN 435. Clinical Biomechanics for Sport Medicine Professionals.. 3 Credit Hours.

A lecture course stressing the biomechanics of joints and pathomechanics of orthopedic injuries.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Summer.

KIN 443. Clinical Athletic Training Lab I. 2 Credit Hours.

The application of athletic training practices in selected clinical education settings. The student must complete 150 hours of documented clinical education hours, which apply toward the graduation requirement of 1000 hours. Clinical education hours will emphasize emergency procedures, first aid, and protective equipment. Prerequisite: Successful completion of the retention process and formal admittance into the clinical portion of the Athletic Training Program. Students are required to return to campus for pre-season orientation prior to the start of the school year.

Requisite: ATHS Majors Only.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 444. Clinical Athletic Training Lab II. 2 Credit Hours.

The application of athletic training practices in selected clinical and educational settings. The student must complete 150 hours of documented clinical education hours, which apply toward the graduation requirement of 1000 hours. Clinical education hours will emphasize general medical conditions, nutritional issues, psychosocial intervention, and injury prevention and risk management. Depending on the student's clinical education rotation, students may be required to start their clinical education hours prior to the start of the semester.

Prerequisite: KIN 443.

Components: LAB.

Grading: GRD.

Typically Offered: Spring.

KIN 455. Clinical Athletic Training Lab III. 2 Credit Hours.

The application of athletic training practices in selected clinical and educational settings. The student must complete 150 hours of documented clinical education hours, which apply toward graduation requirement of 1000 hours. Clinical education hours will emphasize acute care of injuries and illnesses, lower extremity orthopedic assessment, and risk management and injury prevention. Students are required to return to campus for pre-season orientation prior to the start of the school year.

Prerequisite: KIN 444.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

KIN 456. Clinical Athletic Training Lab IV. 2 Credit Hours.

The application of athletic training practices in selected clinical and educational settings. The student must complete 150 hours of documented clinical education hour. Clinical education hours will emphasize upper extremity orthopedic assessment, conditioning and rehabilitation, and therapeutic modalities. Depending on the student's clinical education rotation, students may be required to start their clinical education hours prior to the start of the semester.

Prerequisite: KIN 455.

Components: LAB.

Grading: GRD.

Typically Offered: Spring.

KIN 457. Practicum in Kinesiology and Sport Sciences. 1-3 Credit Hours.

A comprehensive program of observation and supervised experience under the direction of a professional in the field for one semester. Supervised by University faculty. This course is a designated Upper Level Communication Requirement; Advanced written, digital and/or oral communication proficiencies will be emphasized in this course. Credit for ENG105 and ENG106 (or equivalent) is required for this course.

Components: PRA.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

KIN 458. Practicum in Kinesiology and Sport Sciences. 3 Credit Hours.

A comprehensive program of supervised experience conducted under the direction of a professional in the field. Must culminate in research or hands-on experience conducted in the exercise science field.

Components: PRA.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 461. Therapeutic Modalities. 2 Credit Hours.

Students will acquire the theoretical knowledge necessary for the clinical application of therapeutic modalities. Principles of electrophysics and biophysics, specific physiological effects and therapeutic indications and contraindications associated with cyotherapy, paraffin, ultrasound, electrotherapeutic and hydrotherapeutic modalities, intermittent compression, massage, and other contemporary modalities will be discussed.

Corequisite: KIN 462. Requisite: Athletic Training.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

KIN 462. Therapeutic Modalities Laboratory. 1 Credit Hour.

This laboratory will help students apply the techniques and clinical skills related to the application of therapeutic modalities. Clinical education hours will give the student the opportunity to use the knowledge, skills, and techniques learned in this course. Students must complete 50 hours of documented clinical education hours.

Corequisite: KIN 461.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

KIN 463. Therapeutic Rehabilitation. 2 Credit Hours.

Students will acquire the theoretical knowledge for the clinical application of a rehabilitation program, physical examination, principles of therapeutic exercise, open and closed chain exercise, muscle reeducation, and special therapeutic techniques such as aquatic therapy.

Corequisite: KIN 464. Requisite: Athletic Training.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

KIN 464. Therapeutic Rehabilitation Laboratory. 1 Credit Hour.

This laboratory will place emphasis on the techniques and clinical skills relating to the rehabilitation of athletic injuries. Clinical education hours in a therapeutic rehabilitation facility will give the students the opportunity to use the knowledge, skills, and techniques learned in this course. The student must complete 100 hours of documented clinical education hours, which apply toward the clinical education requirement for graduation.

Corequisite: KIN 463.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

KIN 465. Pharmacology. 1 Credit Hour.

Introduction to the basic principles of pharmaceutical intervention and the implications for rehabilitation as related to the Certified Athletic Trainer.

Requisite: ATHS Majors Only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

KIN 470. Administrative Aspects of Athletic Training. 2 Credit Hours.

Basic concepts of legal liability, budget, financial management, inventory control, facilities design and maintenance will be addressed. Additionally, the student will discuss the day to day supervision, scheduling and general administration of the athletic training facility.

Requisite: ATHS Majors Only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

KIN 473. Sports Governance. 3 Credit Hours.

This course provides the students with an examination of the governing organizations of sport at the youth, secondary, intercollegiate, professional, international, sport specific and olympic levels. In addition, policy development in sport management will be explored.

Components: LEC.

Grading: GRD.

KIN 476. Seminar in Athletic training. 2 Credit Hours.

Topics in Athletic Training with discussions covering the NATA competencies and objectives in written and oral practical formats. Students will be required to register and take the BOC exam as a class requirement. Approx. cost \$350.00

Components: SEM.

Grading: GRD.

Typically Offered: Spring.

KIN 477. Advanced Nutrition for Health and Fitness. 3 Credit Hours.

This course is an in-depth study of nutritional concerns of today's athlete. From dehydration to classic carbohydrate loading and from the Female Athlete Triad to ergogenic aids in sports, this course provides state of the art information on the latest nutritional issues for the exercising individual and for the athlete.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

KIN 488. Gross Anatomy. 3 Credit Hours.

The essentials of Myology, Osteology, and Arthrology. Major nerves and arteries are also dissected. Many of the dissection areas are major injury sites in sports such as the knee, shoulder, elbow, neck and spinal areas. There is a laboratory fee of \$100 required for this course.

Requisite: ATHS Majors Only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

KIN 490. Special Topics in Kinesiology and Sports Sciences. 3 Credit Hours.

This course is designed for students wishing to focus on a specific area of study within the umbrella of the field of Kinesiology. Students will be given supervision and support in a direction relevant to their needs and interests in a structured setting.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

KIN 491. Undergraduate Teaching Assistant Training in KIN. 1-3 Credit Hours.

This course involves training and teaching assistant experience under the supervision of faculty. Students will have the opportunity to assist faculty and/or doctoral students in the teaching of clinical laboratory and/or undergraduate theory courses offered in the KIN department.

Components: PRA.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

KIN 492. Undergraduate Teaching Assistant Training in KIN II. 1-3 Credit Hours.

This course involves training and teaching assistant experience under the supervision of faculty. Students will have the opportunity to assist faculty and/or doctoral students in the teaching of clinical laboratory and/or undergraduate theory courses offered in the KIN department.

Components: PRA.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

KIN 493. Undergraduate Research Assistant Training in KIN. 1-3 Credit Hours.

This course entails research training for a specific topic in the areas of Kinesiology under the supervision of faculty. It will enable the student to understand the fundamentals of following up on a research question, setting up research design and following up with data collection for the purposes of acquiring clinical training and/or assisting in manuscript preparation.

Components: PRA.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

KIN 494. Undergraduate Research Assistant Training in KIN II. 1-3 Credit Hours.

This course entails research training for a specific topic in the areas of Kinesiology under the supervision of faculty. It will enable the student to understand the fundamentals of following up on a research question, setting up research design and following up with data collection for the purposes of acquiring clinical training and/or assisting in manuscript preparation.

Components: PRA.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

KIN 495. Individual Study. 1-3 Credit Hours.

The Application for Admission to Advanced Individual Study Form will be required.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

KIN 496. Individual Study. 1-3 Credit Hours.

The Application for Admission to Advanced Individual Study Form will be required.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

KIN 497. Internship in Sport Administration. 1-9 Credit Hours.

KIN 497: Internship in Sport Administration Filed Experience that requires the student to participate in the work environment (Formally ESS 497).

Requisites: SPAD Majors and Senior Status.

Components: PRA.

Grading: GRD.

Typically Offered: Fall.

KIN 498. Seminar in Sport Administration. 3 Credit Hours.

Professional seminar to accompany internship in sport administration. Students will be required to interact with other internship students and supervisors on a regular basis and additionally, students will be required to submit comprehensive reports regarding their internship experiences. This course is a designated Upper Level Communication Requirement; Advanced written, digital and/or oral communication proficiencies will be emphasized in this course. Credit for ENG105 and ENG106 (or equivalent) is required for this course.

Requisites: SPAD Majors and Senior Status.

Components: PRA.

Grading: GRD.

Typically Offered: Spring.

KIN 502. Sport Sponsorship and Promotion. 1-3 Credit Hours.

This course is designed to provide a detailed examination of the relationship between sport and corporate sponsorship. Topics covered will include the theoretical premise of sponsorship, alignment marketing, strategic communication through sponsorship, sponsorship sales and service, determining the value of sponsorship, and evaluation of the Olympics will be examined in-depth. Objectives, risks, and benefits from the property or platform offering a sponsorship and from the sponsoring organization will be considered.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

KIN 503. Advanced Sport Information Management. 3 Credit Hours.

This course examines the complex fields of sport communication. Students will investigate the unique, symbiotic relationship that exist between sport and the media; examine various theoretical framework (e.g., agenda set, hegemonic, uses and gratification, elaboration likelihood model) that are pertinent to developing an understanding of the sport/media complex.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

KIN 515. Nutrition Diet and Exercise. 3 Credit Hours.

Students will learn the latest concepts in weight management, physical fitness, and healthy eating. They will be able to understand the complex interplay of carbohydrates, protein, fat, water, fiber, vitamins, and minerals in the nourishment of their body and overall well-being. They will also examine serious health issues such as the use/misuse of anabolic steroids, weight control, and eating disorders.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

KIN 520. Cellular Exercise Physiology. 3 Credit Hours.

The course examines Bioenergetics and Muscular Physiology in training and detraining. Topics include the energy systems and their functional application during exercise, muscle structure and function, cellular and sub-cellular modifications of organelles and contractile mechanisms as result of training and physiological bases of training techniques.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

KIN 521. Advanced Systemic Exercise Physiology. 3 Credit Hours.

The study of the physiological effects of acute vs. chronic training on homeostatic function, musculoskeletal systems, energy system function, cardiovascular and the pulmonary systems. Students will be able to understand and interpret terminology and research literature published in the field.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

KIN 522. Basic Statistics in Kinesiology and Sport Sciences. 3 Credit Hours.

Introduction to basic statistical techniques commonly used in the Exercise and Sport Sciences. Designed as a prerequisite for KIN 646 (Formally ESS 646).

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Summer.

KIN 523. Athletic Training Techniques - Assessment. 3 Credit Hours.

This course will introduce the basic concepts related to injury evaluation. With this information, and with the development of basic skills, the student should be able to form an impression of the nature of most musculoskeletal injuries.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

KIN 524. Athletic Training Techniques - Rehabilitation. 3 Credit Hours.

This course will introduce theoretical concepts that must be understood in order to be able to rehabilitate a musculoskeletal injury. Regarding actual rehabilitation techniques, the emphasis will be on therapeutic exercise with only a brief introduction to therapeutic modalities.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

KIN 525. Advanced Kinesiology. 3 Credit Hours.

In-depth study of the human skeletal and muscular systems with a focus on the mechanics of movement as related to physical activity, sports, and athletics.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 527. Community and Global Nutrition. 3 Credit Hours.

This course is designed to provide an overview of nutritional issues & related aspects of infectious and chronic disease impacting the health and performance of athletes, individuals & groups domestically & globally. Economic and environmental issues which impact nutritional status and deficiency in the Western societies & third world countries will be addressed. An international and cultural perspective on food, eating behaviors and customs will be explored.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 530. Laboratory Techniques in Functional Evaluation of Skeletal Muscle. 3 Credit Hours.

This course examines the theories of data collection and collection techniques used to evaluate musculo-skeletal and neuromuscular function. The application of both computerized and non-computerized collection systems for performance evaluation is covered. The course is also designed to establish a clear linkage between the acute and chronic musculo-skeletal and neuromuscular changes that occur during exercise and the laboratory methods used to assess those changes. Collection theory, musculoskeletal and neuromuscular function, methods of strength evaluation, anaerobic power testing, electromyography, and a number of other functional parameters will be discussed.

Components: LAB.

Grading: GRD.

Typically Offered: Spring.

KIN 531. Laboratory Experiences in Systemic Exercise Physiology. 3 Credit Hours.

This course provides a laboratory assessment of physiological principles and theories learned in the classroom setting. Focus will be on systemic application to exercise as an acute or chronic stressor. Corequisite: ESS 521.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

KIN 532. Sports Injuries: Prevention and Treatment. 3 Credit Hours.

Prevention, diagnosis, treatment and rehabilitation of sports injuries. Anatomical and Kinesiological application to sports injuries.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 534. Integrative and Functional Nutrition. 3 Credit Hours.

This course will discuss integrative and functional medicine and how it emerged. This course will analyze the healthcare models that include personalized care and the whole-person perspective. In this course we will discuss various factors that influence disease including diet and nutrition, stress, activity level, pharmaceuticals and environmental pollutants. Alternative approaches to treatment will also be discussed.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

KIN 535. Clinical Biomechanics for Sport Medicine Professionals. 3 Credit Hours.

A lecture course stressing biomechanics of joints and pathomechanics of orthopedic injuries.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Summer.

KIN 536. Strength and Conditioning I. 3 Credit Hours.

This course serves as the practical/technical foundation for major compound movements and Olympic lifts. It also provides comprehension of movement specific dynamic warm-ups, advanced stretching techniques, methods for identifying movement compensations and underlying issues as well as evaluating Olympic techniques. Due to the practical nature of the course, all the sections of this course are held in the Hecht Athletic Center (HAC).

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 537. Strength and Conditioning II. 3 Credit Hours.

This course is the continuation of Strength and Conditioning I (KIN 536). It provides more advanced Olympic weightlifting techniques and ballistic training, alongside a continued focus on corrective exercises to ensure a reduced risk of injury. The course also provides an introduction to exercise programming including specialized training techniques for athletic development. Due to the practical nature of the course, all sections of this course are held in the Hecht Athletic Center (HAC).

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 538. Nutrition during the Lifecycle. 3 Credit Hours.

This course is designed to examine the changes in nutrition requirements during the life cycle, particularly as related to growth, development and aging. Psychosocial, cultural, and economic issues related to food intake at various life stages will be reviewed.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

KIN 539. Dietary Supplements and Human Performance. 3 Credit Hours.

Evidence-based examination of supplements, food phytochemicals, and their relation to disease & performance.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

KIN 540. Exercise Psychobiology. 3 Credit Hours.

This course is designed primarily for graduate level Exercise and Sport science students who are interested in the biochemical basis of personality as affected by exercise and sport. The course involves interdisciplinary integration and comprehensive reviews of ancient and current literature dealing with exercise, stress, emotional, personality, immune system function and neuroendocrine function.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 541. Neurophysiology in Exercise Science. 3 Credit Hours.

Examination of the functions of the central, peripheral, and autonomic nervous systems in regulating exercise homeostasis and the structural and functional modifications to the systems through training. NOTE: This course is a writing intensive course. This means that all examinations and papers include a critical evaluation of the student's ability to convey information using the written word.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

KIN 542. Strength and Conditioning. 3 Credit Hours.

A comprehensive overview of strength and conditioning.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 543. Professional Training and Counseling for Integrative Health. 3 Credit Hours.

Students will learn the integrative health care model, theories, behavior change models, approaches & techniques used in nutritional counseling to help athletes, individuals and groups implement and sustain behaviors, lifestyles, and attitudes to achieve optimal health. Lecture & personal application will allow for the development of skills in each of these areas.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

KIN 545. Special Sport Populations. 3 Credit Hours.

This course presents an in-depth examination of chronic conditions and medical problems commonly observed in athletes. Students will learn about the etiology of the medical condition, how exercise affects the condition, and the most recent therapeutic treatments prescribed for the condition.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

KIN 546. Elite Conditioning I. 3 Credit Hours.

Elite Conditioning I provides an introduction to evaluation techniques catered specifically to the athletic population including tests for strength, power, speed, agility, balance and stability. The course also provides instruction on how to apply these evaluations to their respective sports/positions. These evaluation techniques provide data that students will use in the process of corrective exercise prescription. Students are taught how to implement corrective strategies to improve athletic performance. Due to the practical nature of the course, all sections of this course are held in the Hecht Athletic Center(HAC).

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 547. Elite Conditioning II. 3 Credit Hours.

Elite Conditioning II is the continuation of Elite Conditioning I (KIN 546). This course provides students with an understanding of the design and implementation of periodized conditioning programs for athletes based on the testing, evaluation, and applications to specific sports learned in Elite Conditioning I. The course focuses on speed agility and quickness for sports. It also includes practical implementation of ballistic, plyometric, speed, and conditioning drills emphasizing evidence based methods and training techniques. Due to the practical nature of the course, all sections of this course are held in Hecht Athletic Center(HAC).

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 549. Nutrition Assessment and Lab. 3 Credit Hours.

Application of the principles of normal and therapeutic nutrition, nutrition assessment, evaluation and intervention as related to sports performance and the management and treatment of disease states. Laboratories will allow for the development of skills in each of these areas.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

KIN 550. Nutrition Biochemistry. 3 Credit Hours.

To learn the fundamental biochemical structure and pathways governing nutrient intake and utilization. Students will learn how major forms of nutrients (macronutrients, vitamins, minerals and trace elements) are processed and utilized by different organs with a particular emphasis on muscle metabolism. Students will also learn how to relate their newly acquired knowledge to health and disease outcomes with focus on lifestyles disease related to metabolism such as diabetes and obesity.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 555. Medical Nutrition Therapy. 3 Credit Hours.

The role of nutrition in the prevention and treatment of various disease states including diabetes, cardiovascular disorders, endocrine and gastrointestinal disorders, enteral feeding, renal disease, cancer and AIDS/HIV, and weight management. This course instructs on the use of the Nutrition Care Process for assessment and documentation.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

KIN 557. Diagnostic Imaging Techniques in Sports Medicine. 3 Credit Hours.

This course is designed as an elective for undergraduate KIN students or graduate students. The basic physics of radiological imaging will be covered including radiology, fluoroscopy, CT scan, ultrasound, MRI, and nuclear medicine including image archiving. Normal anatomy will be compared to the corresponding radiographic anatomy. Common sports injuries will be evaluated by multiple radiographic modalities and will be correlated with the clinical condition. Discussion will include bony pathology as well as soft tissues such as ligaments, tendons, and menisci.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

KIN 561. Facility Management. 3 Credit Hours.

Facility management provides students with an understanding of fitness entrepreneurship, giving students a comprehensive understanding of the laws, regulations, policies, and work involved in setting up a fitness facility such as a gym, wellness center, or athletic training center. Students are responsible for developing a viable sports or fitness complex including all aspects of administrative and facility management.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 562. Fiscal Management in Sport Administration. 3 Credit Hours.

Fiscal management as related to athletic sports administration, recreation and leisure sports administration, and physical education.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

KIN 563. Facilities and Event Management. 3 Credit Hours.

This course is designed to introduce students to principles and practices of planning, funding and managing facilities associated with sports participation including professional sport venues, college sports, parks, recreational sport and health/fitness clubs. Students will gain an understanding of promoting, marketing, and maintaining sport facilities.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

KIN 564. Principles of Sport Marketing. 3 Credit Hours.

This course will focus on the vast world of sports marketing. The basic principles of marketing and marketing management will be introduced and integrated with application of these principles to sport and sports-related organizations.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 565. Legal Aspects of Sports and Exercise Science. 3 Credit Hours.

Legal liability, personal injury, negligence and other related legal aspects of sports and exercise science.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

KIN 566. Organization and Administration of Sports Programs. 3 Credit Hours.

Administrative and organizational procedures and problems specific to athletic administration, recreation and leisure sports administration, and physical education.

Components: DIL.

Grading: GRD.

Typically Offered: Fall.

KIN 567. Elements of Sports Psychology. 3 Credit Hours.

Introduction to the study of sport and exercise psychology including theory, current research and practical application.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

KIN 568. Developmental Sports Psychology. 3 Credit Hours.

Examination of the concept of sport psychology which includes but is not limited to performance, enhancement, student performance and academic application.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

KIN 569. The Foundations of Exercise Prescription. 3 Credit Hours.

Students will learn various assessments of Health and Wellness, and discover how to most effectively prescribe exercise strategies to treat the diagnosed needs of an individual.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 570. Advanced Programming. 3 Credit Hours.

Advanced programming allows students to dissect sports by movement, metabolism and limitation. The course investigates current trends and evidenced based applications of specific training techniques for optimal sport performance. Students will perform complete sports analysis and develop periodized programs for major sports.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 571. Sport Industry in South Florida. 3 Credit Hours.

This course will examine the various sport based organizations/events that are part of the sport industry in South Florida. Study of these organizations/events will include (a) products/services produced, (b) organizational structure, (c) economic impact on the local community, (d) key management personnel, (e) physical facilities, and (f) internship/employment opportunities.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

KIN 572. Creative Approaches to Problem Solving and Conflict Management. 3 Credit Hours.

This hands-on course will examine the concepts of problem solving and conflict management from both personal and organizational perspectives. Students will have the opportunity to study in-depth both of these concepts (and the relationship between them) through a combination of lecture, theory, individual and group activities, readings, practical exercises, and self-assessment tools.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

KIN 574. Ethical Decision Making in Sports and the Professions. 3 Credit Hours.

This course will examine ethical decision-making in a variety of environments with an emphasis on sport professions. Real and hypothetical situations will be utilized, and the course will combine theory with practical application. The case method in sport ethics will be incorporated.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 575. Essential Leadership in Sport and the Professions. 3 Credit Hours.

This course will examine the concept of leadership as it pertains to sports and other professions. Various leadership and management skills will be included with a focus on practical applications in a work environment. Theory and self-assessment strategies will be incorporated.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 576. Practical Approach to Motivation and Ethical Decision Making. 1-3 Credit Hours.

A critical study of practical problems of professionals in Exercise and Sport Sciences.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

KIN 577. Advanced Nutrition for Health and Fitness. 3 Credit Hours.

This course presents an in-depth study of the nutritional concerns of today's Recreational and competitive athlete. Topics include dehydration, classic carbohydrate loading, protein needs, ergogenic aids, and more. State-of-the-art research in the field is provided. This is also a writing intensive course. Thus, writing skills will represent an integral part of one's grade.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

KIN 578. Pharmacology for Allied Health Professionals. 3 Credit Hours.

The study of drug families and drugs in common use across spectra of age, illness, disease, and disability. Students will understand body systems treated with current pharmaceuticals over-the-counter (OTC) medications, and nutraceuticals. Actions, key adverse effects, and influences on individuals undergoing physical activity will be emphasized.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

KIN 579. Principles of Exercise Assessment: Cardiovascular. 3 Credit Hours.

This course presents a comprehensive overview of the physical, physiological and metabolic responses of the human body to exercise testing and training both in health and disease. The successful student will gain an understanding of the process involved in prescribing safe and effective therapeutic exercise in healthy individuals as well as patients with heart and lung disease, diabetes and obesity. An overview of environmental and legal considerations in the prescriptive process will also be discussed.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

KIN 580. Principles of exercise Prescription: Neuromuscular. 3 Credit Hours.

An examination of the scientific bases of modern training techniques designed to optimize performance, their functional application and potential impact on performance in sport and everyday activity.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

KIN 581. Issues Specific to Women's Health. 3 Credit Hours.

This course focuses upon the physiological effects of exercise on the female athlete as it relates to her performance and health. Physiological differences between males and females will be examined as it impacts the woman's performance capabilities and potential. Gender specific problems regarding the exercising female will be explored.

Prerequisite: KIN 221 and KIN 321 or KIN 421.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

KIN 582. Psychosocial Issues in Women's Health. 3 Credit Hours.

This course covers a broad perspective of women and their self-esteem, their femininity, and their role in the family household. Attention will be paid to the historical, cultural, and anthropological development of women and their role in society. The influence of gender will explore several areas which include a) pregnancy, b) menopause, c) menstrual cycle, d) stress and career vs. family, e) depression, and f) body image.

Prerequisite: KIN 212.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

KIN 583. Sports Medicine for the Female Athlete. 3 Credit Hours.

This course focuses on the physiological effects of exercise on the female athlete as it relates to her performance and health. Physiological differences between male and female will be examined as it impacts the women's performance capabilities and potential. Gender specific problems regarding the exercising female will be explored.

Prerequisite: KIN 321 or KIN 421.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

KIN 584. Energetics of Obesity. 3 Credit Hours.

This course is designed to evaluate dieting, rebound effect, set point theory, brown fat, and adaptive thermogenesis, as they relate to the etiology of obesity. The course will cover a step-by-step approach in the recognition and management of the overweight patient. This includes determination of basal metabolic rate, thyroid function, determination of percent body fat, quantification of adipocyte number and mass, and research on exercise as a therapeutic intervention. Students will learn to design exercise programs for hypothetical obese patients and the impact of both diet and exercise on long-term weight management.

Prerequisite: KIN 221 or KIN 421.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

KIN 585. Neurological Mechanisms of Metabolism and Weight Regulation. 3 Credit Hours.

This course is designed to evaluate dieting, rebound effect, set point theory, brown fat, and adaptive thermogenesis as they relate to the etiology of obesity. The course will cover a step-by-step approach in the recognition and management of the overweight patient. The course will also examine adipocyte morphology and the health implications of being overweight and obese. Students will examine the impact of both diet and exercise on long-term weight management.

Requisite: Must have 3.0 in the Exercise Physiology Major and a B- or better in KIN 221 and KIN 232.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

KIN 586. Exercise Prescription/Assessment Laboratory. 3 Credit Hours.

This course presents an overview of the laboratory techniques used to assess cardiovascular endurance and general fitness, pulmonary function and anaerobias observed during competition.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

KIN 587. Laboratory Experience in Sports Nutrition. 3 Credit Hours.

This laboratory class provides case study analyses and computerized nutrient analysis systems designed to evaluate nutrition and hydration needs of the recreational and competitive athlete. From urinalysis and blood work, to body composition and computerized nutrient data base systems, this laboratory provides a clinical approach to evaluating the nutrition status of the exercising individual. Corequisite: ESS 577.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

KIN 588. Advanced Gross Anatomy in Kinesiology and Sport Sciences. 3 Credit Hours.

Human dissection of the major muscles, arteries and nerves of the body. Course is held at the University of Miami, Medical Campus, cadaver laboratory. Special consideration is given to injury sites in sports such as the knee, shoulder, elbow, neck and spinal areas. Students are required to pay a \$100 laboratory fee for the class. This course is to be taken by undergraduate Athletic Training majors and for the 5- year Sports Medicine with a Concentration in Athletic Training program students only.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

KIN 589. Directed Readings in Kinesiology and Sport Sciences. 3 Credit Hours.

Directed Readings focusing on research and contemporary trends in the field.

Components: PRA.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

KIN 590. Special Topics in Kinesiology and Sport Sciences. 1-3 Credit Hours.

This course is designed for students wishing to focus on a specific area of study within the umbrella of the Kinesiology and Sport Sciences curriculum. Students will be given supervision and support in a direction relevant to their needs and interests in a structured setting.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

KIN 595. Research Honors Project. 2 Credit Hours.

This course has been designed for SEHD students who have been accepted into the Research Honors Program and are working with a faculty mentor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

KIN 596. Research Honors Project. 2 Credit Hours.

This course has been designed for SEHD students who have been accepted into the Research Honors Program and are working with a faculty mentor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

KIN 597. Research Honors Project - Thesis Writing. 2 Credit Hours.

This course has been designed for SEHD students who have been accepted into the Research Honors Program and are working with a faculty mentor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

KIN 598. Research Honors Project - Seminar. 1 Credit Hour.

Seminar section of School of Education & Human Development Research Honors Program. This seminar culminates with the presentation of your research at the Undergraduate Research, Creativity, and Innovation Forum (RCIF).

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

KIN 599. Advanced Programming for Endurance Athletes. 3 Credit Hours.

This course provides students with training techniques to improve aerobic capacity, endurance, and lactate threshold for optimal performance. Students will review evidenced based principles of sports nutrition, strategies to ensure proper hydration, thermoregulation, and fuel (substrate) availability during prolonged exercise as well as develop programs for competitive sports including triathlon, marathon, and cycling.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 601. Organization and Administration of Sport Programs. 3 Credit Hours.

Administrative and organizational procedures and problems specific to athletic administration, recreation and leisure sports administration, and physical education.

Components: DIL.

Grading: GRD.

Typically Offered: Fall.

KIN 602. Fiscal Management in Sport Administration. 3 Credit Hours.

Fiscal management as related to athletic sports administration, recreation and leisure sports administration, and physical education.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 603. Principles of Sport Marketing. 3 Credit Hours.

This course will focus on the vast world of sports marketing. The basic principles of marketing and marketing management will be introduced and integrated with application of these principles to sport and sports-related organizations.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 604. Essential Leadership Skills in Sport. 3 Credit Hours.

This course will examine the concept of leadership as it pertains to sports and other professions. Various leadership and management skills will be included with a focus on practical applications in a work environment. Theory and self-assessment strategies will be incorporated.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 605. Sport Sponsorship and Promotion. 3 Credit Hours.

This course is designed to provide a detailed examination of the relationship between sport and corporate sponsorship. Topics covered will include the theoretical premise of sponsorship, alignment marketing, strategic communication through sponsorship, sponsorship sales and service, determining the value of sponsorship, and evaluation of sponsor activities. Individual athlete endorsement and mega-event sponsorship such as the Olympics will be examined in-depth. Objectives, risks, and benefits from the property or platform offering a sponsorship and from the sponsoring organization will be considered.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

KIN 606. Ethical Decision Making in Sports. 3 Credit Hours.

This course will examine ethical decision-making in a variety of environments with an emphasis on sport professions. Real and hypothetical situations will be utilized, and the course will combine theory with practical application. The case method in sport ethics will be incorporated.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 607. Legal Aspects of Sports. 3 Credit Hours.

Legal liability, personal injury, negligence and other related legal aspects of sports and exercise science.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

KIN 608. Advanced Globalization in Sport. 3 Credit Hours.

This course will address the intertwined relationship between globalization, sport, and development from a critical global perspective. This course highlights the extent to which contemporary sport cultures are the result of an interplay between local and global forces. We will explore the international character of professional and amateur sports including international competitions, league expansions beyond national boundaries, and the movement of athletes. Course topics include international sport organization, international competition, sport governance, international dispute resolution, international sports law, and new media.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

KIN 609. Advanced Sport Information Management. 3 Credit Hours.

This course examines the complex fields of sport communication. Students will investigate the unique, symbiotic relationship that exist between sport and the media; examine various theoretical framework (e.g., agenda set, hegemonic, uses and gratification, elaboration likelihood model) that are pertinent to developing an understanding of the sport/media complex.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

KIN 610. Event Management. 3 Credit Hours.

This course is designed to introduce students to principles and practices of planning, funding and managing facilities associated with sports participation including professional sport venues, college sports, parks, recreational sport and health/fitness clubs. Students will gain an understanding of promoting, marketing, and maintaining sport facilities.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

KIN 611. Field Experience in Sport Administration I. 1-3 Credit Hours.

Practical experience not ordinarily available through coursework sequences. Placement in a variety of settings, clinics, public and private voluntary agencies and schools. Supervised by a faculty member of the department.

Components: PRA.

Grading: GRD.

Typically Offered: Fall.

KIN 612. Field Experience in Sport Administration II. 1-3 Credit Hours.

Practical experience not ordinarily available through coursework sequences. Placement in a variety of settings, clinics, public and private voluntary agencies and schools. Supervised by a faculty member of the department.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Summer.

KIN 613. Field Experience in Sport Administration III. 1-3 Credit Hours.

Practical experience not ordinarily available through coursework sequences. Placement in a variety of settings, clinics, public and private voluntary agencies and schools. Supervised by a faculty member of the department.

Components: PRA.

Grading: GRD.

Typically Offered: Summer.

KIN 615. Practical Approach to Motivation and Ethical Decision Making. 1-3 Credit Hours.

A critical study of practical problems of professionals in Exercise and Sport Sciences.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

KIN 616. Advanced Sport Governance. 3 Credit Hours.

This course provides the student with an examination of the governing organizations of sport at the youth, secondary, intercollegiate, professional, international, sport specific and Olympic levels. In addition, policy development in sport management will be explored.

Components: LEC.

Grading: GRD.

Typically Offered: Spring & Summer.

KIN 617. Creative Approaches to Problem Solving and Conflict Management. 3 Credit Hours.

This hands-on course will examine the concepts of problem solving and conflict management from both personal and organizational perspectives. Students will have the opportunity to study in-depth both of these concepts (and the relationship between them) through a combination of lecture, theory, individual and group activities, readings, practical exercises, and self-assessment tools.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

KIN 620. Contemporary Issues in Sport. 3 Credit Hours.

Problem identification, investigation, analysis, and problem solving approaches in Kinesiology and Sport Sciences.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

KIN 621. Advanced Systemic Exercise Physiology. 3 Credit Hours.

The study of the physiological effects of acute vs. chronic training on homeostatic function, musculoskeletal systems, energy system function, cardiovascular and the pulmonary systems. Students will be able to understand and interpret terminology and research literature published in the field.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

KIN 623. Food Science and Management Principles. 3 Credit Hours.

A comprehensive course designed to provide knowledge of food chemistry, safety, service and management.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

KIN 624. Athletic Training Techniques - Manual Therapy. 3 Credit Hours.

This course will introduce theoretical concepts and hands-on techniques to mobilize joints and soft tissue in order to modulate pain, facilitate healing, and restore mobility and function.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

KIN 625. Advanced Kinesiology. 3 Credit Hours.

In-depth study of the human skeletal and muscular systems with a focus on the mechanics of movement as related to physical activity, sports, and athletics.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 626. Nutrition Diet and Exercise. 3 Credit Hours.

Students will learn the latest concepts in weight management, physical fitness, and healthy eating. They will be able to understand the complex interplay of carbohydrates, protein, fat, water, fiber, vitamins, and minerals in the nourishment of their body and overall well-being. They will also examine serious health issues such as the use/misuse of anabolic steroids, weight control, and eating disorders.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

KIN 627. Community and Global Nutrition. 3 Credit Hours.

This course is designed to provide an overview of nutritional issues & related aspects of infectious and chronic disease impacting the health and performance of athletes, individuals & groups domestically & globally. Economic and environmental issues which impact nutritional status and deficiency in the Western societies & third world countries will be addressed. An international and cultural perspective on food, eating behaviors and customs will be explored.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 628. Basic Statistics in Kinesiology and Sport Sciences. 3 Credit Hours.

Introduction to basic statistical techniques commonly used in the Exercise and Sport Sciences. Designed as a prerequisite for KIN 646 (Formally ESS 646).

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Summer.

KIN 630. Cellular Exercise Physiology. 3 Credit Hours.

The course examines Bioenergetics and Muscular Physiology in training and detraining. Topics include the energy systems and their functional application during exercise, muscle structure and function, cellular and sub-cellular modifications of organelles and contractile mechanisms as result of training and physiological bases of training techniques.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

KIN 631. Laboratory Techniques in Functional Evaluation of Skeletal Muscle. 3 Credit Hours.

This course examines the theories of data collection and collection techniques used to evaluate musculo-skeletal and neuromuscular function. The application of both computerized and non-computerized collection systems for performance evaluation is covered. The course is also designed to establish a clear linkage between the acute and chronic musculo-skeletal and neuromuscular changes that occur during exercise and the laboratory methods used to assess those changes. Collection theory, musculoskeletal and neuromuscular function, methods of strength evaluation, anaerobic power testing, electromyography, and a number of other functional parameters will be discussed.

Components: LAB.

Grading: GRD.

Typically Offered: Spring.

KIN 632. Sports Injuries: Prevention and Treatment. 3 Credit Hours.

Prevention, diagnosis, treatment and rehabilitation of sports injuries. Anatomical and Kinesiological application to sports injuries.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 634. Integrative and Functional Nutrition. 3 Credit Hours.

This course will discuss integrative and functional medicine and how it emerged. This course will analyze the healthcare models that include personalized care and the whole-person perspective. In this course we will discuss various factors that influence disease including diet and nutrition, stress, activity level, pharmaceuticals and environmental pollutants. Alternative approaches to treatment will also be discussed.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

KIN 635. Clinical Biomechanics for Sport Medicine Professionals. 3 Credit Hours.

A lecture course stressing biomechanics of joints and pathomechanics of orthopedic injuries.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Summer.

KIN 636. Strength and Conditioning I. 3 Credit Hours.

This course serves as the practical/technical foundation for major compound movements and Olympic lifts. It also provides comprehension of movement specific dynamic warm-ups, advanced stretching techniques, methods for identifying movement compensations and underlying issues as well as evaluating Olympic techniques. Due to the practical nature of the course, all the sections of this course are held in the Hecht Athletic Center (HAC).

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 637. Strength and Conditioning II. 3 Credit Hours.

This course is the continuation of Strength and Conditioning I (KIN 536). It provides more advanced Olympic weightlifting techniques and ballistic training, alongside a continued focus on corrective exercises to ensure a reduced risk of injury. The course also provides an introduction to exercise programming including specialized training techniques for athletic development. Due to the practical nature of the course, all sections of this course are held in the Hecht Athletic Center (HAC).

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 638. Nutrition during the Lifecycle. 3 Credit Hours.

This course is designed to examine the changes in nutrition requirements during the life cycle, particularly as related to growth, development and aging. Psychosocial, cultural, and economic issues related to food intake at various life stages will be reviewed.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

KIN 639. Dietary Supplements and Human Performance. 3 Credit Hours.

Evidence-based examination of supplements, food phytochemicals, and their relation to disease & performance.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

KIN 640. Exercise Psychobiology. 3 Credit Hours.

This course is designed primarily for graduate level Exercise and Sport science students who are interested in the biochemical basis of personality as affected by exercise and sport. The course involves interdisciplinary integration and comprehensive reviews of ancient and current literature dealing with exercise, stress, emotional, personality, immune system function and neuroendocrine function.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 641. Neurophysiology in Exercise Science. 3 Credit Hours.

Examination of the functions of the central, peripheral, and autonomic nervous systems in regulating exercise homeostasis and the structural and functional modifications to the systems through training. NOTE: This course is a writing intensive course. This means that all examinations and papers include a critical evaluation of the student's ability to convey information using the written word.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

KIN 642. Strength and Conditioning. 3 Credit Hours.

A comprehensive overview of strength and conditioning.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 643. Professional Training and Counseling for Integrative Health. 3 Credit Hours.

Students will learn the integrative health care model, theories, behavior change models, approaches & techniques used in nutritional counseling to help athletes, individuals and groups implement and sustain behaviors, lifestyles, and attitudes to achieve optimal health. Lecture & personal application will allow for the development of skills in each of these areas.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

KIN 645. Therapeutic Lifestyle to Combat Chronic Disease. 3 Credit Hours.

This course presents an in-depth examination of chronic conditions and medical problems commonly observed in athletes. Students will learn about the etiology of the medical condition, how exercise affects the condition, how nutrition affects the condition, and the most recent therapeutic treatments prescribed for the condition.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

KIN 646. Elite Conditioning I. 3 Credit Hours.

Elite Conditioning I provides an introduction to evaluation techniques catered specifically to the athletic population including tests for strength, power, speed, agility, balance and stability. The courses also provides instruction on how to apply these evaluations to their respective sports/positions. These evaluation techniques provide data that students will use in the process of corrective exercise prescription. Students are taught how to implement corrective strategies to improve athletic performance. Due to the practical nature of the course, all sections of this course are held in the Hecht Athletic Center(HAC).

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 647. Elite Conditioning II. 3 Credit Hours.

Elite Conditioning II is the continuation of Elite Conditioning I (KIN 546). This course provides students with an understanding of the design and implementation of periodized conditioning programs for athletes based on the testing, evaluation, and applications to specific sports learned in Elite Conditioning I. The course focuses on speed agility and quickness for sports. It also includes practical implementation of ballistic, plyometric, speed, and conditioning drills emphasizing evidence based methods and training techniques. Due to the practical nature of the course, all sections of this course are held in Hecht Athletic Center(HAC).

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 649. Nutrition Assessment and Lab. 3 Credit Hours.

Application of the principles of normal and therapeutic nutrition, nutrition assessment, evaluation and intervention as related to sports performance and the management and treatment of disease states. Laboratories will allow for the development of skills in each of these areas.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

KIN 650. Nutritional Biochemistry. 3 Credit Hours.

To learn the fundamental biochemical structure and pathways governing nutrient intake and utilization. Students will learn how major forms of nutrients (macro-nutrients, vitamins, minerals and trace elements) are processed and utilized by different organs with a particular emphasis on muscle metabolism. Students will also learn how to relate their newly acquired knowledge to health and disease outcomes with focus on lifestyles disease related to metabolism such as diabetes and obesity.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 655. Medical Nutrition Therapy. 3 Credit Hours.

The role of nutrition in the prevention and treatment of various disease states including diabetes, cardiovascular disorders, endocrine and gastrointestinal disorders, enteral feeding, renal disease, cancer and AIDS/HIV, and weight management. This course instructs on the use of the Nutrition Care Process for assessment and documentation.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

KIN 657. Diagnostic Imaging Techniques in Sports Medicine. 3 Credit Hours.

This course is designed as an elective for undergraduate KIN students or graduate students. The basic physics of radiological imaging will be covered including radiology, fluoroscopy, CT scan, ultrasound, MRI, and nuclear medicine including image archiving. Normal anatomy will be compared to the corresponding radiographic anatomy. Common sports injuries will be evaluated by multiple radiographic modalities and will be correlated with the clinical condition. Discussion will include bony pathology as well as soft tissues such as ligaments, tendons, and menisci.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

KIN 661. Facility Management. 3 Credit Hours.

Facility management provides students with an understanding of fitness entrepreneurship, giving students a comprehensive understanding of the laws, regulations, policies, and work involved in setting up a fitness facility such as a gym, wellness center, or athletic training center. Students are responsible for developing a viable sports or fitness complex including all aspects of administrative and facility management.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 662. Fitness Facility Management II. 3 Credit Hours.

Fiscal management as related to athletic sports administration, recreation and leisure sports administration, and physical education.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

KIN 663. Foundations of Athletic Training. 3 Credit Hours.

This course will cover foundational knowledge in Athletic Training with an emphasis on health promotion and injury and disease prevention. Public Health and Epidemiology, Nutrition Health and Wellness, and basic principles of Exercise Physiology will be covered. Students will be required to complete an IPE service learning project with another health professional to promote health, wellness, or physical activity research, practice, and/or policy on campus or at the community, state, or federal level. Prerequisite: American Heart Association BLS CPR/AED certification for the Health Care Providers (or approved equivalent).

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

KIN 664. Orthopedic Assessment 1: Pathophysiology of Injuries. 3 Credit Hours.

This course provides the student with an analysis of the etiology, pathology, and clinical science of muscular and skeletal diseases, disorders, and conditions. An introduction to clinical/laboratory assessment techniques, basic injury management, and knowledge of common imaging and surgical procedures are presented.

Prerequisite: KIN 234.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

KIN 665. Orthopedic Assessment 2: Examination of the Musculoskeletal System. 3 Credit Hours.

This course will prepare students to examine a patient with a musculoskeletal condition by obtaining a pertinent history from the patient, performing relevant systems review, and by selecting appropriate diagnostic tests and measures. The student will be able to synthesize examination data to complete the orthopedic evaluation and engage in the diagnostic process.

Prerequisite: KIN 234.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

KIN 667. Elements of Sports Psychology. 3 Credit Hours.

Introduction to the study of sport and exercise psychology including theory, current research and practical application.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

KIN 668. Developmental Sports Psychology. 3 Credit Hours.

Examination of the concept of sport psychology which includes but is not limited to performance, enhancement, student performance and academic application.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

KIN 669. The Foundations of Exercise Programming. 3 Credit Hours.

Students will learn various assessments of Health and Wellness, and discover how to most effectively prescribe exercise strategies to treat the diagnosed needs of an individual.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 670. Advanced Programming. 3 Credit Hours.

Advance programming allows students to dissect sports by movement, metabolism and limitation. The course investigates current trends and evidenced based applications of specific training techniques for optimal sport performance. Students will perform complete sports analysis and develop periodized programs for major sports.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 671. Sport Industry in South Florida. 3 Credit Hours.

This course will examine the various sport based organizations/events that are part of the sport industry in South Florida. Study of these organizations/events will include (a) products/services produced, (b) organizational structure, (c) economic impact on the local community, (d) key management personnel, (e) physical facilities, and (f) internship/employment opportunities.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

KIN 673. Advanced Sport Governance. 3 Credit Hours.

This course provides the student with an examination of the governing organizations of sport at the youth, secondary, intercollegiate, professional, international, sport specific and Olympic levels. In addition, policy development in sport management will be explored.

Components: LEC.

Grading: GRD.

Typically Offered: Spring & Summer.

KIN 677. Advanced Nutrition for Health and Fitness. 3 Credit Hours.

This course presents an in-depth study of the nutritional concerns of today's Recreational and competitive athlete. Topics include dehydration, classic carbohydrate loading, protein needs, ergogenic aids, and more. State-of-the-art research in the field is provided. This is also a writing intensive course. Thus, writing skills will represent an integral part of one's grade.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

KIN 678. Pharmacology for Allied Health Professionals. 3 Credit Hours.

The study of drug families and drugs in common use across spectra of age, illness, disease, and disability. Students will understand body systems treated with current pharmaceuticals over-the-counter (OTC) medications, and nutraceuticals. Actions, key adverse effects, and influences on individuals undergoing physical activity will be emphasized.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

KIN 679. Principles of Exercise Prescription/Assessment: Cardiovascular. 3 Credit Hours.

This course presents a comprehensive overview of the physical, physiological and metabolic responses of the human body to exercise testing and training both in health and disease. The successful student will gain an understanding of the process involved in prescribing safe and effective therapeutic exercise in healthy individuals as well as patients with heart and lung disease, diabetes and obesity. An overview of environmental and legal considerations in the prescriptive process will also be discussed.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

KIN 680. Principles of exercise Prescription: Neuromuscular. 3 Credit Hours.

An examination of the scientific bases of modern training techniques designed to optimize performance, their functional application and potential impact on performance in sport and everyday activity.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

KIN 681. Development and Maturation of Athletes.. 3 Credit Hours.

This course is an in-depth study of pediatric exercise physiology with special emphasis on growth, maturation, physical activity, and performance. Topics include a comprehensive summary of biological growth and maturation, processes as it impacts physical performance. Additionally, students will learn the bases of pediatric exercise physiology in order to understand the concepts of motor development, strength, aerobic and anaerobic performance in the pediatric population.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

KIN 682. Clinical Pathology and Immediate Primary Care. 3 Credit Hours.

This course will focus on the pathology of non-orthopedic conditions including medical emergencies. Students will be able to recognize common injuries and illnesses, provide immediate treatment interventions, and make medical referrals and transport decisions when necessary. Pre-requisite: KIN663 and Current AHA BLS CPR/AED certification for the Health Care Providers (or approved equivalent as determined by ECC requirements from the BOC).

Prerequisite: KIN 663.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

KIN 684. Obesity, Metabolic Disease, and Inflammation. 3 Credit Hours.

The focus of this course is on the integrative neurophysiological functions that regulate and influence obesity, metabolic disease, and inflammation. Students will be able to understand the role that chronic inflammation plays in the pathology of disease. A combination of lecture, critical reading, and group discussion will be utilized to explore the underlying basis for metabolic abnormalities.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 685. Advanced Topics in Kinesiology and Sport Sciences. 3 Credit Hours.

This course will provide a synthesis of essential concepts in specialty subjects relevant to one's field of interest.

Components: THI.

Grading: GRD.

Typically Offered: Spring & Summer.

KIN 686. Exercise Prescription/Assessment Laboratory. 3 Credit Hours.

This course presents an overview of the laboratory techniques used to assess cardiovascular endurance and general fitness, pulmonary function and anaerobias observed during competition.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

KIN 687. Laboratory Experience in Sports Nutrition. 3 Credit Hours.

This laboratory class provides case study analyses and computerized nutrient analysis systems designed to evaluate nutrition and hydration needs of the recreational and competitive athlete. From urinalysis and blood work, to body composition and computerized nutrient data base systems, this laboratory provides a clinical approach to evaluating the nutrition status of the exercising individual. Corequisite: ESS 577.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

KIN 688. Advanced Gross Anatomy in Kinesiology and Sport Sciences. 3 Credit Hours.

Human dissection of the major muscles, arteries, and nerves of the body. This course is held at the Medical Campus, cadaver laboratory. Special consideration is given to injury sites in sports such as the knee, shoulder, elbow, neck and spinal areas. Students are required to pay a \$100 laboratory fee for the class. This course is to be taken by Athletic Training majors only.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

KIN 689. Directed Readings in Kinesiology and Sport Sciences. 3 Credit Hours.

Directed Readings focusing on research and contemporary trends in the field.

Components: PRA.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

KIN 690. Special Topics in Kinesiology and Sport Sciences. 1-3 Credit Hours.

This course is designed for students wishing to focus on a specific area of study within the umbrella of the Kinesiology and Sport Sciences curriculum. Students will be given supervision and support in a direction relevant to their needs and interests in a structured setting.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

KIN 698. Professional Training and Counseling for Integrative Health. 3 Credit Hours.

Current research in nutrition and nutritional care, nutrition profession, ethics and roles in food service, clinical and community. Seminars designed to cover state-of-the-art overview of current and emerging topics will be presented by invited outside guest speakers.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

KIN 699. Advanced Programming for Endurance Athletes. 3 Credit Hours.

This course provides students with training techniques to improve aerobic capacity, endurance, and lactate threshold for optimal performance. Students will review evidenced based principles of sports nutrition, strategies to ensure proper hydration, thermoregulation, and fuel (substrate) availability during prolonged exercise as well as develop programs for competitive sports including triathlon, marathon, and cycling.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 702. Athletics in the United States. 3 Credit Hours.

An Assessment of athletics in the United States. Focus on historical perspectives, contemporary issues, interface with international athletics, and future trends.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

KIN 704. Recreation in the United States. 3 Credit Hours.

An assessment of recreation and leisure in the United States. Focus on past, present, and future trends, problems, and issues.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

KIN 710. Advanced Adolescent Growth and Maturation. 3 Credit Hours.

This course is an in-depth study of pediatric exercise physiology with special emphasis on growth, maturation, physical activity, and performance. Topics include a comprehensive summary of biological growth and maturation, processes that impact physical performance. Additionally, students will learn the basis of training pediatric populations.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

KIN 712. Applied Sport Psychophysiology. 3 Credit Hours.

The study of the physiological effects of acute vs. chronic training on homeostatic function, musculoskeletal systems, energy system function, cardiovascular system, and the pulmonary system. Students will be able to understand and interpret terminology and research literature published in the field.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

KIN 714. Therapeutic Interventions. 3 Credit Hours.

Students will acquire the theoretical knowledge necessary for the clinical application of therapeutic exercise, modalities, and evidenced based rehabilitation programs. Principles of therapeutic exercise, open and closed chain exercise, muscle re-education, and special therapeutic techniques such as aquatic therapy. In addition, students will apply specific physiological effects, therapeutic indications, and contraindications associated with thermal, mechanical, electromagnetic, and acoustic modalities.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

KIN 715. Evidence-Based Sports Medicine and Research Methods. 3 Credit Hours.

The student will learn the systematic approach to creating and answering clinical questions through review and application of existing research. Students will learn how to develop a relevant clinical question using a pre-defined question format, use standard criteria or developed scales to critically appraise the structure, rigor, and overall quality of research studies, and determine the effectiveness and efficacy of an athletic training intervention. Students will also learn the theoretical foundation of clinical outcomes assessment and the standard methods of outcomes assessment in athletic training clinical practice.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

KIN 716. Advanced Rehabilitation Techniques in Athletic Training. 3 Credit Hours.

This is an advanced athletic training course designed to enhance the athletic trainer's ability to plan and implement a comprehensive sports injury rehabilitation program based on the sequential events of musculoskeletal tissue healing. Discussion focuses on the development of a conceptual model for sports injury rehabilitation which incorporates rehabilitation phases, intervention goals, and progression criteria. Application of the problem-oriented approach to the management of athletic injuries is a predominant theme throughout this course

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

KIN 717. Applied Clinical Techniques in Athletic Training. 3 Credit Hours.

This clinical laboratory course focuses on athletic training skills utilized in the diagnosis and treatment of primary care of patients. Students will become proficient in utilizing diagnostic tools and tests. In addition, students will become proficient in wound care, suturing, initiating and maintaining appropriate intravenous (IV) therapies and the collecting, handling, and processing of blood specimens for analysis.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

KIN 718. Administration and Professional Development. 3 Credit Hours.

Concepts of legal liability, insurance, budget/financial management, human resources, inventory control, facilities design and maintenance will be addressed. This course will enable the student to understand reimbursement guidelines; understand medical delivery systems, health care policy, and legislation in the United States. In addition, students will learn the basics related to accounting, billing, coding, accounts payable, and risk management.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

KIN 720. Practicum in Athletic Training. 3 Credit Hours.

Clinical education and field experience in a healthcare setting. Students are assigned to a licensed health care professional who will serve as the student's preceptor. Students will learn alongside their preceptors as they are exposed to the role, and function of a health care provider while practicing clinical skills with a variety of patient populations. In addition, students will meet for scheduled in-services and clinical labs with a focus on emergency preparedness and readiness through Simulation and Interprofessional Education. Prerequisite: KIN 663 Foundations of Athletic Training
Prerequisite: KIN 663.

Components: PRA.

Grading: GRD.

Typically Offered: Fall.

KIN 721. Independent Study 1: Clinical Internship Experience. 3 Credit Hours.

This elective internship course will allow students to seek a professional Athletic Training internship in a particular area of clinical interest under the supervision of a licensed/certified health care clinician.

Components: IND.

Grading: GRD.

Typically Offered: Fall.

KIN 722. Practicum in Athletic Training 2. 3 Credit Hours.

Clinical education and field experience in a healthcare setting. Students are assigned to a licensed athletic trainer who will serve as the student's preceptor. Students will learn alongside their preceptors as they are exposed to the role and function of an athletic trainer while practicing clinical skills with a variety of patient populations. In addition, students will meet for scheduled in-services and clinical labs with a focus on utilizing Interprofessional Education (IPE) and simulation to enhance physical evaluation and assessment skills. Prerequisite: KIN 720 Practicum in Athletic Training 1

Prerequisite: KIN 720.

Components: PRA.

Grading: GRD.

Typically Offered: Spring.

KIN 723. Independent Study 2: Research Experience. 3 Credit Hours.

This elective research experience course will allow students to pursue research in an area of particular interest under the supervision of a faculty member.

Components: IND.

Grading: GRD.

Typically Offered: Spring.

KIN 724. Practicum in Athletic Training III. 3 Credit Hours.

Clinical education and field experience in a healthcare setting. Students are assigned to a licensed health care professional who will serve as the student's preceptor. Students will learn alongside their preceptors as they are exposed to the role, and function of a health care provider while practicing clinical skills with a variety of patient populations. In addition, students will meet for scheduled in-services and clinical labs with a focus on integrating athletic training knowledge and skills through Simulation and Interprofessional Education (IPE). Prerequisite: KIN 722 Practicum in Athletic Training 2

Prerequisite: KIN 722.

Components: PRA.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

KIN 725. Independent Study III. 1 Credit Hour.

This course is an advanced study of a particular theme or topic in the athletic training field such as students' research topic, current issues of relevance to certified athletic trainers and other professionals in the sports health care professions. Students will prepare for class discussion by reviewing assigned readings from professional journals and other pertinent sources. Class sessions will consist of lectures, laboratories, and discussion sessions.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

KIN 726. Practicum in Athletic Training IV. 3 Credit Hours.

Field experience at the athletic training setting through working with collegiate athletes to expose students to the role and function of athletic training as a certified athletic trainer and clinical instructor as well.

Components: PRA.

Grading: GRD.

Typically Offered: Spring.

KIN 727. Pract in Nutrition. 3 Credit Hours.

Planned supervised practice experience component in dietetic and nutrition practice of up to 900 hours shall provide the applicant with a broad spectrum of experiences in dietetics and Nutrition in clinical, community and food service to meet licensure requirements.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

KIN 735. Methods in Biomechanical Analysis. 3 Credit Hours.

Examination of methods of research, instrumentation, and quantitative application of kinematic and kinetic concepts in the biomechanical analysis of human movement.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

KIN 740. Neurophysiology in Exercise Science. 3 Credit Hours.

Examination of the functions of the central, peripheral, and autonomic nervous systems in regulating exercise homeostasis and the structural and functional modifications to the systems through training. NOTE: This course is a writing intensive course. This means that all examinations and papers include a critical evaluation of the student's ability to convey information using the written word.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

KIN 741. Aging: Physiological Changes and Their Implications of Training. 3 Credit Hours.

The physiological changes that occur due to aging and their impact on fall prevention, independence, and the application of prophylactic exercise prescriptions.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

KIN 742. Fundamentals of Cardiology. 3 Credit Hours.

This course represents an in-depth review and evaluation of the field of cardiology. Students must understand the etiology of coronary artery diseases, assessment techniques in the evaluation of cardiac pathologies, the latest risk factors, and most recent trends in treatment and rehabilitation. Phase I through Phase IV review of Cardiac Rehabilitation will be fully examined.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

KIN 743. Laboratory Experiences in Cardiac Rehabilitation. 3 Credit Hours.

This class provides hands-on clinical experiences in preparation of patient for testing, assessment of pre-existing medical conditions and risk factors as well as appropriate procedures for stress testing. Student will, in addition, have the opportunity to view Thallium stress tests, echocardiography and cardiac surgical procedures such as angioplasty and bypass surgery.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

KIN 744. Interpretation of the Electrocardiogram. 3 Credit Hours.

This class will provide information of the electrophysiology of the heart, medicines used to improve heart function, and critical examination of waveform analyses in interpreting the electrocardiogram. Prerequisite: KIN 642 (Formally ESS 642) or permission of the instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

KIN 746. Research Methods in Kinesiology and Sport Sciences. 3 Credit Hours.

This Course reviews the approach and research methods used to evaluate quantitative research questions in the field of Kinesiology and Sport Sciences.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

KIN 747. Analytic Methods in Kinesiology and Sport Sciences. 3 Credit Hours.

Methods of analyzing research data in Kinesiology and Sport Sciences.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

KIN 755. Exercise Biochemistry. 3 Credit Hours.

This course presents an in-depth examination of the biochemical basis of exercise. Topics include carbohydrate and lipid metabolism at rest and during exercise, integration of metabolism, the use of stable isotopes in the characterization of substrate kinetics, and metabolic bases of fatigue. Both the instructor and the students will incorporate current peer-reviewed research in the field.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

KIN 763. Seminar and Special Topics in Athletic Training. 3 Credit Hours.

Scenarios and subject matter that will help facilitate the student's transition to practice will be emphasized. There will be a focus on current issues and emerging topics and technologies in the healthcare profession. Students will prepare for class discussion by reviewing assigned readings from professional journals and other pertinent sources. Class sessions will consist of lectures, laboratories, and discussion sessions. Also, career development and responsibility topics such as leaderships, entrepreneurship, ethics, patient values, diversity and cultural competency.

Components: SEM.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

KIN 764. Athletic Training Clinical Field Experience. 6 Credit Hours.

This course is an immersive clinical education experience, where Athletic Training students under the supervision of a preceptor will demonstrate the ability to integrate knowledge and skills with clinical problem-solving while assuming professional like roles in various clinical patient care settings. Students will be required to post weekly reflections in an electronic journal and to attend scheduled webinars.

Prerequisite: KIN 722.

Components: PRA.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

KIN 765. Teaching Assistant Training in Kinesiology. 3 Credit Hours.

This course involves training and teaching assistant experience under the supervision of faculty. Students will have the opportunity to assist faculty in the teaching of workshops, clinical laboratory and/or undergraduate theory courses offered in the Kinesiology department.

Components: PRA.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

KIN 766. Research in Athletic Training. 3 Credit Hours.

This course is an advanced study of a particular theme or topic in the athletic training field including a research topic, current professional issues of relevance to certified athletic trainers and other sports medicine/allied healthcare professionals.

Prerequisite: KIN 715 and KIN 763.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

KIN 781. Issues Specific to Women's Health. 3 Credit Hours.

This course focuses upon clinical health issues relevant to women. Students will acquire a body of knowledge concerning the specific biological and physiological changes women experience from birth to maturity, and from the pre- to post menopausal state. Women will learn significant issues related to women's health and be able to make more educated decisions regarding their health and treatment options.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

KIN 782. Psychosocial Issues in Women's Health. 3 Credit Hours.

This course covers a broad perspective of women and their self-esteem, their femininity, and their role in family household. Attention will be paid to the historical, cultural, and anthropological development of women and their role in society. The influence of gender will explore several areas which include a) pregnancy, b) menopause, c) menstrual cycle, d) stress and career vs. family, e) depression, and f) body image.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

KIN 783. Sports Medicine for the Female Athlete. 3 Credit Hours.

This course focuses upon the physiological effects of exercise on the female athlete as it relates to her performance and health. Physiological differences between male and female will be examined as it impacts the women's performance capabilities and potential. Gender specific problems regarding the exercising female will be explored.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

KIN 784. Energetics of Obesity. 3 Credit Hours.

This course is designed to evaluate dieting, rebound effect, set point theory, brown fat, and adaptive thermogenesis, as they relate to the etiology of obesity. The course will cover a step-by-step approach in the recognition, and management of the overweight patient. The course will also examine adipocyte morphology and the health implications of being overweight and obese. Students will examine the impact of both diet and exercise on long-term weight management.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 785. Neurological Mechanisms of Weight Regulation. 3 Credit Hours.

This course is designed to evaluate dieting, rebound effect, set point theory, brown fat, and adaptive thermogenesis, as they relate to the etiology of obesity. The course will cover a step-by-step approach in the recognition and management of the overweight patient. The course will also examine adipocyte morphology and the health implications of being overweight and obese. Students will examine the impact of both diet and exercise on long-term weight management.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 790. Strength and Conditioning Independent Study/Project. 3 Credit Hours.

Practical experience not ordinarily available through coursework sequences. Placement in a variety of settings, clinics, public and private voluntary agencies and schools. Supervised by a faculty member of the department.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

KIN 791. Practicum in Kinesiology and Sport Sciences/Master's students. 1 Credit Hour.

The course presents graduate students with the theoretical and practical tools necessary for expanding their critical thinking and argumentative skills in order to present their scientific research results in an evaluative, logical and analytical manner. The course consists of weekly presentations of related literature, results, and findings on various Master's projects.

Components: PRA.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

KIN 792. Optional Internship-Strength and Conditioning. 1 Credit Hour.

This 1 credit internship allows students to pursue professional internships in the field of strength and conditioning/fitness entrepreneurship. Students will be provided with contact information and a number of opportunities by Dr. Biagioli respective to their interests.

Components: SEM.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

KIN 793. Research Colloquium.. 1-3 Credit Hours.

This course presents graduate students with the theoretical and practical tools necessary for presenting their scientific research in an organized, logical, and analytical manner.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 794. Advanced Individual Study. 1-3 Credit Hours.

The Application for Admission to Individual Study Form will be required.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

KIN 795. Graduate/Clinical Field Experience in Kinesiology and Sport Sciences. 1-3 Credit Hours.

Practical experience not ordinarily available through coursework sequences. Placement in a variety of settings, clinics, public and private voluntary agencies and schools. Supervised by a faculty member of the department.

Components: PRA.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

KIN 799. Special Project. 1-3 Credit Hours.

This course represents the capstone course in a student's field and should represent a culmination of all information learned in class.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

KIN 800. Kinesiology Practicum. 1 Credit Hour.

Students will be engaged in a course of study designed especially for their entry into their field. The student will be supervised by an approved expert (industry professional, clinician, or researcher) for the practical application of previously studied theory. His or her supervised field contact will be approximately 20 hours per week, but can vary based on the nature of the experience and supervisor approval.

Components: PRA.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

KIN 810. Master's Thesis. 1-6 Credit Hours.

The student working on his/her master's thesis enrolls for credit, in most departments not to exceed six, as determined by his/her advisor. Credit is not awarded until the thesis has been accepted.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

KIN 820. Research in Residence. 1 Credit Hour.

Used to establish research in residence for the thesis for the master's degree after the student has enrolled for the permissible cumulative total in ESS 710 (usually six credits). Credit not granted. May be regarded as full time residence.

Components: PRA.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 825. Continuous Registration--Master's Study. 1 Credit Hour.

To establish residence for non-thesis master's students who are preparing for major examinations. Credit not granted. Regarded as full time residence.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

KIN 830. Pre-Candidacy to Dissertation Research. 1-10 Credit Hours.

Admission to doctoral program. Requires approval of advisor and department chair.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

KIN 835. Practicum. 1-2 Credit Hours.

The course presents graduate students with the theoretical and practical tools necessary for expanding their critical thinking and argumentative skills in order to present their scientific research results in an evaluative, logical and analytical manner. The course consists of weekly presentations of related literature, results, and findings on various Doctoral projects.

Components: PRA.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

KIN 840. Post-Candidacy Dissertation Research. 1-12 Credit Hours.

For doctoral students working on their dissertations.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

KIN 850. Research in Residence. 1 Credit Hour.

Used to establish research in residence for the PH.D. Student, after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Credit not granted. May be regarded as full-time residence as determined by the Dean of the Graduate school.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

Latin (LAT)

LAT 101. Elementary Latin I. 3 Credit Hours.

Elementary vocabulary, grammar and reading.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

LAT 102. Elementary Latin II. 3 Credit Hours.

Continuation of LAT 101.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

LAT 103. Intensive Elementary Latin. 3 Credit Hours.

The equivalent of LAT 101, LAT 102, and half of LAT 201 in one semester; students are prepared to enter LAT 201 or 300-/400-level courses depending on their performance in the class. Combined with LAT 625. In addition to the three class hours per week, there is one additional hour (TBA) for drills and tests.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

LAT 201. Intermediate Latin I. 3 Credit Hours.

Translation and grammatical analysis of selected texts from Latin authors.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

LAT 202. Intermediate Latin II. 3 Credit Hours.

Introduction to reading Latin poetry. Students will read selections from the Aeneid, with emphasis on Virgil's language and meter, as well as the ancient epic tradition. Latin 202 prepares students for 300- and 400-level Latin poetry courses.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

LAT 203. Ovid's Metamorphoses. 3 Credit Hours.

Readings in Latin from Ovid's Metamorphoses, including Apollo and Daphne, Echo and Narcissus, Midas and more.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

LAT 301. Catullus. 3 Credit Hours.

An advanced Latin course on the works of the Roman poet Catullus. Students will read almost all of the poems in the Catullan corpus, and be introduced to the related secondary literature, covering topics such as ancient sexuality, invective and obscenity, the figure of the mistress in Latin love poetry, the arrangement of poems within a poetic book, meter, and the textual tradition.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

LAT 302. Petronius. 3 Credit Hours.

An advanced Latin prose reading course on Petronius' *Satyricon*, a mysterious and fragmented novel dating from the time of the decadent emperor Nero. Trimalchio's Dinner-Party, the central section of the work, forms the focus of the course. It is an account of a dinner hosted by a wealthy ex-slave, and can be read as a critique of the excesses of the Neronian age.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

LAT 311. Cicero: Orations. 3 Credit Hours.

Readings from the speeches of Cicero, with an emphasis on syntax, vocabulary, rhetorical theory and practice, and the historical situation of the speeches.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

LAT 321. Virgil. 3 Credit Hours.

An advanced reading course in the poems of Virgil.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

LAT 322. Martial Epigrams. 3 Credit Hours.

Examines selected works of the first-century CE poet Martial, the acknowledged master of the verse epigram, considering his writing both as poetry (within the Greek and Roman traditions) and as social and political commentary.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

LAT 323. Seneca. 3 Credit Hours.

Examines in Latin select writings of the Roman philosopher and statesman Lucius Annaeus Seneca.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

LAT 401. Special Topics in Latin Literature. 3 Credit Hours.

The course is designed for the study of individual authors or topics in Roman thought, literature, and culture at an advanced level, not normally covered elsewhere in the course directory.

Prerequisite: LAT 201.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

LAT 402. Special Topics in Latin Literature. 3 Credit Hours.

This course will address a specific author, topic, or text (appearing as a subtitle). Analogous to REL 404-409 courses. [this will vary each time the course is offered]

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

LAT 403. Special Topics in Latin Literature. 3 Credit Hours.

This course will address a specific author, topic, or text (appearing as a subtitle) Analogous to REL 404-409 courses. [this will vary each time the course is offered]

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

LAT 404. Special Projects in the Literature and Culture of Ancient Rome. 3 Credit Hours.

[This course will address a specific project in Classics (appearing as a subtitle) Analogous to REL 407-409 this will vary each time the course is offered]

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

LAT 406. Special Projects in the Literature and Culture of Ancient Rome. 3 Credit Hours.

This course will address a specific project in Classics (appearing as a subtitle). Analogous to REL 407-409.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

LAT 407. Supervised Reading in Classical Latin. 3 Credit Hours.

Variable subject matter determined by instructor and student. Analogous to REL 401-403.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

LAT 408. Supervised Reading in Classical Latin. 3 Credit Hours.

Variable subject matter determined by instructor and student. Analogous to REL 401-403.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

LAT 409. Supervised Reading in Classical Latin. 3 Credit Hours.

Variable subject matter determined by instructor and student. Analogous to REL 401-403.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

LAT 411. Horace. 3 Credit Hours.

Readings in the odes, epodes, satires and epistles of Horace.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

LAT 421. Roman Epic. 3 Credit Hours.

Studies from Roman epic poetry of Lucretius and Virgil to Lucretius and Statius.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

LAT 422. Lucretius. 3 Credit Hours.

Detailed treatment of the Latin philosophical poet Lucretius and his lone surviving poem, *De rerum natura*.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

LAT 431. Livy. 3 Credit Hours.

Readings from the Roman historian Livy.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

LAT 432. Reading from Suetonius "Lives of the Twelve Caesars". 3 Credit Hours.

Readings in Latin from Suetonius' "Lives of the Twelve Caesars," a set of gossipy, sometimes racy, always dramatic biographies of Julius Caesar and the first eleven emperors of ancient Rome.

Prerequisite: LAT 201.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

LAT 491. Directed Readings. 1-3 Credit Hours.

Content to be determined by faculty member and registering student(s).

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

LAT 625. Elementary Latin for Graduate Research. 0 Credit Hours.

Grammatical structures, verb tenses, and word families necessary for reading texts with minimal use of a dictionary. May fulfill the Foreign Language Reading Competency Requirement (consult your graduate advisor).

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

LAT 691. Directed Reading in Latin for Graduate Students. 3 Credit Hours.

Independent study in Roman thought, literature, and culture.

Requisite: Graduate Standing.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

Latin American Studies (LAS)

LAS 101. Introduction to Latin American and Caribbean Studies. 3 Credit Hours.

Course will focus on culture, economy, geography, history, politics, and society of Latin America and the Caribbean, as well as on the ways in which scholars have studied the region. LAS101 replaces LAS201.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

LAS 110. Students in Latin America and the Caribbean. 1-3 Credit Hours.

Latin American and Caribbean Studies Courses taken at other institutions with no direct equivalent.

Components: LEC.

Grading: GRD.

LAS 111. Studies in Latin America and the Caribbean. 1-3 Credit Hours.

Latin American and Caribbean Studies Courses taken at other institutions with no direct equivalent.

Components: LEC.

Grading: GRD.

LAS 112. Studies in Latin America and the Caribbean. 1-3 Credit Hours.

Latin American and Caribbean Studies Courses taken at other institutions with no direct equivalent.

Components: LEC.

Grading: GRD.

LAS 113. Studies in Latin America and the Caribbean. 1-3 Credit Hours.

Latin American and Caribbean Studies Courses taken at other institutions with no direct equivalent.

Components: LEC.

Grading: GRD.

LAS 114. Studies in Latin America and the Caribbean. 1-3 Credit Hours.

Latin American and Caribbean Studies Courses taken at other institutions with no direct equivalent.

Components: LEC.

Grading: GRD.

LAS 115. Studies in Latin America and the Caribbean. 1-3 Credit Hours.

Latin American and Caribbean Studies Courses taken at other institutions with no direct equivalent.

Components: LEC.

Grading: GRD.

LAS 211. Studies in Latin America and the Caribbean. 1-3 Credit Hours.

Latin American and Caribbean Studies Courses taken at other institutions with no direct equivalent.

Components: LEC.

Grading: GRD.

LAS 212. Studies in Latin America and the Caribbean. 1-3 Credit Hours.

Latin American and Caribbean Studies Courses taken at other institutions with no direct equivalent.

Components: LEC.

Grading: GRD.

LAS 213. Studies in Latin America and the Caribbean. 1-3 Credit Hours.

Latin American and Caribbean Studies Courses taken at other institutions with no direct equivalent.

Components: LEC.

Grading: GRD.

LAS 214. Studies in Latin America and the Caribbean. 1-3 Credit Hours.

Latin American and Caribbean Studies Courses taken at other institutions with no direct equivalent.

Components: LEC.

Grading: GRD.

LAS 215. Studies in Latin America and the Caribbean. 1-3 Credit Hours.

Latin American and Caribbean Studies Courses taken at other institutions with no direct equivalent.

Components: LEC.

Grading: GRD.

LAS 301. Interdisciplinary Topics in Latin American and Caribbean Studies. 3 Credit Hours.

Topics vary, Interdisciplinary focus may be thematic (e.g.: revolutions, new social movements, women's rights, Latin Americanism, testimonio, culture industries, etc.) or regional/national (e.g.: Andean Studies, Southern Cone Studies, Caribbean Studies, Mexican Studies, etc.)

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

LAS 302. Interdisciplinary Topics in Latin American and Caribbean Studies-Travel Course. 3 Credit Hours.

Topics vary, Interdisciplinary focus is thematic and regional (i.e. tourism in Yucatan; civil society in Chile, civil society in Haiti, cultural policy in the Caribbean, environmental policy in Panama.). Course involves travel during Spring Break and it has a program fee.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

LAS 311. Studies in Latin America and the Caribbean. 1-3 Credit Hours.

Latin American and Caribbean Studies Courses taken at other institutions with no direct equivalent.

Components: LEC.

Grading: GRD.

LAS 312. Studies in Latin America and the Caribbean. 1-3 Credit Hours.

Latin American and Caribbean Studies Courses taken at other institutions with no direct equivalent.

Components: LEC.

Grading: GRD.

LAS 313. Studies in Latin America and the Caribbean. 1-3 Credit Hours.

Latin American and Caribbean Studies Courses taken at other institutions with no direct equivalent.

Components: LEC.

Grading: GRD.

LAS 314. Studies in Latin America and the Caribbean. 1-3 Credit Hours.

Latin American and Caribbean Studies Courses taken at other institutions with no direct equivalent.

Components: LEC.

Grading: GRD.

LAS 315. Studies in Latin America and the Caribbean. 1-3 Credit Hours.

Latin American and Caribbean Studies Courses taken at other institutions with no direct equivalent.

Components: LEC.

Grading: GRD.

LAS 320. Special Topics in Latin American and Caribbean Environment. 3 Credit Hours.

Topics vary. Interdisciplinary focus on policies and impact on globalization on the environment.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

LAS 321. Latin American Environmental Issues. 3 Credit Hours.

A comprehensive course on Latin American and Caribbean environmental issues in their political, economic, and social dimensions.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

LAS 330. Special Topics in Latin American and Caribbean Religions. 3 Credit Hours.

Topics vary. Interdisciplinary focus may be thematic or regional (eg: Liberation Theology, Latin American and Latino Religions, Caribbean Religions.)

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

LAS 340. Special Topics in Latin American and Caribbean Economics. 3 Credit Hours.

Topics vary. Focus may be thematic or regional, but will address issues in Latin American and Caribbean Economics and Economic Development.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

LAS 350. Special Topics in Latin American and Caribbean Art and Culture. 3 Credit Hours.

Topics vary. Focus may be thematic or regional, but will address issues in Latin American and Caribbean Art and Culture.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

LAS 360. Special Topics in Latin American and Caribbean Politics. 3 Credit Hours.

Topics Vary. Interdisciplinary focus may be thematic or regional (eg: democracy, new social movements, globalization, politics and society.)

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

LAS 362. Drug Trafficking in Latin America and the Caribbean. 3 Credit Hours.

This course introduces students to the study of drug trafficking in Latin America and the Caribbean and its relationship with organized crime, understanding both as important aspects in the dynamics of globalization, international relations, and domestic politics.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

LAS 370. Special Topics in Latin American and Caribbean Media and Communications. 3 Credit Hours.

Topics vary. Focus may be thematic or regional, but will address issues in Latin American and Caribbean Media and Communication.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

LAS 410. Studies in Latin America and the Caribbean. 1-3 Credit Hours.

Latin American and Caribbean Studies Courses taken at other institutions with no direct equivalent.

Components: LEC.

Grading: GRD.

LAS 411. Studies in Latin America and the Caribbean. 1-3 Credit Hours.

Latin American and Caribbean Studies Courses taken at other institutions with no direct equivalent.

Components: LEC.

Grading: GRD.

LAS 412. Studies in Latin America and the Caribbean. 1-3 Credit Hours.

Latin American and Caribbean Studies Courses taken at other institutions with no direct equivalent.

Components: LEC.

Grading: GRD.

LAS 413. Studies in Latin America and the Caribbean. 1-3 Credit Hours.

Latin American and Caribbean Studies Courses taken at other institutions with no direct equivalent.

Components: LEC.

Grading: GRD.

LAS 414. Studies in Latin America and the Caribbean. 1-3 Credit Hours.

Latin American and Caribbean Studies Courses taken at other institutions with no direct equivalent.

Components: LEC.

Grading: GRD.

LAS 415. Studies in Latin America and the Caribbean. 1-3 Credit Hours.

Latin American and Caribbean Studies Courses taken at other institutions with no direct equivalent.

Components: LEC.

Grading: GRD.

LAS 491. Debates on Current Issues in Latin American and Caribbean Studies. 3 Credit Hours.

Content may vary from semester to semester. This is an upper level course to allow debate and discussion on current issues and events affecting Latin America, the Caribbean and Latino communities in the United States.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

LAS 494. Independent Study in Latin American and Caribbean Studies. 1-3 Credit Hours.

Independent study leading to a thesis, original piece of research, or creative project on a Latin American or Caribbean subject.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

LAS 495. Senior Honors Thesis I. 3 Credit Hours.

This course pairs students with a faculty mentor to set and guide a research agenda in preparation for writing the senior honors thesis. Students will study advanced topics in Latin American and Caribbean Studies, according to faculty interests.

Prerequisite: LAS 101.

Components: IND.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

LAS 496. Senior Honors Thesis II. 3 Credit Hours.

This course pairs students with a faculty mentor to guide the writing process for the senior honors thesis. Students will study advanced topics in Latin American and Caribbean Studies, according to faculty interests.

Prerequisite: LAS 101.

Components: IND.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

LAS 501. Interdisciplinary in Latin American and Caribbean. 3 Credit Hours.

Interdisciplinary methods and politics of Latin American and Caribbean area studies.

Components: SEM.

Grading: GRD.

Typically Offered: Fall.

LAS 502. Research Design in Latin American Studies. 3 Credit Hours.

Interdisciplinary research methods and skills in Latin American and Caribbean studies.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

LAS 503. Program Seminar in Latin American Studies and Caribbean Studies. 3 Credit Hours.

Content of course will vary by semester.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

LAS 504. Interdisciplinary Topics in Latin American and Caribbean Studies - Travel Course.. 3 Credit Hours.

Topics vary. Interdisciplinary focus is thematic and regional (e.g.: tourism in Yucatan; civil society in Chile, Haiti-Dominican Republic relations, cultural policy in the Caribbean, environmental policy in Panama.) Course involves travel during Spring Break and it has a program fee.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

LAS 505. Internship in Latin American and Caribbean Studies. 1-3 Credit Hours.

On-site experience in business, governmental organization, or non-profit organization dealing with Latin America and/or the Caribbean.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

LAS 506. Civic Engagement in Latin America. 1-3 Credit Hours.

On site experience in a civic engagement project in Latin America or the Caribbean.

Components: IND.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

LAS 520. Interdisciplinary Topics in Latin American and Caribbean Environments. 3 Credit Hours.

Topics vary. Interdisciplinary focus on policies and impact of globalization on the environment.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

LAS 521. Latin American Environmental Issues. 3 Credit Hours.

A comprehensive course on Latin American and Caribbean environmental issues in their full political, economic, and social dimensions.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

LAS 530. Special Topics in Latin American and Caribbean Religions. 3 Credit Hours.

Topics vary. Interdisciplinary focus may be thematic or regional (e.g., Liberation Theology, Latin American and Latino Religions, Caribbean Religions), but will address Latin American and Caribbean religion.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

LAS 540. Special Topics in Latin American and Caribbean Media and Communication. 3 Credit Hours.

Topics vary. Interdisciplinary focus may be thematic or regional (e.g., global media, Spanish- or Portuguese-language television or radio, social media) but will address Latin American and Caribbean media and communication.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

LAS 550. Special Topics in Latin American and Caribbean Art and Culture. 3 Credit Hours.

Topics vary. Interdisciplinary focus may be thematic or regional, but will address Latin American and Caribbean Art & Culture.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

LAS 560. Special Topics in Latin American and Caribbean Politics. 3 Credit Hours.

Topics vary. Interdisciplinary focus may be thematic or regional (e.g., democracy, new social movements, globalization, politics and society), but will address Latin American and Caribbean politics.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

LAS 580. Special Topics in Latin American and Caribbean History. 3 Credit Hours.

Topics vary. Interdisciplinary focus may be thematic or regional, but will address the history of political, social and economic development in Latin America and the Caribbean.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

LAS 591. Debates on Current Issues in Latin American and Caribbean Studies. 3 Credit Hours.

Content may vary from semester to semester. This is a graduate course to allow debate and discussion on current issues and events affecting Latin America, the Caribbean, and Latino communities in the United States.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

LAS 601. Interdisciplinary in Latin American and Caribbean. 3 Credit Hours.

Interdisciplinary methods and politics of Latin American and Caribbean area studies.

Components: SEM.

Grading: GRD.

Typically Offered: Fall.

LAS 602. Research Design in Latin American Studies. 3 Credit Hours.

Interdisciplinary research methods and skills in Latin American and Caribbean studies.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

LAS 603. Program Seminar in Latin American Studies and Caribbean Studies. 3 Credit Hours.

Content of course will vary by semester.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

LAS 604. Interdisciplinary Topics in Latin American and Caribbean Studies - Travel Course.. 3 Credit Hours.

Topics vary. Interdisciplinary focus is thematic and regional (e.g.: tourism in Yucatan; civil society in Chile, Haiti-Dominican Republic relations, cultural policy in the Caribbean, environmental policy in Panama.) Course involves travel during Spring Break and it has a program fee.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

LAS 605. Internship in Latin American and Caribbean Studies. 1-3 Credit Hours.

On-site experience in business, governmental organization, or non-profit organization dealing with Latin America and/or the Caribbean.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

LAS 606. Civic Engagement in Latin America. 1-3 Credit Hours.

On site experience in a civic engagement project in Latin America or the Caribbean.

Components: IND.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

LAS 620. Interdisciplinary Topics in Latin American and Caribbean Environments. 3 Credit Hours.

Topics vary. Interdisciplinary focus on policies and impact of globalization on the environment.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

LAS 630. Special Topics in Latin American and Caribbean Religions. 3 Credit Hours.

Topics vary. Interdisciplinary focus may be thematic or religion (e.g., Liberation Theology, Latin American and Latino Religions, Caribbean Religions), but will address Latin American and Caribbean religion.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

LAS 640. Special Topics in Latin American and Caribbean Media and Communication. 3 Credit Hours.

Topics vary. Interdisciplinary focus may be thematic or religion (e.g. Global media, Spanish- or Portuguese- language television or radio, social media), but will address Latin American and Caribbean Media and Communication.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

LAS 650. Special Topics in Latin American and Caribbean Art and Culture. 3 Credit Hours.

Topics vary. Interdisciplinary focus may be thematic or religion, but will address Latin American and Caribbean art and culture.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

LAS 660. Special Topics in Latin American and Caribbean Politics. 3 Credit Hours.

Topics vary. Interdisciplinary focus may be thematic or religion (e.g., democracy, new social movements, globalization, politics and society), but will address Latin American and Caribbean politics.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

LAS 680. Special Topics in Latin American and Caribbean History. 3 Credit Hours.

Topics vary. Interdisciplinary focus may be thematic or religion, but will address the history of political, social and economic development in Latin America and the Caribbean.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

LAS 681. Graduate Seminar on Public Health: Latin America and the Caribbean. 3 Credit Hours.

A variety of contemporary global public health issues and policy challenges confronting Latin America and the Caribbean, considering large and small states. We will explore the broader relationship of global public health topics to the political, economic, social, cultural, ethical, ecological, environmental, and technological factors.

Prerequisite: LAS 501.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

LAS 684. Global Public Health: Harnessing Theoretical Prep with Health Diplomacy and Practical Exper. 3 Credit Hours.

For students with a genuine interest in global public health and a regional focus in Latin America or the Caribbean. Students will have the opportunity to examine global health issues, programs, projects, policies and ethical dilemmas considering different methods used to study the challenges and successes in global public health work. This course will expose students to the integration of western and health care, as well as the economic, political, social, cultural, environmental, ecological and technological components of their lives that directly or indirectly influence public health outcomes at the community level. Furthermore, students will have a unique opportunity to interact with families and community organizations and programs in the remote villages as well as families residing in urban communities. This will provide greater insights into the epidemiologic, nutrition, lifestyle and socio-economic transitions which bring both positive and negative impacts on health and wellbeing. Students will also learn about importance of health diplomacy and health security within a globalized world through interactions with local policy makers and community members while in the country.

Components: FLD.

Grading: GRD.

Typically Offered: Spring & Summer.

LAS 691. Debates on Current Issues in Latin American and Caribbean Studies. 3 Credit Hours.

Content may vary from semester to semester. This is a graduate course to allow debate and discussion on current issues and events affecting Latin America, the Caribbean, and Latino communities in the United States.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

LAS 694. Directed Readings in Latin America and Caribbean. 3 Credit Hours.

Independent Study leading to an original piece of research, or creative project on a Latin American or Caribbean interdisciplinary topic.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

LAS 697. Readings for the Comprehensive Exam. 3 Credit Hours.

Readings for M.A. students who are preparing for comprehensive examinations.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

LAS 810. Pre-candidacy thesis credits. 3 Credit Hours.

The student working on his/her master's thesis enrolls for credit, not to exceed three, before student has been admitted to candidacy. Credit is not awarded until the thesis has been accepted.

Components: THI.

Grading: SUS.

Typically Offered: Fall & Spring.

LAS 815. Post-candidacy thesis credits. 3 Credit Hours.

The student working on his/her master's thesis enrolls for credit, not to exceed six, after student has been admitted to candidacy. Credit is not awarded until the thesis has been accepted.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

LAS 820. Research in residence.. 1 Credit Hour.

Used to establish research in residence for the thesis for the master's degree after the student has enrolled for the permissible cumulative total in LAS 710 (usually six credits). Credit not granted. May be regarded as full time residence.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

Law

LAW 1. Law Visit Away. 1-16 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 100. Business Association. 4 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 101. Commercial Law: Secured Transactions. 4 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 102. Commercial Law: Payment Systems and Negotiable Instruments. 4 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 103. Corporate Tax. 3 Credit Hours.

Prerequisite: Federal Income Tax I.

Components: LEC.

Grading: GRD.

LAW 104. Securities Regulation. 3 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 105. Federal Income Tax I. 4 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 106. Trusts and Estates. 4 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 107. Agency and Partnership. 2-3 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 108. Antitrust. 2-3 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 109. Banking Law. 3 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 11. Civil Procedure I. 3 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 110. Bankruptcy. 3 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 111. Communication Law. 3 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 112. Copyright Law. 3 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 113. Corporate Finance. 2 Credit Hours.

Prerequisite: Business Associations.

Components: LEC.

Grading: GRD.

LAW 114. Urban Land Use Law. 1 Credit Hour.

Components: LEC.

Grading: GRD.

LAW 115. Commercial Law: Theory and Practice. 1 Credit Hour.

Components: LEC.

Grading: GRD.

LAW 116. The Corporate Lawyer. 3 Credit Hours.

Requisite: must be First Year Law Student (1L).

Components: LEC.

Grading: GRD.

LAW 117. Startup Law and Entrepreneurship. 2 Credit Hours.**Components:** LEC.**Grading:** GRD.**LAW 118. Race in the Law. 3 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 119. Insurance Law and Policy. 3 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 12. Contracts. 4 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 121. Securities Regulation II. 2 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 122. Florida Family Law. 2 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 123. Introduction to Financial Accounting for Lawyers. 3 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 124. Corporate Finance: Asset Partitioning and the Rise of the Firm. 2 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 125. Bankruptcy Bootcamp. 1 Credit Hour.****Components:** LEC.**Grading:** GRD.**LAW 126. Constitutional Law III. 3 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 127. Partnership Tax. 3 Credit Hours.**

Prerequisite: Federal Income Tax I.

Components: LEC.**Grading:** GRD.**LAW 128. Lwow X. 3 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 13. Elements. 3 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 130. Torts Stories. 3 Credit Hours.**

Requisite: must be First Year Law Student (1L).

Components: LEC.**Grading:** GRD.**LAW 132. Trademark Law. 2 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 134. Real Property and Government. 2 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 135. Economics for Lawyers. 3 Credit Hours.****Components:** LEC.**Grading:** GRD.

LAW 136. Family Law. 3 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 137. Bankruptcy Tax. 3 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 138. International Intellectual Property. 1 Credit Hour.

Components: LEC.

Grading: GRD.

LAW 139. Patent Law. 3 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 14. Property. 4 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 140. Taxation of Business Entities. 3 Credit Hours.

Prerequisite: Federal Income Tax I.

Components: LEC.

Grading: GRD.

LAW 143. Power and Influence. 1 Credit Hour.

Components: LEC.

Grading: GRD.

LAW 144. International Debt Workouts. 1 Credit Hour.

Components: LEC.

Grading: GRD.

LAW 145. Closely Held Businesses. 3 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 147. Intellectual Prop. 4 Credit Hours.

Prerequisites: Patent Law, Copyright, or Trademark.

Components: LEC.

Grading: GRD.

LAW 148. The Morality of Intellectual Property. 1 Credit Hour.

Components: LEC.

Grading: GRD.

LAW 149. Global Issues and Con Law. 3 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 15. Torts. 4 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 150. Florida Legal Research Techniques. 1 Credit Hour.

Components: LEC.

Grading: GRD.

LAW 151. Legal Research Techniques. 3 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 153. Products Liability. 3 Credit Hours.

Prerequisite: Torts.

Components: LEC.

Grading: GRD.

LAW 154. Corporate Compliance and Risk Management. 3 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 155. Principles of Legal Analysis. 0 Credit Hours.**Components:** LEC.**Grading:** SUS.**LAW 156. Internet Law. 3 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 157. Intellectual Property for Business Lawyers. 3 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 159. Media Law. 3 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 16. Criminal Procedure. 3 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 160. Current Topics in Delaware Mergers and Acquisitions. 1-4 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 161. Mortgage Crisis. 3 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 162. Negotiating and Drafting for the Business Entertainment I. 2 Credit Hours.**

Requisite: Enrolled in the LL.M. or J.D./LL.M. in Entertainment, Arts and Sport Law, OR enrolled in the J.D./M.M., OR a 3L with the permission of the Professor; AND Business Associations or equivalent (may be taken concurrently).

Components: LEC.**Grading:** GRD.**LAW 163. Negotiating and Drafting for the Business of Entertainment II. 1 Credit Hour.**

Prerequisite: Negotiating and Drafting for the Business of Entertainment I.

Components: LEC.**Grading:** GRD.**LAW 164. Broker - Dealer Regulation. 2 Credit Hours.**

Pre-Requisite: Securities Regulations or Investor Rights Clinic.

Components: LEC.**Grading:** GRD.**LAW 165. Commercial Law: Ucc. 3 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 166. Drafting Credit Documentation. 2 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 167. Banking Law II. 3 Credit Hours.**

Pre-Requisite for Banking law II.

Components: LEC.**Grading:** GRD.**LAW 168. Comparative Sales. 2 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 169. Regulatory State. 3 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 17. U.S. Constitutional Law I. 4 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 170. Nature and Foundation of Entrepreneurship. 3 Credit Hours.****Components:** LEC.**Grading:** GRD.

LAW 171. Law and Economics of Corporate Crimes. 1-2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 172. Didd-Frank Wall Street Reform and Consumer Protection Act 2010. 1 Credit Hour.

Components: LEC.

Grading: GRD.

LAW 173. Law Without Walls. 3 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 174. Mergers and Acquisitions. 3 Credit Hours.

Pre-reg: BA or Closely Held Business (may be taken concurrently); Recommended: Security Regulation.

Components: LEC.

Grading: GRD.

LAW 175. International Contracts. 1 Credit Hour.

Components: LEC.

Grading: GRD.

LAW 176. Images of Evil in Criminal Law. 1 Credit Hour.

Components: LEC.

Grading: GRD.

LAW 177. The Role of the In-House Counsel at a Nonprofit. 1 Credit Hour.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

LAW 178. Mortgage Law. 2 Credit Hours.

Prerequisite: Property.

Components: LEC.

Grading: GRD.

LAW 179. International Human Rights Lawyering and Advocacy. 1 Credit Hour.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

LAW 180. Domestic Violence. 3 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 181. Latin American Family Law. 2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 182. Medical Responsibility. 1 Credit Hour.

Components: LEC.

Grading: GRD.

LAW 183. Entertainment Law: Theater and Venue Contracts. 2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 184. Bankruptcy Debtors and Creditors Right. 4 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 185. Federal Securities Fraud Investigations: Ponzi Schemes, Stock Manipulations, and Insider Trading. 2 Credit Hours.

Prerequisite: Business Associations.

Components: LEC.

Grading: GRD.

LAW 186. Advanced Copyright in the Digital Age. 2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 187. Class Action Litigation. 1 Credit Hour.

Components: LEC.

Grading: GRD.

LAW 188. The Law and Development in Latin America. 1 Credit Hour.**Components:** LEC.**Grading:** GRD.**LAW 189. European Union Law and Institutions: Responding to the Financial Crisis. 1 Credit Hour.****Components:** LEC.**Grading:** GRD.**Typically Offered:** Spring.**LAW 19. Legal Communication and Research I. 2 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 190. Core Credit Independent Study. 1 Credit Hour.****Components:** THI.**Grading:** GRD.**LAW 191. World Poverty and Human Rights. 3 Credit Hours.****Components:** LEC.**Grading:** GRD.**Typically Offered:** Fall & Spring.**LAW 192. Discovery. 2 Credit Hours.****Components:** LEC.**Grading:** GRD.**Typically Offered:** Spring.**LAW 193. Representing the Professional Athlete. 1 Credit Hour.****Components:** LEC.**Grading:** GRD.**Typically Offered:** Spring.**LAW 194. The Legal Environment of the Cruise Industry. 2 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 195. Negotiating and Drafting Sports Venue Agreements. 1 Credit Hour.****Components:** LEC.**Grading:** GRD.**LAW 196. Representing the Pre-Professional Athlete. 1 Credit Hour.****Components:** LEC.**Grading:** GRD.**LAW 197. Mindfulness and Leadership. 1 Credit Hour.****Components:** LEC.**Grading:** GRD.**Typically Offered:** Spring.**LAW 198. Cuba: Law, Policy, and Transition. 2 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 2. LL.M. Oral Communication. 4 Credit Hours.**

Requisite: Plan of LL.M.

Components: LEC.**Grading:** GRD.**LAW 200. Administrative Law. 4 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 201. False Confessions and Custodial Interrogations. 1 Credit Hour.****Components:** LEC.**Grading:** GRD.**LAW 202. Employment Discrimin. 3 Credit Hours.****Components:** LEC.**Grading:** GRD.

LAW 203. The Religion Clauses. 1 Credit Hour.

Prerequisite: Con Law II.

Components: LEC.

Grading: GRD.

LAW 205. Labor Law. 3 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 206. Applied Topics in Advanced Music Copyright Law. 1 Credit Hour.

Components: LEC.

Grading: GRD.

LAW 207. Water Law. 3 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 208. Evidence. 4 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 209. Federal Courts. 3 Credit Hours.

Prerequisite: US Con Law I.

Components: LEC.

Grading: GRD.

LAW 210. Remedies. 2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 211. Civil Procedure II. 3 Credit Hours.

Prerequisite: Civil Procedure.

Components: LEC.

Grading: GRD.

LAW 212. Mental Health Law. 1 Credit Hour.

Components: LEC.

Grading: GRD.

LAW 213. Environmental Law. 3 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 214. State and Local Government. 3 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 215. Analysis of Evidence. 3 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 216. Constitutional Law III: The Current Moment. 3 Credit Hours.

Prerequisite: US Con Law I.

Components: LEC.

Grading: GRD.

LAW 217. Constitutional Law II. 4 Credit Hours.

Prerequisite: US Con Law I.

Components: LEC.

Grading: GRD.

LAW 219. Finance and Regulation of Health Care Industry. 3 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 221. Mass Incarceration. 2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 222. Legislation (First Year Elective). 3 Credit Hours.

Requisite: must be First Year Law Student (1L).

Components: LEC.**Grading:** GRD.**LAW 223. Alternative Dispute Resolution. 3 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 224. Modern Alcohol Beverage Law. 1-3 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 225. Health Law and Policy. 3 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 226. Florida Tort Law: The Real Deal. 1 Credit Hour.****Components:** LEC.**Grading:** GRD.**LAW 227. Environmental Justice. 1 Credit Hour.****Components:** LEC.**Grading:** GRD.**LAW 228. Human Rights Advocacy in Latin America. 1 Credit Hour.****Components:** LEC.**Grading:** GRD.**LAW 229. Housing Discrimination. 3 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 230. Complex Litigation. 2 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 231. Disability Law. 2 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 233. Florida Constitutional Law. 3 Credit Hours.**

Prerequisite: US Con Law I.

Components: LEC.**Grading:** GRD.**LAW 235. Emerging Forms of Philanthropy and the Role of Private Foundations in Effecting Social Change. 1 Credit Hour.****Components:** LEC.**Grading:** GRD.**LAW 236. BUSINESS, ENTERTAINMENT, AND SPORTS IMMIGRATION LAW. 2 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 239. Law and Medicine. 3 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 240. WTO Litigation and Climate Change. 1-2 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 242. Religion and Law. 3 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 243. Islamic Law and Human Rights Seminar. 2 Credit Hours.****Components:** SEM.**Grading:** GRD.

LAW 244. Food Law. 2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 246. Employment Law. 3 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 247. Labor and Employment Law. 3 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 248. Space Law. 2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 249. Alcohol Beverage Law. 2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 250. Election Law: Hot Topics. 1 Credit Hour.

Components: LEC.

Grading: GRD.

LAW 251. Search and Seizure. 3 Credit Hours.

Search and Seizure explores the evolution of the U.S. Supreme Court's Fourth Amendment jurisprudence. The course, open to undergraduate and law students, develops the skills necessary to understand, evaluate, and develop legal arguments. Through the study of the government's use of surveillance tactics over the decades, students will learn to evaluate legal arguments for and against limiting government searches and seizures of people and their property. Materials will include landmark Supreme Court decisions as well as journalistic and videos and articles that place those decisions in historical context. Grades will be based on a series of approximately three 300-to-500-word essays and a final examination.

Components: LEC.

Grading: GRD.

LAW 252. Environmental Law and Policy. 4 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 253. Natural Resources and Energy Law. 3 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 254. Sports Law. 3 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 255. Hospitals, Health Care Services, and Access: An Interdisciplinary Inquiry. 3 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 256. First Amendment. 3 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 257. Construction Law. 3 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 258. Dispute Resolution in Latin America (Spanish). 3 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 259. Consumer Law. 3 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 260. Environmental Litigation and Policy. 2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 261. Maritime Personal Injury. 2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 262. Union Organizing and Collective Bargaining in the Entertainment Industry. 1 Credit Hour.**Components:** LEC.**Grading:** GRD.**LAW 264. Election Law. 3 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 265. SPECIAL TOPICS IN INTERNATIONAL SPORTS LAW. 1 Credit Hour.****Components:** LEC.**Grading:** GRD.**LAW 267. Toxic Torts and Toxics Regulation. 3 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 268. Social Justice Lawyering. 3 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 269. Hot Topics in Insurance Law. 2 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 270. Emotional Intelligence. 3 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 271. Florida Criminal Procedure. 2 Credit Hours.**

Prerequisite: Criminal Procedure.

Components: LEC.**Grading:** GRD.**LAW 272. Florida Civil Procedure. 3 Credit Hours.**

Prerequisite: Civil Procedure.

Components: LEC.**Grading:** GRD.**LAW 273. Medical Ethics. 1 Credit Hour.****Components:** LEC.**Grading:** GRD.**LAW 274. Sentencing Law and Policy. 2 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 275. International Economic and Social Rights. 3 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 276. Health Care and the Constitution. 3 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 277. Aviation Law. 2 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 278. Law of Obligations. 3 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 279. Wrongful Convictions: Causes and Remedies. 2 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 280. Aging and Special Needs Law. 2 Credit Hours.****Components:** LEC.**Grading:** GRD.

LAW 281. Entertainment Law: Motion Pictures and Television. 2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 282. Human Trafficking. 2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 283. The Olympic Games and the Law. 2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 284. Galileo Project: Law, Science, Truth, and Power. 3 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 285. Regulation of Identification. 2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 286. Planning Skills (Tax Skills and Policy). 3 Credit Hours.

Prerequisite: Federal Income Tax I.

Components: LEC.

Grading: GRD.

LAW 287. Cyber Crimes. 3 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 288. Genome Ethics and Public Policy. 2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 289. Business of Law. 2 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

LAW 29. Legal Communication and Research II. 2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 290. Comp Legal Geog: Colonial and Postcolonial Land Regimes in the British Empire and Successor States. 1 Credit Hour.

Components: LEC.

Grading: GRD.

LAW 291. Competitive Strategy and the Legal Services Industry. 1 Credit Hour.

Components: LEC.

Grading: GRD.

LAW 292. Social Enterprise Clinic. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

LAW 293. Food and Drug Law (FDA). 2 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

LAW 294. Implementing Affordable Care Act. 3 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 295. NONPROFIT ORGANIZATIONS AND SOCIAL ENTERPRISES. 2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 296. The EU and NAFTA as the Regional Arrangements. 3 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 297. Law Practice: Social Impact Advocacy. 3 Credit Hours.**Components:** LEC.**Grading:** GRD.**Typically Offered:** Fall.**LAW 299. Preparing the Corporate Client for Litigation. 1 Credit Hour.****Components:** LEC.**Grading:** GRD.**LAW 3. LL.M. Reading and Writing. 4 Credit Hours.**

Requisite: Plan of LL.M.

Components: LEC.**Grading:** GRD.**LAW 300. Admiralty. 3 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 301. National Security Law. 3 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 302. Negotiation. 3 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 303. Coastal Law. 3 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 304. Comparative Law. 3 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 305. Corporate Skills for New Lawyers. 1 Credit Hour.****Components:** LEC.**Grading:** GRD.**LAW 306. Conflict of Laws. 3 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 307. Human Rights and Environment. 1 Credit Hour.****Components:** LEC.**Grading:** GRD.**LAW 308. Legal Informatics. 3 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 309. International Business Transactions. 3 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 310. Presentation of Evidence in International Arbitration. 1 Credit Hour.****Components:** LEC.**Grading:** GRD.**LAW 311. International Human Rights. 3 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 312. International Law. 3 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 313. International Sales. 2 Credit Hours.****Components:** LEC.**Grading:** GRD.

LAW 314. International Tax. 3 Credit Hours.

Prerequisite: Federal Income Tax I.

Components: LEC.

Grading: GRD.

LAW 315. Jurisprudence. 3 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 316. Latin American Law. 3 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 317. Ethics and Professionalism in an Ever-Changing World. 1 Credit Hour.

Components: LEC.

Grading: GRD.

LAW 318. Law of the Sea. 3 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 319. Video Game Law. 1 Credit Hour.

Requisite: Plan of Entertainment, Arts, & Sports Law or JD/ Ent, Arts, & Sports. JD students can enroll with permission of Harold Flegelman.

Components: LEC.

Grading: GRD.

LAW 320. Substantive Criminal Law. 3 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 321. Rule 56: Mastering Summary Judgment Motions. 2 Credit Hours.

Prerequisite: LComm I & II; Civil Pro I.

Components: LEC.

Grading: GRD.

LAW 322. European Sport Law. 2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 323. The Adversary System: Silence, Confrontation, and Sentencing. 3 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 324. Advertising Law. 3 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 325. European Comm Law. 2-3 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 326. Constitutional Law III: The Constitutional Law of Business. 3 Credit Hours.

Prerequisite: US Con Law I.

Components: LEC.

Grading: GRD.

LAW 327. Federal Courts IPA. 3 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 328. The Freedom of Information Act. 1 Credit Hour.

Components: LEC.

Grading: GRD.

LAW 329. Transnational Lit. 2-3 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 330. Comparative Criminal Law and Procedure. 3 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 331. Vimeo, Twitter, and YouTube: Online Liability and Net Neutrality. 1 Credit Hour.

Pre-Requisite: One of the following Intellectual Property courses: Intellectual Property, IP for Business Lawyers, Copyright, or Trademark. Requisite: Plan of EASL LLM or JD/ EASL LLM or JD students with permission of Director Flegelman.

Components: LEC.

Grading: GRD.

LAW 332. Criminal Procedure Adjudication. 3 Credit Hours.

Prerequisite: Criminal Procedure.

Components: LEC.

Grading: GRD.

LAW 333. Int'L Economic Law. 3 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 334. International Environmental Law. 3 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 335. Immigration Law. 3 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 336. International Finance. 3 Credit Hours.

Components: SEM.

Grading: GRD.

LAW 337. Comparative Constitutional Law. 3 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 338. Basic Concepts in International Arbitration. 1 Credit Hour.

Components: LEC.

Grading: GRD.

LAW 339. Doing Business in Latin America. 3 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 340. International Criminal Law. 3 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 341. International Copyright. 3 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 342. The Free Speech Clause. 1 Credit Hour.

Prerequisite: First Amendment or U.S. Constitutional Law II.

Components: LEC.

Grading: GRD.

LAW 343. Navigating Antitrust Risk. 2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 344. Property II. 3 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 345. The European Union: Treaties and Policies. 2-3 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 346. Comparative Immigration Law. 2-3 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 347. Immigration Law and Policy. 1 Credit Hour.

Components: LEC.

Grading: GRD.

LAW 348. Museum Law. 2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 349. Digital Currency and Blockchain Regulation. 2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 350. Marine Ecology and Law Seminar. 2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 351. International Business Law Seminar. 2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 352. Boilerplate: The Good, the Bad, and the Ugly. 1 Credit Hour.

Components: LEC.

Grading: GRD.

LAW 356. Transactional Lawyering: Negotiating and Drafting Contracts. 2 Credit Hours.

LW: Contracts.

Components: LEC.

Grading: GRD.

LAW 357. European Union Competition (Antitrust). 3 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 358. International Family Law. 3 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 359. Therapeutic Jurisprudence. 2-3 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 360. Philosophy of Law. 3-4 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 361. Water Resources Law and Policy: China and Vietnam. 3 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 363. Dispute Resolution in Latin America. 3 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 364. Gaming Law. 2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 365. Elder Law. 3 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 367. International Arbitration in Latin America. 1 Credit Hour.

Components: LEC.

Grading: GRD.

LAW 368. European Company Law. 3 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 369. Race, Ethnicity, and Law. 3 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 370. Federal Indian Law. 2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 371. International Civil Dispute Resolution. 3 Credit Hours.**Components:** LEC.**Grading:** GRD.**LAW 374. Global Lawyering. 2-3 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 375. Military Justice. 2 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 376. Corporate Criminal Liability: European Perspectives. 1 Credit Hour.****Components:** LEC.**Grading:** GRD.**LAW 377. U.S. and Latin America: Lawyering across Borders. 2 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 378. Economy and Society: Institutions and National Development. 2 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 380. Human Rights and Risk Management for Business Lawyers. 1 Credit Hour.****Components:** LEC.**Grading:** GRD.**LAW 381. The Law, Literature, and Capital Punishment. 1 Credit Hour.****Components:** LEC.**Grading:** GRD.**LAW 382. Large Scale Litigation - Practical Skills. 3 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 383. Immigration, Ethnicity, and Public Policy. 3 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 384. Race, Ethnicities, and Law. 3 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 385. European Union: History, Institutions, and Policy. 3 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 386. Multi-Level Protection of Rights in Europe. 2-3 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 387. Social Impact Advocacy Seminar. 2 Credit Hours.**

Prerequisite: Social Impact Advocacy or Social Justice.

Components: LEC.**Grading:** GRD.**LAW 388. Investment Arbitration. 2 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 389. Human Rights in Times of War (Spanish). 2 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 39. Transactional Drafting and Negotiation (Cml-Llmo). 2 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 390. Spanish for Lawyers I. 3 Credit Hours.****Components:** LEC.**Grading:** GRD.

LAW 391. Water Resources Law and Policy: China and Vietnam. 3 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 392. Art Law. 3 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 393. Doing Business and Dispute Resolution - China. 4 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 394. Civil Rights, Economic Justice, and Independent Media. 3 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 395. Cultural Property and Heritage Law. 3 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 396. Migration and Immigration Policy Law and Reform. 3 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 397. Tort Law: A Comparative Approach. 2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 398. International Bankruptcy (Virtual). 3 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 399. Immigration, Strategy, and Removal Defense. 2 Credit Hours.

Prerequisite: Immigration Law.

Components: LEC.

Grading: GRD.

LAW 4. Introduction to Legal Communication and Writing. 2 Credit Hours.

Requisite: Plan of LLM.

Components: LEC.

Grading: GRD.

LAW 400. PR - U.S. and Multinational Prac Seminar. 2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 401. Ethics, Law, and Justice. 3 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 402. Legal Ethics. 3 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 403. Legal Profession. 3 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 405. Ethics and Public Service. 3 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 406. Professional Responsibility. 3 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 407. Professional Liability - Malpractice. 3 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 408. Mindful Ethics: Professional Responsibility for Lawyers in the Digital Age. 2 Credit Hours.**Components:** LEC.**Grading:** GRD.**LAW 5. Introduction to Legal Research. 1 Credit Hour.**

Requisite: Plan of LLM.

Components: LEC.**Grading:** GRD.**LAW 50. Legal Career Paths. 0 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 500. God, Science, and Politics. 2 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 501. Treaty Interpretation. 1 Credit Hour.****Components:** LEC.**Grading:** GRD.**LAW 502. Health Law Fundamentals: Fraud and Abuse. 2 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 503. Introduction to Academic Writing. 1 Credit Hour.****Components:** LEC.**Grading:** GRD.**LAW 504. Consumer Protection. 1 Credit Hour.****Components:** LEC.**Grading:** GRD.**LAW 505. Drafting and Negotiating International Oil and Gas Agreements. 1 Credit Hour.****Components:** LEC.**Grading:** GRD.**LAW 506. The Tenth Justice. 2 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 507. Trial Strategies. 2 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 508. Advanced Research Methods. 3 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 509. Advanced Legal Writing: Non-Litigation Drafting. 2 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 510. International Trade Law. 2 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 511. Enterprise Technologies for Lawyers. 2 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 512. Civil Rights Litigation. 2 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 513. Mindfulness in Law. 2 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 514. Policing the Police. 2 Credit Hours.****Components:** SEM.**Grading:** GRD.

LAW 515. Legal Skills: An English Law Perspective. 1 Credit Hour.

Components: LEC.

Grading: GRD.

LAW 516. Topics in Advanced Copyright. 1 Credit Hour.

Components: LEC.

Grading: GRD.

LAW 517. Corporate Compliance and Social Responsibility. 2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 518. Advanced Topics in Bankruptcy. 2 Credit Hours.

Prerequisite: Bankruptcy previously or concurrent.

Components: SEM.

Grading: GRD.

LAW 519. Drafting Complex Arbitration Clauses. 1 Credit Hour.

Components: LEC.

Grading: GRD.

LAW 520. Statistics for Lawyers. 3 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 521. Robot Law. 1 Credit Hour.

Components: LEC.

Grading: GRD.

LAW 522. The Death Penalty in Decline. 1 Credit Hour.

Components: LEC.

Grading: GRD.

LAW 523. Legal Issues in Guantánamo. 2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 524. World on the Move: An Examination of Law and Policy Involved in Current Mass Migration. 1 Credit Hour.

Pre-requisite or Co-requisite: Immigration Law or Immigration Clinic or By Instructor permission.

Components: LEC.

Grading: GRD.

LAW 525. Health, Ethics, Law, and Policy. 2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 526. The Uncitral Model Law On International Commercial Arbitration. 1 Credit Hour.

Components: LEC.

Grading: GRD.

LAW 527. Law Firm Management. 1 Credit Hour.

Components: LEC.

Grading: GRD.

LAW 528. Space Law: Regulating and Incentivizing Private Commercial Activities in Outer Space. 1 Credit Hour.

Components: LEC.

Grading: GRD.

LAW 529. Transnational Litigation and International Arbitration with a European Nexus. 1 Credit Hour.

LW: Requisite: Plan of International Arbitration LL.M or JD/ International Arbitration.

Components: LEC.

Grading: GRD.

LAW 530. Real Estate Transactions. 2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 531. Mobile Computing for Lawyers. 3 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 532. Legal Advocacy, Media, and the Pursuit of Social Justice. 2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 533. Recovery of Cultural Heritage in International Law and Protection of Underwater Cultural Heritage. 1 Credit Hour.

Components: LEC.

Grading: GRD.

LAW 534. Topics in Florida Practice. 2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 535. Political Philosophy. 3 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 536. Complex International Negotiations. 1 Credit Hour.

Components: LEC.

Grading: GRD.

LAW 537. Advanced Topics in Family Law. 1 Credit Hour.

Components: LEC.

Grading: GRD.

LAW 538. Diversity and the English Legal System. 1 Credit Hour.

Components: LEC.

Grading: GRD.

LAW 540. Marriage Equality: Practical Implications for a Post-DOMA Landscape. 1 Credit Hour.

Components: LEC.

Grading: GRD.

LAW 541. Deal Skills: Cross Border Finance Transactions. 2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 542. Children and the Law. 2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 543. Religious Freedom and Same-Sex Marriage. 1 Credit Hour.

Components: LEC.

Grading: GRD.

LAW 544. Innovation, Tech, and Legal Profession. 3 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 545. Database Management Systems for Lawyers. 3 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 546. Introduction to Business Practices and Drafting of Transaction Documents. 2 Credit Hours.

Pre-requisite: Must be a 3L or L.L.M. and have taken Business Associations (or equivalent) or be enrolled in the JD/MBA.

Components: LEC.

Grading: GRD.

LAW 547. Big Data for Lawyers. 3 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 548. Introduction to Death Penalty Litigation. 1 Credit Hour.

Components: LEC.

Grading: GRD.

LAW 549. Motion Picture Financing. 1 Credit Hour.

Components: LEC.

Grading: GRD.

LAW 550. Urbanization, Capitalism, and Development Class. 3 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 551. Topics on Multistate Bar Exam. 2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 552. Media and Entertainment Law in the Digital Age. 1 Credit Hour.

Components: LEC.

Grading: GRD.

LAW 553. Philosophies of Sentencing. 2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 554. International Humanitarian Law. 2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 555. Climate Change Law and Policy. 2 Credit Hours.

Components: SEM.

Grading: GRD.

LAW 556. Law and Power in the European Union. 1 Credit Hour.

Components: LEC.

Grading: GRD.

LAW 557. Introduction to Programming for Lawyers. 3 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 558. Inter-Am System of Human Rights. 2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 559. Law and Popular Culture. 3 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 560. Port Safety and Security. 1 Credit Hour.

Components: LEC.

Grading: GRD.

LAW 561. Education Reform, Policy, and the Social Organization of Schooling. 3 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 562. International Maritime. 2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 563. Trusts and Estates Essentials. 2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 564. Introduction to Caribbean Law. 3 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 565. Adv Programming for Lawyers. 3 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 566. Memos, Pleadings, and Motions. 2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 567. Legal Advocacy and Same-Sex Marriage. 1 Credit Hour.

Components: LEC.

Grading: GRD.

LAW 568. Patent Litigation. 2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 569. Race, Class, and Power: University Course on the #BlackLivesMatter Movement. 3 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 570. Spanish for Lawyers II. 3 Credit Hours.

Prerequisite: Spanish For Lawyers (Beginner).

Components: LEC.

Grading: GRD.

LAW 571. International State Responsibility. 2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 572. Property Rights and the Taking Issue. 1 Credit Hour.

Prerequisite: US Con Law I.

Components: LEC.

Grading: GRD.

LAW 573. Data Security and Incident Response. 1 Credit Hour.

Components: LEC.

Grading: GRD.

LAW 574. The Law and Lawyers in Modern Literature. 2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 575. Comparative Criminal Justice. 1 Credit Hour.

Components: LEC.

Grading: GRD.

LAW 576. The Language of Habeas. 1 Credit Hour.

Components: LEC.

Grading: GRD.

LAW 577. Latin American Law and Institutions. 1 Credit Hour.

Components: LEC.

Grading: GRD.

LAW 578. Forensics of Advocacy in International Arbitration I. 2 Credit Hours.

LW: Requisite: Plan of International Arbitration LL.M or JD/ International Arbitration.

Components: LEC.

Grading: GRD.

LAW 579. Forensics of Advocacy in International Arbitration II. 2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 580. Health Law Fundamentals: General Practice. 2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 581. Florida Equity. 2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 582. Cyber Security Policy and Regulations. 2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 583. THE EVOLUTION OF PRODUCT LIABILITY IN THE UNITED STATES. 1 Credit Hour.

Components: LEC.

Grading: GRD.

LAW 584. BLOCKCHAIN TECHNOLOGY AND BUSINESS STRATEGIES. 1 Credit Hour.

Components: LEC.

Grading: GRD.

LAW 585. Social Media and the Law. 2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 586. Federal Policymaking: Legislation, Regulation, and Litigation. 3 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 587. Judgment and Decision Making. 3 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 588. Post Conviction Relief. 1 Credit Hour.

Components: LEC.

Grading: GRD.

LAW 590. Project Finance in Latin America. 2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 591. Ancient Greek and Roman Law. 3 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 592. Law of Exoneration of the Innocent. 2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 593. Justice and the Pro Bono Ethic. 2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 594. Advanced Trademark. 2 Credit Hours.

Prerequisite: Trademark.

Components: LEC.

Grading: GRD.

LAW 596. Florida Family Law: Parenting Issues. 2 Credit Hours.

Prerequisite: Family Law taken prior or concurrent with this course.

Components: LEC.

Grading: GRD.

LAW 598. Florida Family Law: Financial Issues. 2 Credit Hours.

Prerequisite: Family Law taken prior or concurrent with this course.

Components: LEC.

Grading: GRD.

LAW 599. Law, Policy, and Technology. 2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 600. Privacy Seminar. 2 Credit Hours.

Components: SEM.

Grading: GRD.

LAW 601. Environmental Planning and the Environmental Impact Statement. 3 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 602. Cultural Property and Heritage. 3 Credit Hours.

Components: EXP.

Grading: GRD.

LAW 603. International Commercial Arbitration. 2 Credit Hours.

LW: Requisite: Plan of International Arbitration LL.M or JD/ International Arbitration.

Components: SEM.

Grading: GRD.

LAW 604. Disaster Law Seminar. 2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 605. Topics in Citizenship and Immigration Law Seminar. 2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 606. International Law and Armed Conflict Seminar. 2 Credit Hours.**Components:** LEC.**Grading:** GRD.**LAW 607. Race and Class in American Public Education: Access, Equity, and Reform. 2 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 608. Islamic Finance Seminar. 2 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 609. Emotion and the Law. 1 Credit Hour.****Components:** LEC.**Grading:** GRD.**LAW 610. Litigation Structure: Transition to Practice Seminar. 2 Credit Hours.**

Pre-requisites: Evidence; Co-requisite: Litigation Skills.

Components: LEC.**Grading:** GRD.**LAW 611. Work Law Sem. 2 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 612. Sexual Orientation, Transsexuality, and Family Law Seminar. 2 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 613. Sexuality and the Law Seminar. 2 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 614. American Labor Law History Seminar. 2 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 615. Making Corporate Compliance Systems Work Seminar. 2 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 616. Reparation and Restorative Justice Seminar. 2 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 617. Caribbean Law II Seminar. 2 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 618. The Politico-Legal Theory of Empire Seminar. 2 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 619. Comparative Corporate Governance Sem. 2 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 620. The Wire Seminar. 2 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 621. Sources of and Responses to the New Equality. 2 Credit Hours.****Components:** SEM.**Grading:** GRD.**LAW 622. American Legal History Seminar. 2 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 623. Women and the Law Stories Seminar. 2 Credit Hours.****Components:** LEC.**Grading:** GRD.

LAW 624. Death Penalty Seminar. 2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 625. Philosophy of Law Seminar. 2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 626. Advanced Torts. 2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 627. Law and Politics of Global Governance Seminar. 2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 628. Contemporary Issues in Class Action Litigation Seminar. 2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 629. Conservation, Tourism, and Development Seminar (Coastal Management). 3 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 630. Fourth Amendment Seminar. 2 Credit Hours.

Components: SEM.

Grading: GRD.

LAW 631. Workers Compensations Seminar. 2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 632. Scientific Evidence: In Theory and in Court. 2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 633. International Sustainable Development Seminar. 2 Credit Hours.

Pre-requisite: At least one of the following: international law, international environmental law, international economic law, environmental law.

Components: SEM.

Grading: GRD.

LAW 634. Complex Litigation Seminar. 2 Credit Hours.

Components: SEM.

Grading: GRD.

LAW 635. Feminism and the First Amendment. 2 Credit Hours.

Components: SEM.

Grading: GRD.

LAW 636. Professional Liability and Malpractice Seminar. 2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 637. Constitutionalism, Democracy, and Human Rights. 2 Credit Hours.

Components: SEM.

Grading: GRD.

LAW 638. Advanced New York Convention Workshop. 2 Credit Hours.

LW: Requisite: Plan of International Arbitration LL.M or JD/ International Arbitration.

Components: LEC.

Grading: GRD.

LAW 639. The Criminalization of Homelessness: Causes, Policy Responses, and Practical Lawyering. 2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 640. General Jurisprudence Seminar. 2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 641. Criminal Justice Colloquium. 2 Credit Hours.**Components:** LEC.**Grading:** GRD.**LAW 642. Political Influences on the Judiciary Seminar. 2 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 644. Wine Law Sem. 2 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 645. Current Topics in Criminal Litigation Seminar. 2 Credit Hours.**

Pre-Requisite for Current Topics in Criminal Litigation Seminar.

Components: SEM.**Grading:** GRD.**LAW 646. Voting Rights Seminar. 2 Credit Hours.****Components:** SEM.**Grading:** GRD.**LAW 647. Employment Discrimination Seminar. 2 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 648. Intellectual Property Theory Seminar. 2 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 649. Water Law Seminar. 2 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 651. Public Int Law and Ethics. 2 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 652. Advanced Bankruptcy: Cross-Border, Municipal, and ABC Proceeding. 2 Credit Hours.**

Prerequisite: Bankruptcy previously or concurrent.

Components: SEM.**Grading:** GRD.**LAW 653. Litigation: Past, Present, and Future. 2 Credit Hours.****Components:** SEM.**Grading:** GRD.**LAW 654. Constitution, Rights, and Territory in American History Seminar. 2 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 656. Public Sector Employment Law Seminar. 2 Credit Hours.****Components:** SEM.**Grading:** GRD.**LAW 657. Advanced Immigration. 2 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 658. Mindfulness and Motivating Business Compliance with the Law. 1 Credit Hour.****Components:** LEC.**Grading:** GRD.**LAW 659. Minority Rights in International Law Seminar. 2 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 660. First Amendment Fundamentalism. 2 Credit Hours.****Components:** SEM.**Grading:** GRD.

LAW 661. Marine Pollution Seminar. 2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 662. Comparative Criminal Law Seminar. 2 Credit Hours.

Components: SEM.

Grading: GRD.

LAW 663. Law of the Sea Seminar. 2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 664. The Duty to Protect Seminar. 2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 665. Family Reproduction and Science. 2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 666. Internet Law. 2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 667. Advanced Constitutional Law Seminar. 2 Credit Hours.

Components: SEM.

Grading: GRD.

LAW 668. Reorganization in Bankruptcy. 2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 669. Pretrial Litigation Practice. 2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 670. Marine Ecology and the Law Seminar. 2-3 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 671. International Organizations Seminar. 2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 672. American Public Education Law Seminar. 2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 673. Business Planning Seminar. 2 Credit Hours.

Prerequisite: Business Associations and Federal Income Tax I.

Components: SEM.

Grading: GRD.

LAW 674. Food Law Seminar. 2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 675. Marine Insurance. 2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 676. Transitional Justice and Human Rights Seminar. 2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 677. Ethics 2030: The Next Agenda for the Model Rules of Professional Responsibility. 2 Credit Hours.

Prerequisite: Professional Responsibility.

Components: SEM.

Grading: GRD.

LAW 678. Pre-Emption Seminar. 2 Credit Hours.**Components:** LEC.**Grading:** GRD.**LAW 679. General Jurisprudence Seminar. 2 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 680. Globalization and Law Seminar. 2 Credit Hours.****Components:** SEM.**Grading:** GRD.**LAW 681. FEDERAL ARBITRATION ACT. 2 Credit Hours.**

LW: Requisite: Plan of International Arbitration LL.M or JD/ International Arbitration.

Components: SEM.**Grading:** GRD.**LAW 682. Torture and the Law. 3 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 683. Trade in Antiquities: U.S. and International Law and Policy Seminar. 2 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 684. Everglades Seminar. 2 Credit Hours.****Components:** SEM.**Grading:** GRD.**LAW 685. Advanced Arbitration Seminar. 3 Credit Hours.****Components:** SEM.**Grading:** GRD.**LAW 686. International Business Crimes. 2 Credit Hours.****Components:** SEM.**Grading:** GRD.**LAW 687. Global Lawyering. 2 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 688. Issues in Appellate Law Seminar. 2 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 689. Procedure: Legislative and Judicial Seminar. 2 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 690. Florida Mortgage Law Seminar. 2 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 691. Topics in Jewish Law Seminar. 2 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 692. Contemporary Civil Rights Problems Seminar. 2 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 693. Selected Readings in Gender Violence. 2 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 694. Arms Control Seminar. 2 Credit Hours.****Components:** SEM.**Grading:** GRD.**LAW 695. Introduction to Federal and Florida Arbitration Seminar. 2 Credit Hours.****Components:** LEC.**Grading:** GRD.

LAW 696. The Islamic Legal System Seminar. 2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 697. Comparative Criminal Justice Seminar. 2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 698. Critical Race Feminism Seminar. 2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 699. Judge in Jewish and U.S. Legal Systems in Comparative Perspectives Seminar. 2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 700. Advanced Appellate Advocacy I. 2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 701. Intercollegiate Athletics: Law, Policy, and Regulatory Landscape. 1 Credit Hour.

Components: LEC.

Grading: GRD.

LAW 702. Advanced Appellate Advocacy II. 2 Credit Hours.

Components: WKS.

Grading: GRD.

LAW 703. Criminal Justice Policy Reform. 2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 704. Writing Weapons in the Litigators Arsenal Workshop. 2 Credit Hours.

Components: SEM.

Grading: GRD.

LAW 705. African Probate and Policy Initiative. 4 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 706. Evidentiary Theory Workshop. 2 Credit Hours.

Requisite: Must be graduating 3L or LLM.

Components: WKS.

Grading: GRD.

LAW 707. Special Topics in Federal Courts. 2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 708. Bankruptcy Clinic I. 3 Credit Hours.

Components: CLN.

Grading: GRD.

LAW 709. Bankruptcy Clinic II. 3 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 710. Fundamentals of Human Rights Law. 1 Credit Hour.

Components: LEC.

Grading: GRD.

LAW 711. Death Penalty Practicum. 4 Credit Hours.

Components: CLN.

Grading: GRD.

LAW 712. Criminal Evidence Ws. 2 Credit Hours.

Prerequisite: Evidence.

Components: LEC.

Grading: GRD.

LAW 713. Climate and Energy Seminar. 2 Credit Hours.**Components:** LEC.**Grading:** GRD.**LAW 714. Class Action Litigation Workshop. 2 Credit Hours.****Components:** SEM.**Grading:** GRD.**LAW 715. Judicial Writing. 2 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 716. Florida Appellate Workshop. 2 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 717. Craft Alcohol Beverage and Cannabis: Reg and Transactional Considerations for Industry and Investors. 1 Credit Hour.****Components:** LEC.**Grading:** GRD.**LAW 718. Advanced Civil Rights Litigation. 2 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 719. Ethical and Professional Consideration in Legal Writing. 2 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 720. Meltdown: Impact of Recent Economic Events - Financial Institutions Mergers and Acquisitions. 2 Credit Hours.****Components:** SEM.**Grading:** GRD.**LAW 721. Electronic Discovery. 2 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 722. Business Litigation. 2 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 723. International Investment Agreements. 1 Credit Hour.****Components:** LEC.**Grading:** GRD.**LAW 724. Housing Law Workshop. 2 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 725. Negotiation Skills. 1 Credit Hour.****Components:** LEC.**Grading:** GRD.**LAW 726. Collaborative Family Law Workshop. 2 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 727. Aviation Law W/S. 2 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 728. Cross Cultural Mediation. 2 Credit Hours.**

Requisite: Plan of LLM.

Components: WKS.**Grading:** GRD.**LAW 729. Real Estate Transactions Workshop. 2 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 730. Advanced Workshop On Wto Dispute Settlement. 1 Credit Hour.****Components:** LEC.**Grading:** GRD.

LAW 731. Wrongful Convictions: Causes and Remedies. 2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 732. Law and Economics of Intellectual Property and Innovation. 1 Credit Hour.

Components: LEC.

Grading: GRD.

LAW 733. Comparative Admiralty and Maritime Law. 2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 734. Marine Insurance W/S. 2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 735. Community Lawyering Clinic I. 4 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 736. Community Lawyering. 4 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 737. Children and Youth Law Clinic I. 6 Credit Hours.

Components: CLN.

Grading: GRD.

LAW 738. Children and Youth Law Clinic II. 6 Credit Hours.

Components: CLN.

Grading: GRD.

LAW 739. Advanced Appellate Advocacy and Procedure Workshop. 2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 740. Mediation Advocacy. 2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 741. Introduction to the Deal. 3 Credit Hours.

Prerequisite: Business Associations.

Components: LEC.

Grading: GRD.

LAW 742. Mediation. 2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 743. Law and the Media. 2 Credit Hours.

Components: SEM.

Grading: GRD.

LAW 744. Medical-Legal Interdisciplinary Clinic. 2 Credit Hours.

Components: SEM.

Grading: GRD.

LAW 745. Legal and Ethical Issues of Dying Workshop. 2 Credit Hours.

Components: SEM.

Grading: GRD.

LAW 747. International Moot Court I. 2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 748. International Moot Court II. 2 Credit Hours.

Components: WKS.

Grading: GRD.

LAW 749. Reorganization in Bankruptcy Workshop. 2 Credit Hours.

Prerequisite: Bankruptcy previously or concurrent.

Components: WKS.

Grading: GRD.

LAW 750. Advanced Evidence Workshop. 2-3 Credit Hours.

Components: SEM.

Grading: GRD.

LAW 751. Legal Writing Skills: Revised and Sharpened. 2 Credit Hours.

Components: SEM.

Grading: GRD.

LAW 752. Trial Competition Workshop. 1-2 Credit Hours.

Components: WKS.

Grading: GRD.

LAW 753. Poverty Law, Policy, and Practice. 3 Credit Hours.

Components: WKS.

Grading: GRD.

LAW 754. Religion and Antidiscrimination Workshop. 2 Credit Hours.

Components: SEM.

Grading: GRD.

LAW 755. Juvenile Justice Workshop. 2 Credit Hours.

Components: SEM.

Grading: GRD.

LAW 756. Arbitral Proceedings Workshop. 3 Credit Hours.

Components: SEM.

Grading: GRD.

LAW 757. Summary Judgement Workshop. 2 Credit Hours.

Components: SEM.

Grading: GRD.

LAW 758. Professional Responsibility and Ethics I Workshop. 3 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 759. Removal and Asylum Workshop. 2 Credit Hours.

Components: SEM.

Grading: GRD.

LAW 760. Human Rights Clinic. 6 Credit Hours.

Components: CLN.

Grading: GRD.

LAW 761. Animal Law Workshop. 3 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 762. Latin American Contracts. 2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 763. White Collar Crime. 2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 764. Federal and State Arbitration Workshop. 2 Credit Hours.

Components: SEM.

Grading: GRD.

LAW 765. Human Rights Clinic I. 6 Credit Hours.

Components: CLN.

Grading: GRD.

LAW 766. Human Rights Clinic II. 6 Credit Hours.

Components: CLN.

Grading: GRD.

LAW 767. Government Ethics. 2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 768. Criminal Prosecution and Defense Lawyering. 2 Credit Hours.

Prerequisite: Criminal Procedure and Substantive Criminal Law.

Components: LEC.

Grading: GRD.

LAW 769. Legal Protection of the Ocean and its Biodiversity. 2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 770. THE PRACTICE OF THE NY CONVENTION. 1 Credit Hour.

Components: LEC.

Grading: GRD.

LAW 771. Winning Federal Motions Practice I. 2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 772. Winning Federal Motion Practice II. 2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 773. Tenants Rights Clinic. 6 Credit Hours.

Components: CLN.

Grading: GRD.

LAW 774. Zurich Program. 2-3 Credit Hours.

Components: EXP.

Grading: GRD.

LAW 775. Maritime and Coastal Legal and Policy Issues in Miami. 1 Credit Hour.

Components: EXP.

Grading: GRD.

LAW 776. Family Mediation Workshop. 2 Credit Hours.

Components: WKS.

Grading: GRD.

LAW 777. Litigation Skills I: Summer Intensive. 6 Credit Hours.

Components: SEM.

Grading: GRD.

LAW 778. Professional Responsibility and Ethics Workshop II. 3 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 779. Federal Appellate Clinic I. 3 Credit Hours.

Components: PRA.

Grading: GRD.

LAW 780. Litigation Skills I Workshop: Pretrial. 3 Credit Hours.

Prerequisite: Evidence or Analysis of Evidence.

Components: PRA.

Grading: GRD.

LAW 781. Advanced Techniques of Persuasion. 2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 782. The Courts Beat. 3 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 783. Death Penalty Workshop. 2 Credit Hours.

Components: SEM.

Grading: GRD.

LAW 784. University of Strathclyde-Miami Law Clinic Exchange Workshop. 2 Credit Hours.**Components:** WKS.**Grading:** GRD.**LAW 785. Health Rights Clinic I. 6 Credit Hours.****Components:** CLN.**Grading:** GRD.**LAW 786. Health Rights Clinic II. 1-6 Credit Hours.****Components:** CLN.**Grading:** GRD.**LAW 787. Street Law I. 2 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 788. Street Law II. 2 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 789. Innocence Clinic I. 4 Credit Hours.****Components:** CLN.**Grading:** GRD.**LAW 790. Effective Client Communications. 2 Credit Hours.**

Prerequisite: Civil Procedure I, LComm I and II.

Components: LEC.**Grading:** GRD.**LAW 791. Children and Youth Law Clinic. 6 Credit Hours.****Components:** CLN.**Grading:** GRD.**LAW 792. Innocence Clinic II. 4 Credit Hours.****Components:** CLN.**Grading:** GRD.**LAW 793. Investor Rights Clinic. 6 Credit Hours.****Components:** CLN.**Grading:** GRD.**LAW 794. Federal Appellate Clinic II. 3 Credit Hours.****Components:** PRA.**Grading:** GRD.**LAW 795. Miami Leipzig Exchange. 2-3 Credit Hours.****Components:** EXP.**Grading:** GRD.**LAW 796. Transportation Workshop. 2 Credit Hours.****Components:** SEM.**Grading:** GRD.**LAW 797. Immigration Clinic I. 6 Credit Hours.****Components:** CLN.**Grading:** GRD.**LAW 798. Immigration Clinic II. 4 Credit Hours.****Components:** CLN.**Grading:** GRD.**LAW 799. Startup Practicum. 6 Credit Hours.****Components:** EXP.**Grading:** GRD.**LAW 800. Upper Level Writing Requirement. 2-3 Credit Hours.****Components:** THI.**Grading:** GRD.**LAW 801. Individual Research. 1 Credit Hour.****Components:** THI.**Grading:** GRD.

LAW 802. Independent Research. 2 Credit Hours.

Components: THI.

Grading: GRD.

LAW 803. Individual Research. 3 Credit Hours.

Components: THI.

Grading: GRD.

LAW 804. Individual Research. 1-4 Credit Hours.

Components: THI.

Grading: GRD.

LAW 805. Graduate Thesis - Real Property. 1-2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 806. Grad Thesis - Tax. 1-2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 807. GRADUATE WRITING - MARITIME LAW. 2 Credit Hours.

Components: THI.

Grading: GRD.

LAW 808. Guided Research - Tax. 1-3 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 809. Interamerican Human Rights Practice. 1-3 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 810. Ind Grad Research. 1-4 Credit Hours.

Components: THI.

Grading: GRD.

LAW 811. Cergy-Pontoise University, France. 1-17 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 812. Moot Court Competition Ny Bar Comp. 2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 813. Moot Court State Competition. 1-2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 814. Moot Court Advisor. 1-2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 815. Social Impact Advocacy Practicum. 2 Credit Hours.

Co-requisite: Soc Impact Advocacy Seminar.

Components: PRA.

Grading: GRD.

LAW 816. Business Law Review. 2-3 Credit Hours.

Components: THI.

Grading: GRD.

LAW 817. University of Miami Law Review. 2-3 Credit Hours.

Components: THI.

Grading: GRD.

LAW 818. International and Comparative Law Review. 2-3 Credit Hours.

Components: THI.

Grading: GRD.

LAW 819. Inter-American Law Review Writing. 2-3 Credit Hours.

Components: IND.

Grading: GRD.

LAW 820. Sum Pub Int Progrm. 3 Credit Hours.**Components:** LEC.**Grading:** GRD.**LAW 822. Practicum. 1 Credit Hour.****Components:** SEM.**Grading:** GRD.**LAW 823. Real Property Internship. 1 Credit Hour.****Components:** THI.**Grading:** GRD.**LAW 826. Cyber Civil Rights Initiative Practicum. 2 Credit Hours.**

Pre-req and/or Co-Req: Law, Policy, and Technology; Civil Rights Litigation; or The Wire.

Components: PRA.**Grading:** GRD.**LAW 827. Florida Supreme Court Internship. 1-12 Credit Hours.****Components:** SEM.**Grading:** GRD.**LAW 828. Psychology Public Policy and Law Journal. 1-3 Credit Hours.****Components:** SEM.**Grading:** GRD.**LAW 829. Bankruptcy Moot Court Competition. 2 Credit Hours.****Components:** PRA.**Grading:** GRD.**LAW 830. Workers Compensation Competition-Moot Court. 1-2 Credit Hours.****Components:** SEM.**Grading:** GRD.**LAW 831. Vis Moot Court Competition. 2 Credit Hours.****Components:** SEM.**Grading:** GRD.**LAW 832. Civil Rights Practicum. 2 Credit Hours.**

Pre-req and/or Co-Req: Law, Policy, and Technology; Civil Rights Litigation; or The Wire.

Components: PRA.**Grading:** GRD.**LAW 833. Spanish for Lawyers: Individual Study. 3 Credit Hours.****Components:** THI.**Grading:** GRD.**LAW 834. PREP Fellows. 2-4 Credit Hours.****Components:** EXP.**Grading:** GRD.**LAW 835. Clinical Fellow. 1-6 Credit Hours.****Components:** CLN.**Grading:** GRD.**LAW 836. National Security and Armed Conflict Law Review. 1-2 Credit Hours.****Components:** THI.**Grading:** GRD.**LAW 837. Writing and Editing for Lawyers. 2 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 838. Judicial Writing. 3 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 839. Race and Social Justice Law Review. 2-3 Credit Hours.****Components:** THI.**Grading:** GRD.

LAW 840. CEPS 3L Fellowship. 1-4 Credit Hours.

Components: THI.

Grading: GRD.

LAW 841. 3L Fellowship Spring. 1-4 Credit Hours.

Components: THI.

Grading: GRD.

LAW 842. Bucerius Program. 12.00 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 843. Freie Univeristat Exchange Program. 12-16 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 844. Fgv- Direito, Rio De Janiero Exchange Program. 12.00 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 845. Externship: Judicial. 3-6 Credit Hours.

Components: EXP.

Grading: GRD.

LAW 846. University College Dublin, Ireland Exchange Program. 12.00 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 847. University of Versailles, France Exchange Program. 1-16 Credit Hours.

Components: DIS.

Grading: GRD.

LAW 848. Haifa Univ Exchang. 12.00 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 849. Lwow X Compliance. 2 Credit Hours.

Components: DIL.

Grading: GRD.

LAW 850. Externship:Burton Young Fellow. 1-6 Credit Hours.

Components: EXP.

Grading: GRD.

LAW 851. Economic Sociology: A Theory Seminar. 0 Credit Hours.

Components: SEM.

Grading: GRD.

LAW 852. Social Justice Engagement and Reflection. 1 Credit Hour.

Components: LEC.

Grading: GRD.

LAW 853. STL: Shenzhen, China. 12.00 Credit Hours.

Components: EXP.

Grading: GRD.

LAW 854. Environmental Justice Clinic Practicum I. 6 Credit Hours.

Components: EXP.

Grading: GRD.

LAW 855. Zurich, University of Zurich. 2-11 Credit Hours.

Components: DIL.

Grading: GRD.

LAW 856. Environmental Justice Clinic Practicum II. 6 Credit Hours.

Components: PRA.

Grading: GRD.

LAW 860. University of Sao Paulo. 12.00 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

LAW 861. Fgu Direito Rio. 1-12 Credit Hours.**Components:** LEC.**Grading:** GRD.**Typically Offered:** Fall, Spring, & Summer.**LAW 862. Advanced International Moot Court. 2 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 863. Esade, Barcelona. 12.00 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 864. University of Peking Tra. 1-12 Credit Hours.****Components:** LEC.**Grading:** GRD.**Typically Offered:** Fall, Spring, & Summer.**LAW 866. Cyber Civil Rights Initiative Practicum II. 2 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 867. IE, Madrid. 12.00 Credit Hours.****Components:** LEC.**Grading:** GRD.**Typically Offered:** Fall, Spring, & Summer.**LAW 870. Externship: Civil Rights. 1 Credit Hour.****Components:** EXP.**Grading:** GRD.**LAW 873. Externship: Transactional. 3-6 Credit Hours.****Components:** EXP.**Grading:** GRD.**LAW 874. Health Law and Practice Practicum. 3 Credit Hours.****Components:** PRA.**Grading:** GRD.**LAW 876. Litigation Skills II: Criminal Litigation. 3 Credit Hours.**

Prerequisite: Litigation Skills I.

Components: EXP.**Grading:** GRD.**LAW 877. Litigation Skills II: Business Litigation. 3 Credit Hours.**

Prerequisite: Litigation Skills I.

Components: EXP.**Grading:** GRD.**LAW 878. Litigation Skills II: Trial Team. 3 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 879. Litigation Skills Externship. 3-6 Credit Hours.**

Prerequisite: Litigation Skills I.

Components: EXP.**Grading:** SUS.**LAW 880. Litigation Skills I Workshop: Trial. 3 Credit Hours.**

Prerequisite: Evidence or Analysis of Evidence.

Components: PRA.**Grading:** GRD.**LAW 881. Criminal Justice Policy Reform Practicum. 2 Credit Hours.**

Pre-Req: Must be enrolled in the Criminal Justice Policy Reform Lecture (LAW703).

Components: EXP.**Grading:** GRD.**LAW 882. EBS Law School Exchange Program. 3-7 Credit Hours.****Components:** EXP.**Grading:** GRD.

LAW 883. Externship: Washington Dc. 9 Credit Hours.

Components: EXP.

Grading: GRD.

LAW 884. Immigration Rights Externship. 3 Credit Hours.

Components: SEM.

Grading: GRD.

LAW 885. LLM Practicum. 3-6 Credit Hours.

Components: PRA.

Grading: SUS.

LAW 886. Llm Externship. 2 Credit Hours.

Components: THI.

Grading: GRD.

LAW 888. Health Law Externship. 3 Credit Hours.

Components: PRA.

Grading: GRD.

LAW 889. LLM Practicum. 3-6 Credit Hours.

Components: PRA.

Grading: SUS.

LAW 890. LLM Practicum II. 2-6 Credit Hours.

Components: PRA.

Grading: GRD.

LAW 891. Paris 5, Descartes University. 2-16 Credit Hours.

Components: DIL.

Grading: GRD.

LAW 893. Urban Problems W/S. 2 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

LAW 896. Externship I. 3 Credit Hours.

Components: EXP.

Grading: GRD.

LAW 897. Externship II. 3 Credit Hours.

Components: EXP.

Grading: GRD.

LAW 898. Externship III. 3 Credit Hours.

Components: EXP.

Grading: GRD.

LAW 900. ENTERTAINMENT, ARTS, AND SPORTS LAW SPEAKER SERIES. 0 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 901. Introduction to U.S. Litigation. 1 Credit Hour.

Requisite: Plan of International Law or JD/LLM Int'l, International Law or JD/LLM Int'l Arbitration.

Components: LEC.

Grading: GRD.

LAW 902. Legal Aspects of TV Production in Latin America. 1 Credit Hour.

Requisite: Plan of LL.M Entertainment, Arts, & Sports Law or JD/ Ent, Arts, & Sports; LL.M International or JD/Intl. JD students can enroll with permission of Harold Flegelman.

Components: LEC.

Grading: GRD.

LAW 903. Purchase and Sale of a Minor League Baseball Team. 1 Credit Hour.

Requisite: Plan of Entertainment, Arts, & Sports Law or JD/ Ent, Arts, & Sports. JD students can enroll with permission of Harold Flegelman.

Components: LEC.

Grading: GRD.

LAW 904. Representing a Professional Sports Franchise. 1 Credit Hour.

Components: LEC.

Grading: GRD.

LAW 905. International and Comparative Symposium. 1 Credit Hour.**Components:** LEC.**Grading:** GRD.**LAW 906. Legal Issues in Motion Picture Production and Distribution. 1 Credit Hour.**

Requisite: Plan of Entertainment, Arts, & Sports Law or JD/ Ent, Arts, & Sports. JD students can enroll with permission of Harold Flegelman.

Components: LEC.**Grading:** GRD.**LAW 907. Intellectual Property Transactions and Negotiations. 1 Credit Hour.**

Requisite: Plan of Entertainment, Arts, & Sports Law or JD/ Ent, Arts, & Sports. JD students can enroll with permission of Harold Flegelman.

Components: LEC.**Grading:** GRD.**LAW 909. Bankruptcy Tax. 2-3 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 910. International and Comparative Media Law. 1 Credit Hour.****Components:** LEC.**Grading:** GRD.**LAW 911. Death Penalty Clinic. 1-6 Credit Hours.****Components:** PRA.**Grading:** GRD.**LAW 912. Music Law. 1 Credit Hour.****Components:** LEC.**Grading:** GRD.**LAW 913. Crimes at Sea. 1 Credit Hour.****Components:** LEC.**Grading:** GRD.**LAW 914. Mindfulness and the Law. 2 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 915. Cutting Edge Issues for Sports Law Practitioners in a Collectively Bargained World. 1 Credit Hour.**

Requisite: Plan of Entertainment, Arts, & Sports Law or JD/ Ent, Arts, & Sports. JD students can enroll with permission of Harold Flegelman.

Components: LEC.**Grading:** GRD.**LAW 916. International Tax: Outbound Transactions. 2 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 917. High Net Worth Individuals. 2 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 918. Advanced Topics in Bankruptcy. 2 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 919. Bias and the Law. 2 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 921. E-Discovery. 2 Credit Hours.****Components:** LEC.**Grading:** GRD.**LAW 922. Law and Policy of Charitable Foundations Created by Entertainers, Athletes, and Artists. 1 Credit Hour.****Components:** LEC.**Grading:** GRD.**LAW 923. Legal Issues in Guantanamo. 2 Credit Hours.****Components:** LEC.**Grading:** GRD.

LAW 924. Fundamentals of Federal Income Tax. 3-4 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 925. Fundamentals of Federal Income Tax. 3-4 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 926. Copyright and Trademark Litigation. 1 Credit Hour.

Requisite: Plan of Entertainment, Arts, & Sports Law or JD/ Ent, Arts, & Sports. JD students can enroll with permission of Harold Flegelman.

Components: LEC.

Grading: GRD.

LAW 927. Media Distribution. 2 Credit Hours.

Requisite: Plan of Entertainment, Arts, & Sports Law or JD/ Ent, Arts, & Sports. JD students can enroll with permission of Harold Flegelman.

Components: LEC.

Grading: GRD.

LAW 928. Introduction to the Probate Process. 1-2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 930. International Transactions-South America. 1 Credit Hour.

Components: LEC.

Grading: GRD.

LAW 932. Condominiums, Cooperatives, and Planned Developments. 2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 933. Reorganizations (Tax-Llm). 1 Credit Hour.

Components: LEC.

Grading: GRD.

LAW 934. Financial Analysis of Real Estate Transactions. 1 Credit Hour.

Components: LEC.

Grading: GRD.

LAW 935. Feminism and First Amendment. 2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 936. Democracy, Constitutionalism, and Human Rights. 2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 937. Children and Youth Law Clinic I. 1-4 Credit Hours.

Components: PRA.

Grading: GRD.

LAW 938. Children and Youth Law Clinic II. 4-6 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 939. Law and the Media Seminar. 2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 940. Orak Forensic Skills. 2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 941. Comparative Practical Training. 1 Credit Hour.

Components: PRA.

Grading: GRD.

LAW 943. Federal Tax Proc. 2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 945. Federal Tax Research Methods. 1 Credit Hour.

Components: LEC.

Grading: GRD.

LAW 946. Federal Wealth Transfer Tax. 2-4 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 947. International Moot Court. 2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 948. Taxation of Business Entities: Corporate. 3 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 949. Property Transactions. 3 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 950. Public Interest Law and Leadership. 2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 951. Legal Research Techniques. 3 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 952. Wetlands Regulation and Real Property. 1 Credit Hour.

Components: LEC.

Grading: GRD.

LAW 953. Real Estate Transactions Workshop. 1-2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 954. Criminal Tax Procedure. 1 Credit Hour.

Components: LEC.

Grading: GRD.

LAW 955. Housing Law and Policy. 1 Credit Hour.

Components: LEC.

Grading: GRD.

LAW 956. Securitization of Real Estate. 1 Credit Hour.

Components: LEC.

Grading: GRD.

LAW 958. Professional Responsibility and Ethics I Workshop. 3 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 960. Human Rights Clinic. 4-6 Credit Hours.

Components: PRA.

Grading: GRD.

LAW 964. Advanced Corporate Tax. 2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 966. Advanced Condos, Co-Ops, and Planned Developments. 2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 967. Drafting Design and Construction Documents. 1 Credit Hour.

Components: LEC.

Grading: GRD.

LAW 969. Law of Green Buildings. 1 Credit Hour.

Components: LEC.

Grading: GRD.

LAW 970. Current Issues in Real Estate Finance. 1 Credit Hour.

Components: LEC.

Grading: GRD.

LAW 971. Environmental Regulation of Real Property. 1 Credit Hour.

Components: LEC.

Grading: GRD.

LAW 972. Adr Design Systems. 2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 973. Income Tax Treaties. 1-3 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 974. Federal Tax Planning. 2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 975. Title Insurance. 1 Credit Hour.

Components: LEC.

Grading: GRD.

LAW 979. Federal Appellate Clinic. 4 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 98. Fall 1L Billing Course. 16 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 982. Torture and the Law. 3 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 983. Financial Instruments. 2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 985. Health and Elder Law Clinic: Medical Legal Partnership. 4-6 Credit Hours.

Components: PRA.

Grading: GRD.

LAW 986. Health and Elder Law Clinic II. 6 Credit Hours.

Components: CLN.

Grading: GRD.

LAW 988. Doing Business in Latin America Workshop. 2 Credit Hours.

Components: LEC.

Grading: GRD.

LAW 989. Miami Innocence Clinic. 1-4 Credit Hours.

Components: PRA.

Grading: GRD.

LAW 991. Children and Youth Law Clinic. 4-6 Credit Hours.

Components: PRA.

Grading: GRD.

LAW 993. Investor Rights Clinic. 1-6 Credit Hours.

Components: PRA.

Grading: GRD.

LAW 996. The Seven Habits of Highly Effective People. 0 Credit Hours.

Components: LEC.

Grading: SUS.

LAW 997. Immgration Clinic. 2-6 Credit Hours.

Components: PRA.

Grading: GRD.

LAW 998. Cross Borders Practice of Law Symposium. 1 Credit Hour.**Components:** LEC.**Grading:** GRD.**Typically Offered:** Fall.**LAW 999. Introduction to U.S. Law. 2 Credit Hours.****Requisite:** Plan of LLM.**Components:** LEC.**Grading:** GRD.**LAW SAB1. Law Semester Exchange. 1-6 Credit Hours.****Components:** EXP.**Grading:** GRD.**LAW SAB2. Law Semester Exchange. 1-6 Credit Hours.****Components:** EXP.**Grading:** GRD.**LAW SAB3. Law Semester Exchange. 1-6 Credit Hours.****Components:** EXP.**Grading:** GRD.**LAW SAB4. Law Semester Exchange. 1-6 Credit Hours.****Components:** EXP.**Grading:** GRD.**LAW SAB5. Law Semester Exchange. 1-6 Credit Hours.****Components:** EXP.**Grading:** GRD.**LAW SAB6. Law Semester Exchange. 1-6 Credit Hours.****Components:** EXP.**Grading:** GRD.**LAW SEP. Law Semester Exchange. 1-17 Credit Hours.****Components:** EXP.**Grading:** GRD.

Law Writing

WRT 100. Business Associations. 4 Credit Hours.**Components:** LEC.**Grading:** GRD.**WRT 151. Legal Research Techniques. 1-3 Credit Hours.****Components:** LEC.**Grading:** GRD.**WRT 161. Mortgage Crisis. 3 Credit Hours.****Components:** LEC.**Grading:** GRD.**WRT 173. Law Without Walls. 3 Credit Hours.****Components:** LEC.**Grading:** GRD.**WRT 180. Domestic Violence. 3 Credit Hours.****Components:** LEC.**Grading:** GRD.**Typically Offered:** Fall & Spring.**WRT 181. Latin American Family Law. 2 Credit Hours.****Components:** LEC.**Grading:** GRD.**WRT 285. Regulation of Identification. 2 Credit Hours.****Components:** LEC.**Grading:** GRD.

WRT 290. American Legal Thought. 2 Credit Hours.

Components: LEC.

Grading: GRD.

WRT 291. Neuroscience for Law, Economics, and Business. 2 Credit Hours.

Components: LEC.

Grading: GRD.

WRT 294. Problem Solving Courts. 2 Credit Hours.

Components: LEC.

Grading: GRD.

WRT 318. Law of the Sea. 2-3 Credit Hours.

Components: LEC.

Grading: GRD.

WRT 336. International Finance. 3 Credit Hours.

Components: LEC.

Grading: GRD.

WRT 383. Immigration, Ethnicity, and Public Policy. 3 Credit Hours.

Components: LEC.

Grading: GRD.

WRT 394. Civil Rights, Economic Justice, and Independent Media. 3 Credit Hours.

Components: LEC.

Grading: GRD.

WRT 513. Mindfulness and the Law. 2 Credit Hours.

Components: LEC.

Grading: GRD.

WRT 518. Advanced Topics in Bankruptcy. 2.00 Credit Hours.

Components: SEM.

Grading: GRD.

WRT 519. Bias and the Law. 2.00 Credit Hours.

Components: LEC.

Grading: GRD.

WRT 523. Legal Issues in Guantánamo. 2 Credit Hours.

Components: LEC.

Grading: GRD.

WRT 594. Advanced Trademark. 2 Credit Hours.

Components: LEC.

Grading: GRD.

WRT 597. Transnational Family Law. 2 Credit Hours.

Components: LEC.

Grading: GRD.

WRT 599. Power: Ideals and Realities. 3 Credit Hours.

Components: LEC.

Grading: GRD.

WRT 600. African Probate and Policy Initiative. 4 Credit Hours.

Components: SEM.

Grading: GRD.

WRT 603. International Commercial Arbitration. 2 Credit Hours.

Components: LEC.

Grading: GRD.

WRT 607. Race and Class in American Public Education: Access, Equity, and Reform. 2 Credit Hours.

Components: LEC.

Grading: GRD.

WRT 610. Advanced Evidence Law and Litigation Structure Seminar. 2 Credit Hours.

Components: LEC.

Grading: GRD.

WRT 617. Caribbean Law II. 2 Credit Hours.

Components: LEC.

Grading: GRD.

WRT 620. The Wire - Seminar. 2 Credit Hours.

Components: LEC.

Grading: GRD.

WRT 622. Advanced Patent Law and Policy Seminar. 2 Credit Hours.

Components: SEM.

Grading: GRD.

WRT 629. Coastal Conservation and Development. 3 Credit Hours.

Components: LEC.

Grading: GRD.

WRT 632. Scientific Evidence. 2 Credit Hours.

Components: LEC.

Grading: GRD.

WRT 635. Feminism and the First Amendment. 2 Credit Hours.

Components: LEC.

Grading: GRD.

WRT 636. Professional Liability and Leg. 2 Credit Hours.

Components: LEC.

Grading: GRD.

WRT 637. Democracy, Constitutionalism, and Human Rights. 2.00 Credit Hours.

Components: SEM.

Grading: GRD.

WRT 639. Law and the Media Seminar. 2 Credit Hours.

Components: SEM.

Grading: GRD.

WRT 645. Current Topics in Criminal Litigation. 2 Credit Hours.

Components: LEC.

Grading: GRD.

WRT 651. Public Interest Law and Leadership. 2 Credit Hours.

Components: LEC.

Grading: GRD.

WRT 657. Advanced Immigration. 2 Credit Hours.

Components: LEC.

Grading: GRD.

WRT 662. Comparative Criminal Law. 2 Credit Hours.

Components: LEC.

Grading: GRD.

WRT 673. Business Planning Seminar. 2 Credit Hours.

Components: LEC.

Grading: GRD.

WRT 675. Marine Insurance Seminar. 2 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

WRT 677. Equality and the Law. 2 Credit Hours.

Components: LEC.

Grading: GRD.

WRT 681. Federal and State Arbitration. 2 Credit Hours.

Components: LEC.

Grading: GRD.

WRT 682. Torture and the Law. 3 Credit Hours.

Components: LEC.

Grading: GRD.

WRT 684. Everglades Seminar. 2 Credit Hours.

Components: SEM.

Grading: GRD.

WRT 685. Advanced Arbitration Seminar. 3 Credit Hours.

Components: LEC.

Grading: GRD.

WRT 686. International Business Crimes. 2 Credit Hours.

Components: LEC.

Grading: GRD.

WRT 696. Islamic Legal System. 2 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

WRT 702. Advanced Appellate Advocacy. 2 Credit Hours.

Components: WKS.

Grading: GRD.

WRT 709. Bankruptcy Clinic II. 3 Credit Hours.

Components: THI.

Grading: GRD.

WRT 711. Miami Death Penalty Clinic. 1-6 Credit Hours.

Components: PRA.

Grading: GRD.

WRT 713. Sexuality and the Law. 2 Credit Hours.

Components: WKS.

Grading: GRD.

WRT 715. Judicial Writing. 2 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

WRT 721. E-Discovery. 2 Credit Hours.

Components: WKS.

Grading: GRD.

WRT 736. Community Lawyering. 4 Credit Hours.

Components: THI.

Grading: GRD.

WRT 737. Children and Youth Law Clinic. 4-6 Credit Hours.

Components: PRA.

Grading: GRD.

WRT 738. Children and Youth Law Clinic W/S II. 4 Credit Hours.

Components: THI.

Grading: GRD.

WRT 741. Introduction to the Deal. 3 Credit Hours.

Components: WKS.

Grading: GRD.

WRT 743. Law and Media Seminar. 2 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

WRT 747. International Moot Court. 2 Credit Hours.

Components: WKS.

Grading: GRD.

WRT 749. Reorganization in Bankruptcy Seminar. 2 Credit Hours.

Components: LEC.

Grading: GRD.

WRT 751. Legal Writing Skills: Revised and Sharpened. 2 Credit Hours.

Components: LEC.

Grading: GRD.

WRT 760. Human Rights Clinic. 2-6 Credit Hours.

Components: PRA.

Grading: GRD.

WRT 771. Discovery in Civil Litigation. 3 Credit Hours.

Components: LEC.

Grading: GRD.

WRT 772. Winning Federal Motion Practice. 2 Credit Hours.

Components: WKS.

Grading: GRD.

WRT 773. Tenants Rights Clinic. 6 Credit Hours.

Components: THI.

Grading: GRD.

WRT 779. Federal Appellate Clinic. 4 Credit Hours.

Components: WKS.

Grading: GRD.

WRT 785. Health Rights and Elder Law Clinic I. 4-6 Credit Hours.

Components: PRA.

Grading: GRD.

WRT 786. Health and Elder Law Clinic II. 4 Credit Hours.

Components: THI.

Grading: GRD.

WRT 789. Miami Innocence Clinic. 1-4 Credit Hours.

Components: PRA.

Grading: GRD.

WRT 791. Children and Youth Law Clinic. 4-6 Credit Hours.

Components: LEC.

Grading: GRD.

WRT 793. Investor Rights Clinic. 6 Credit Hours.

Components: PRA.

Grading: GRD.

WRT 797. Immigration Clinic I. 2-6 Credit Hours.

Components: PRA.

Grading: GRD.

WRT 798. Immigration Clinic II. 4 Credit Hours.

Components: THI.

Grading: GRD.

WRT 801. Individual Research. 1 Credit Hour.

Components: THI.

Grading: GRD.

WRT 802. Individual Research. 2 Credit Hours.

Components: THI.

Grading: GRD.

WRT 803. Individual Research. 3 Credit Hours.

Components: THI.

Grading: GRD.

WRT 835. Center for Ethics and Public Service Clinical Placement. 1-6 Credit Hours.

Components: PRA.

Grading: GRD.

WRT 837. Writing and Editing for Lawyers. 2 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

Management (MGT)

MGT 251. Nature and Foundations of Entrepreneurship. 3 Credit Hours.

This course seeks to understand some of the basic social, legal, cultural, and economic infrastructure that enables and sustains the creation of new enterprises. Although conventional perspectives on entrepreneurship often overlook political or religious activists whose "products" are not "sold" in traditional markets, a more expansive view considers actions that transform ideas into enterprises that generate intellectual, social, cultural, religious, or economic value. Theory, data, and case study will be covered to help students to think both broadly and deeply about what it means - and what it takes - to be an entrepreneur, and what characterizes the entrepreneurial society.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MGT 253. Introduction to Entrepreneurship. 3 Credit Hours.

Focuses on the process of identifying entrepreneurial opportunities and the operations of a small business. Topics include organization, location, financial planning, record-keeping, unit costs, merchandising, credit, and recruitment of personnel. This course is open to SBA students, ENT minors, or MGT minors.

Requisite: Business School or MGMT minor or ENTR minor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MGT 270. Introduction to Health Sector Organization and Management. 3 Credit Hours.

This course provides a basic understanding of the components of the health care sector and their interrelationships. The role of hospitals, ambulatory care (including physicians), long-term care, mental health care, hospice care, and pharmaceuticals will be examined. The role of government financed (Medicare and Medicaid) and private health insurance in affecting decision making by health care consumers and providers will be examined as well. A historical context will be used.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MGT 302. Human Resource Management. 3 Credit Hours.

Theory and practice of modern personnel management related to the other management functions in the conduct of the enterprise. Attention is focused on the needs of the line executive as well as those intending to pursue a staff career.

Requisite: Must be in the Business School or have a MGMT minor plan.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MGT 303. Operations Management. 3 Credit Hours.

Problems and methods of planning the efficient utilization of capital, labor, equipment, and materials. Sales forecasting, production planning, production control, scheduling, routing, dispatching, expediting, materials planning, inventory control, capital budgets, and costing are discussed. The application of quantitative techniques in problem solving and decision making are included as well as case problems.

Prerequisite: MAS 201 or MAS 311 or MTH 224 or IEN 311 or PSY 291 or PSY 292.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MGT 304. Organizational Behavior. 3 Credit Hours.

First professional course in management. Concepts of organization, motivation, leadership, dynamics of the group, personality, organizational development strategies, and other behavioral aspects involved in the effective management of an organization are discussed.

Requisite: Must be in the Business School or have a MGMT minor plan.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MGT 307. Advanced Organizational Behavior. 3 Credit Hours.

Continuation of MGT 304—primarily for, but not limited to, MGMT OR HRMG majors. Through case analysis and other relevant exercises, theories are applied to specific situations in organizational settings.

Requisite: Must be in the Business School or have a MGMT minor plan.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MGT 308. Training and Development. 3 Credit Hours.

An examination of key issues in designing training and development programs. Topics include organizational needs analysis, training design and implementation, evaluation techniques, and understanding of how such programs interact with other human resource functions.

Requisite: Must be in the Business School or have a MGMT minor plan.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MGT 324. Negotiation Strategies. 3 Credit Hours.

A skills-based approach to learning the art and science of negotiation. Course covers preparation, and negotiation skills such as establishing trust and relationship-building. Topics include power, persuasion, creativity, problem-solving, ethics, and cross-cultural negotiation. Skills and self-insight will be acquired through self-assessment, role-play negotiation exercises, and case studies.

Requisite: Must be in the Business School or have a MGMT minor plan.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MGT 349. International Business. 3 Credit Hours.

This course is designed to introduce students to the study of international business. Through discussions and analyses of the unique challenges and opportunities faced by multinational corporations (MNCs) and their managers, students gain an understanding of how to conduct business across different cultural, political, economic, and legal environments, as well as how to function effectively and succeed in MNCs. The course work and usage of teaching methods such as case analyses, experiential learning exercises, and debates seek to help students develop a global mindset and skills for effective global management (e.g., conceptual, analytical, cross-cultural communication, negotiation, and presentation skills).

Requisite: Must be in the Business School or have a MGMT minor plan.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MGT 354. Growing the New Venture. 3 Credit Hours.

Covers the basics of scaling a start-up. Topics include sources of capital, market choices, division of the equity pie, choice of distribution channels, choosing an accountant and a legal advisor, preparation of a business plan, and product design. Teams of students develop business plans to start new enterprises.

Prerequisite: MGT 253.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MGT 357. Entrepreneurship Simulation Experience: Inside the Mind of the Entrepreneurial CEO. 3 Credit Hours.

This course provides students with unique entrepreneurial experiences derived from starting and running businesses through computer simulation. Topics include: opportunity and environment assessment for potential businesses; initiation, organization, administration, and launch of the businesses; operation of the businesses in a competitive environment; responsibilities, functioning, and issues of entrepreneurial teams; evaluation, measurement, and competitive ranking of business success.

Requisite: Must be in the Business School or have a MGMT minor or ENTR minor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MGT 359. Comparative Management. 3 Credit Hours.

Analysis of professional management as affected by the cultural environments in which it operates in major industrial nations. The problems of trans-cultural managers in multinational structures is examined.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MGT 360. Effective Leadership. 3 Credit Hours.

This course covers the key theories, models, and frameworks about the effective leadership of people in organizations. A multimedia approach is taken, using readings, films, lecture, discussion, and case analyses. The emphasis is on building a sound grasp of good practice, and on developing the ability to apply such knowledge to everyday leadership situations.

Prerequisite: MGT 304.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MGT 371. Doing Business in Latin America. 3 Credit Hours.

This elective examines the key local, regional, and global forces affecting the conduct of business in the main Latin American markets of Mexico, Brazil, Venezuela and Chile. These forces include historical, cultural and demographic factors as well as the fast-changing politics and economics of the region. Students will be introduced to the complex relationships between business and government in LatAm as well as the unique advantages and disadvantages of companies based in the region.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MGT 401. Strategic Management. 3 Credit Hours.

An integrative approach to strategy formulation and implementation, from a domestic and international perspective, is the focus of this core capstone course. All the primary areas of business are emphasized using cases and readings. Course is required of all graduating seniors in Business.

Requisite: Business School and Senior Standing.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MGT 422. Leading Teams. 3 Credit Hours.

The objectives of this course are to develop interpersonal communication and conflict management skills necessary to work in teams and exercise leadership in teams. Topics include team development, decision making, and managing conflict.

Requisite: Must be in the Business School or have a MGMT minor plan.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MGT 428. Compensation and Benefits Design. 3 Credit Hours.

Examines techniques and theories related to the design and management of compensation and benefits programs within organizations.

Compensation includes cash compensation, such as base pay, merit pay, seniority pay, individual, group and organization-wide incentive plans, skills-based pay, and pay-for-knowledge. Benefits include health care plans, pension and profit-sharing plans, life and disability plans, and paid time off.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MGT 445. Supply Chain Modeling and Analysis. 3 Credit Hours.

This course will introduce students to managerial decision problems in modern supply chains, and will develop structured mathematical tools to model and solve these problems. Students will also learn to apply these tools through problem-solving exercises, experiential games, and spreadsheet-based case studies.

Prerequisite: MGT 303.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MGT 446. Supply Chain Strategy. 3 Credit Hours.

This course will deal with issues such as inventory management, supply chain design/coordination, revenue management, and sourcing. Each module discusses how a real company practices some aspect of supply chain strategy, and then reviews the concepts behind that practice. Tools are provided to analyze the concepts, distill their principles, and suggest guidelines for implementation and improvement.

Prerequisite: MGT 303.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MGT 450. MGT Internship. 1 Credit Hour.

Student is individually assigned to operating business firm or other organization to gain insight into management practice in area of career interest. Periodic reports and conferences are required. Cannot be used toward major requirements.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MGT 455. Entrepreneurial Consulting. 3 Credit Hours.

Students review techniques, methods, and analytic frameworks of management consultants. Emphasis is on problems of small business, particularly start-ups. Consulting practice is provided through preparation of reports on written cases and guest speakers, as well as hands-on projects in actual business firms or start-ups.

Prerequisite: MGT 253 And MGT 354.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MGT 459. International and Multinational Management. 3 Credit Hours.

Foreign environment for overseas operations with a survey involving economics, political, and social constraints. The effects of overseas investments on foreign economies with emphasis on the emerging managerial structures is included.

Requisite: Must be in the Business School or have a MGMT minor plan.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MGT 480. Organizational Development and Change. 3 Credit Hours.

Course is intended for students who are interested in learning about how to manage, plan, and implement large-scale change efforts within organizations. Part of the course is devoted to organizational analysis techniques and the remainder addresses behavioral intervention strategies (including survey feedback, technostructural interventions, and team building).

Requisite: Must be in the Business School or have a MGMT minor plan.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MGT 496. Directed Studies in Management. 1-3 Credit Hours.

Supervised readings, individual research project, or independent investigation of selected non-STEM related problems in the discipline. Offered only by special arrangement with supervising faculty member, who approves topic and evaluation process at time of registration.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MGT 497. Directed Studies in Management. 1-3 Credit Hours.

Supervised readings, individual research project or independent investigation of selected STEM-related problems in the discipline. Offered only by special arrangement with supervising faculty member, who approves topic and evaluation process at time of registration.

Components: THE.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MGT 498. Special Topics in Management. 3 Credit Hours.

Special topics in selected non-STEM areas of Management.

Requisite: Sophomore Standing or Higher.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MGT 499. Special Topics in Management. 3 Credit Hours.

Special topics in selected STEM areas of Management.

Requisite: Sophomore Standing or Higher.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MGT 600. Managing Responsible Behavior in Organizations. 3 Credit Hours.

For Executive MBA students only. Course covers organizational behavior and utilizes cases and lectures to explore topics such as personality, motivation, leadership, group processes, organizational structure/design, and social responsibility.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MGT 602. Human Resource Management. 3 Credit Hours.

Modern personnel administration: job analysis and design, evaluation and appraisal, recruitment and interviewing, training and development, wages and benefits, and health and safety. Unionization, regulation of wages, hours and working conditions, financial security for workers, job anti-discrimination legislation, and manpower planning is also discussed.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MGT 603. Leading Teams. 3 Credit Hours.

The objectives of this course are to develop interpersonal communication and conflict management skills necessary to work in teams and/or exercise leadership in teams. Topics include team development, decision making, and diagnosing team process issues.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MGT 616. Foundations in Organizational Management Consulting. 2 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MGT 617. Leading Across Cultures. 2 Credit Hours.

This course examines what constitutes "effective" leadership across cultures. Skills and behaviors that are perceived as effective leadership in one culture are not necessarily those that will be effective in a different culture. By exploring the ways in which specific cultural values and leadership prototypes are seen across different cultures, students will be prepared for cross-cultural adjustment and effective leadership. These skills may be applied to work assignments in a culture that is not their own or to leading diverse followers in their home country. The goal of the course is to help prepare students for leadership in multicultural environments.

Prerequisites: MGT 600 or MGT 620 or MGT 651.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MGT 618. Leading Change in Organizations. 2 Credit Hours.

Charles Darwin aptly noted, "It is not the strongest species that survive, not the most intelligent, but the ones who are most responsive to change." The primary goal of this course is to help you learn how to lead and manage the challenges associated with organizational change processes. Together we will identify the opportunities that require change programs; discuss ways to overcome the inevitable obstacles to change; learn how to build successful coalitions to support change efforts; analyze strategies for implementing change; and examine ways to consolidate the results of such efforts to ensure that changes are sustainable over time.

Prerequisites: MGT 600 or MGT 620 or MGT 651.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MGT 619. Leading with Power and Influence. 2 Credit Hours.

One of the realities of organizational life is that people continually attempt to control the actions of others and to successfully influence their behavior. This reality leads to a wide array of organizational activities aimed at enhancing one's own or one's group's personal agendas. This course focuses on preparing graduates for the challenges and "realities" they will ultimately face as leaders. Given that most students will eventually be leading the efforts of others, it is essential that they understand how to acquire power and, within ethical bounds, exercise influence.

Prerequisites: MGT 600 or MGT 620 or MGT 651.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MGT 620. Managing Through People. 2 Credit Hours.

This core course in the MBA program introduces students to some of the key behavioral topics necessary to manage oneself and others in organizations. Specifically, the topics covered include individual attributes (personality, perception, motivation, relationship building), group processes (norms, roles, and team basics), leadership views, and organizational culture/change. An understanding of the relationship between each of these areas and organizational outcomes is enhanced through lecture, cases, and interactive exercises.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MGT 621. High Performance Leadership. 2 Credit Hours.

Leadership skills are critical for high performing organizations. Course utilizes lecture, cases, exercises, self-assessments, and contemporary reading materials to present leadership approaches that both motivate and enable employees to perform beyond normal or ordinary expectations. Topics include followership and organizational culture, power, influence, rewards and punishments, path-goal and exchange theories, participation and empowerment, charismatic and transformational leadership, and contingency and cognitive resources theory.

Requisite: Master of Science in Management Studies Students Only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MGT 622. High Performance Teams. 2 Credit Hours.

This elective course highlights how to manage and construct effective teams to achieve strategic goals. Team-based organizations have been created to enhance organizational performance. The benefits of effective team leadership are performance beyond expectations and enhancement of learning for employees. Topics covered include team decision-making, team leadership, diversity in teams, conflict resolution, and team creativity.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MGT 623. Human Resource Systems. 2 Credit Hours.

Leaders must manage their human resource assets effectively to achieve high performance organizations. Course topics include recruitment and selection of high performance employees, designing performance appraisal systems, implementing policies to satisfy legal issues impacting human resources, and instituting training/development systems.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MGT 624. Negotiation Strategies. 2-3 Credit Hours.

This course is a skills-based approach to learning the art and science of negotiation. Negotiation is a core management competency; these skills are increasingly necessary for leaders in business, non-profits, small businesses and other organizations. This course will cover preparation, and negotiation skills such as establishing trust and relationship-building. Topics covered include power, persuasion, creativity and problem-solving, ethics and cross-cultural negotiation. Skills and self-insight will be acquired through self-assessment, role-play negotiation exercises and case studies.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MGT 625. Entrepreneurship: Creating New Ventures. 2 Credit Hours.

This is a two-credit course for MBA students (only). The course is designed to help students understand the basic essentials for creating a new venture. Among some of the topics covered will be: preparation of a business plan, securing sources of capital, choosing and creating appropriate distribution channels, and understanding the complexities of selecting a management team. Students will be required to critique and develop business plans as a key evaluation component for this course.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MGT 628. Global Entrepreneurship. 4 Credit Hours.

This seminar-type course is an advanced elective specially designed for graduate students either interested in starting their own firms or developing the skills with which to submit business plans within the corporate world (i.e., corporate entrepreneurship) in today's global, interdependent economy. Students will learn to assess the new venture opportunities that he/she may have considered and choose the one that seems most attractive and viable and develop a unique business model which enhances the plan's viability in the short term, and ensures the development of sustainable advantages in the long term. Each student will draft a comprehensive business plan after working on its functional components (e.g., marketing, finance, human and intellectual capital plans) to be developed throughout nine classes and several individual meetings along the program's academic calendar. At the end, students will present their business plans to a panel of new venture investors who will assess all projects, give individual feedback, and choose the best project(s).

Components: LEC.

Grading: SUS.

Typically Offered: Fall.

MGT 642. Supply Chain Analytics. 2-3 Credit Hours.

This course studies key decision areas in supply chain design and operation. Students will learn what data are needed and how to use data to measure supply chain performance. They will also learn to apply various tools and methods to analyze trends, extract knowledge and business intelligence, and make decisions. Through the analysis and discussion of case studies, they will get useful insights on how to optimize the value of supply chain processes and operations, to streamline the goals and to design flexible supply chains.

Prerequisite: MAS 632 or MAS 641.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MGT 643. Principles of Operations Management. 2 Credit Hours.

Introduction to operations management, forecasting, process analysis, aggregate planning, capacity management, waiting line management, system design, quality management, and inventory management.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MGT 645. Principles of Supply Chain Management. 2 Credit Hours.

Course introduces students to the business discipline of Supply Chain Management (SCM) which centers on concepts and techniques that enables firms to better coordinate material and information flows, and non-material activities associated with logistical and marketing processes that occur within and across organizations. Course also discusses concepts and recent influential innovations in SCM (e.g., Cross-Docking, Vendor Managed Inventory (VMI), Third-Party Logistics (3PL), Efficient Consumer Response (ECR), and Quick Response (QR)).

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MGT 651. Behavioral and Organizational Systems. 3 Credit Hours.

Exploration of relevant concepts, research findings, and pragmatic implications of the behavioral sciences for the management of complex socio-technical systems.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MGT 653. Operations Management. 3 Credit Hours.

Introduction to major managerial problems and decision processes of operations management. Topics include the design of operations, planning, scheduling, quality control, systems analysis and evaluation, resource allocation, materials requirement planning, and integration of operations management with the other functional areas.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MGT 654. Selected Topics in Oper Management. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MGT 655. Research Methods. 3 Credit Hours.

Course addresses the fundamentals of research in business including exploratory designs, correlational and multivariate designs, experimental and non-experimental studies, measurement theory, internal and external validity considerations, and ethical requirements in conducting organizational research.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MGT 656. Seminar: Organizational Behavior. 3 Credit Hours.

Seminar addresses the current research and theoretical foundations in organizational behavior. Topics include individual attributes, job attitudes, leadership, motivation, and group processes.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MGT 658. Strategic Management. 3 Credit Hours.

The formulation and implementation of strategy, from a domestic and international perspective, is explored through cases, readings, and decision simulation. An integration of all the core areas of business is emphasized. This core course is required of all MBA students.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MGT 659. Management of Multinational Enterprise. 3 Credit Hours.

Analysis of the management tasks confronting managers operating in the international arena presented from both an environmental and an operational perspective. Alternatives for overall corporate policy and strategy that accommodate global operations is also included.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MGT 660. Leadership and Motivation in Organizations. 3 Credit Hours.

Selected topics pertaining to leadership, motivation, and individual processes are surveyed through selected readings, class discussions, and a guided research project. Students' ability to conceptualize, integrate, and apply diverse approaches to the leadership and motivation of people in organizations is emphasized.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MGT 661. Influence, Power and Politics in Organizations. 3 Credit Hours.

One of the basic realities of organizational life is that people continually attempt to control the actions of others and to successfully influence their behavior. This reality leads to a wide array of organizational politics aimed at enhancing one's own or one's group's personal agendas. This course focuses on preparing graduate business students for the challenges and "realities" they will ultimately face as managers. Given that most business students will eventually be leading the efforts of others, it is essential that they understand how to acquire power and exercise power within ethical bounds.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MGT 675. Business Policy and Strategy. 2 Credit Hours.

The objectives of the course are to improve the student's ability to think strategically and to provide an intellectual framework that enhances understanding of the MBA program. The course focuses on relationships among the firm, its strategy, and its environment; why firms choose certain businesses; which business strategies are successful; and how firms can change in response to a dynamic environment. Models for strategic formulation, implementation, and control are developed that facilitate an integrated understanding of the courses that comprise the MBA curriculum. Readings and lectures illustrate strategic management theories and frameworks while case discussions, experiential exercises, and team projects provide opportunities for application.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MGT 677. Corporate Strategy and Organization. 2 Credit Hours.

This capstone course focuses on the perspective and skills of the general manager. Its purpose is to provide practice in diagnosing and identifying realistic solutions to complex strategic and organizational problems. Course builds on previous coursework by providing an opportunity to integrate various functional areas by providing a total business perspective. Since the course focus is on pragmatic, action-oriented general management skills, the course is taught primarily through the case method and requires both written analyses and case presentations.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MGT 679. Merger and Acquisition Strategies. 2.00 Credit Hours.

This course explores the evolving world of mergers & acquisitions (M&A) from the perspective of both buyers and sellers. We will examine the process itself – including the role of advisors, due diligence, and post-closing steps – as well as develop a framework for assessing value and risk. Our primary focus will be on the strategic rationale, or thesis, behind any M&A deal. By the end of the course, students should be comfortable with M&A terminology, analytical tools, valuation methodologies, and the business logic employed by successful buyers and sellers. Our approach will rely heavily on microeconomic analysis and a sophisticated understanding of incentives (and their unintended consequences). As the class progresses, you will learn how to effectively negotiate a deal, craft a strategic plan for either acquisition or sale, and formulate an effective due diligence outline as a buyer.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Summer.

MGT 680. Doing Business in China. 2 Credit Hours.

This course explores various business and management issues faced by international executives who are interested or active in various industries and markets in China, aiming to improve their understanding of this largest emerging market in the world. Several case studies of business organizations and industries are used throughout the course. Emphasis on the course material and class discussions on critical thinking, solutions to problems, and evaluating different options.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MGT 681. Essentials of Health Care Management and Policy. 3 Credit Hours.

This course develops an understanding of the basic elements of the health services industry in the United States. A systems approach will be used utilizing a historical perspective as a basis and moving on to current and potential future system dynamics. The various components of the health care system will be examined, including physician services, hospital and hospital systems, long-term care providers, mental health services, and pharmaceutical services. Various elements associated with the financing of health services will be examined as well as indemnity insurance, capitation, and the role of managed care and consumer driven health care in theory and practice. The role of government and its impact on our health care system will be explored as well.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MGT 682. Issues in Health Care Administration. 3 Credit Hours.

A seminar on current problems and issues in health care administration.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MGT 684. Analysis of Health Care Delivery and Policy. 3 Credit Hours.

This course examines theoretical and operational incentive structures which guide health care consumers, providers and health care organization toward decisions both efficient and inefficient.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

MGT 685. Economic Models in Operations and Supply Chain Management. 3 Credit Hours.

In this course we will study the academic literature that is based on analytical models of supply chain and channel management. In particular we will be concerned with models that capture the economics that govern the interaction among the firms in a supply chain/distribution channel. Since this topic is of interest to both the marketing and operations management communities, we will draw upon readings from both areas. One of our objectives will be to identify opportunities for building bridges between these two bodies of knowledge.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

MGT 686. Optimization Models for Operations and Supply Chain Management. 3 Credit Hours.

This course is designed primarily for advanced graduate students who are interested in research on supply chain and operations management, focusing on the study of (deterministic) optimization models to support system design, planning, and operational decisions. The course complements other related doctoral courses such as those on economic models for supply chain and operations management.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MGT 687. Health Care Organization, Economics, and Ethics. 3 Credit Hours.

Course provides the student insight into organizational and behavioral aspects of the various sectors and agents within the health care industry and understanding of how such aspects in turn affect performance measured in terms of both economic and ethical criteria.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MGT 688. Individual and Interpersonal Processes. 3 Credit Hours.

Basic Overview of many topics relevant to studying individuals and dyads in organizations. Course will introduce students to a variety of topics related to individual and interpersonal differences, processes, and behaviors in organizations. Students will begin to see how to link research designs with a theoretical framework for empirical testing.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MGT 689. Doctoral Seminar in Leadership and Group Processes. 3 Credit Hours.

This seminar examines the theory and research that focuses individual leadership and examines implications for individual and group behaviors as well as bridging the micro-macro divide. You will perform a critical in-depth examination of the primary research literature, focusing on appropriateness of design, analysis, interpretation, contribution and future research directions.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MGT 690. Sustainable Business Operations: Value Creation and Environmental Considerations. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MGT 691. International Management. 2 Credit Hours.

Course is designed to provide an overview of management problems and issues for organizations and executives operating internationally. Students learn how multinational enterprises are different, why they behave as they do, and how to apply management principles to problem-solving in such contexts.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MGT 692. Theories in Management and Organization. 3 Credit Hours.

This course provides an in-depth review of major theories in the broad field of management and organization. It covers a multitude of management and organization theories that are derived not only from general management but from economics, sociology, ecology, and the like. The course will use several techniques, including lectures, article presentations and discussions, theory development, research project, and manuscript preparation. By the end of the term, students are expected to understand the central notions of each theory being discussed, comment on various arguments in these theories, improve the skills in applying these theories to their specific research questions, and sharpen their ability to develop theoretical models.

Components: SEM.

Grading: GRD.

Typically Offered: Fall.

MGT 693. Theories and Research in Global Strategic Management.. 3 Credit Hours.

This course is designed to provide doctoral students an in-depth review of major theories, paradigms, and perspectives in global strategy and international business. We'll also explore how to apply existing theories and perspectives to new contextual settings, such as emerging markets and outsourcing. Furthermore, we'll do all this while reading and critiquing the major branches and works within the strategic management and international business literature. The course is intended for doctoral students in business or related fields. There are no formal prerequisites for the course although some basic knowledge of global business is expected.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

MGT 694. Ph.D Seminar in Strategic Management. 3 Credit Hours.

This course is designed to provide doctoral students an in-depth review of major theories, perspectives, and methods in strategic management. The course is intended for doctoral students in business or related fields.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MGT 695. Ph.D. Seminar in Emerging Market Research. 3 Credit Hours.

This course is designed to provide doctoral students an in-depth review and study of major theories, perspectives, methods, findings, and future research issues in business and management involving emerging economies. It encompasses both macro- (e.g., strategic management, international business, entrepreneurship) and micro- (e.g., culture, human resources management, leadership, and organizational behavior) levels.

Components: SEM.

Grading: GRD.

Typically Offered: Fall.

MGT 698. Selected Topics. 1-6 Credit Hours.

Topics in selected areas of specialization.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MGT 699. Directed Study. 6.00 Credit Hours.

Individually supervised research project in selected field of management. Approval of supervising professor of the topic/scope of work/evaluation is required prior to registration.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

MGT 825. Comprehensive Test Preparation. 1-3 Credit Hours.

Doctoral students who are preparing for their qualifying examinations may use this course designation. Enrolled students must develop, with the approval of their advisor, a "Plan of Study" for these credits.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

MGT 830. Doctoral Dissertation. 1-12 Credit Hours.

Course is required of all candidates for the Ph.D. The student enrolls for credit as determined by his/her advisor.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

Management Science (MAS)

MAS 105. Quantitative Methods in Business I. 3 Credit Hours.

This course provides a background in algebra, linear equations, matrices, quadratic, exponential, and logarithmic functions appropriate for the successful understanding, interpretation, and use of these concepts and their application to business and economics within the Business School curriculum and in career endeavors. The course also provides an introduction to the mathematics of finance, interest rates, discounting of future returns, and linear programming.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MAS 110. Quantitative Applications in Business. 3 Credit Hours.

Review of algebra emphasizing its application to supply and demand functions, market equilibrium, compound interest, and amortization. Differential calculus emphasizing its applications to marginal cost and revenue functions, maximization, taxation in competitive markets, and elasticity of demand are discussed. The application of integral calculus to total cost and profit of demand, to total cost and profit functions, consumer's and producer's surplus, computation of present value, and constrained optimization using partial differentiation are also included.

Requisite: Bus Schl and Prerequisite: ALEKS score ≥ 76 , or SAT MATH score ≥ 700 , or SAT Math Section Score ≥ 730 , or ACT Math score ≥ 31 , or score of 4 AP Calculus (AB), or score of 3 in AP Calculus (BC) or MTH 108, or MTH 107 with a grade of C- or higher.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MAS 201. Introduction to Business Statistics. 3 Credit Hours.

Data analysis and presentation, cross tabulations, descriptive statistical measures, probability, sampling, statistical inference, hypothesis testing for one and two populations, covariance and correlation analysis. Utilization of microcomputer statistical packages is also included.

Prerequisites: MAS 110 or MTH 130 or MTH 141 or MTH 151 or MTH 161 or MTH 171.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MAS 202. Intermediate Business Statistics. 3 Credit Hours.

Chi-squared goodness of fit tests, and contingency tables, analysis of variance, simple linear regression, multiple regression, time series, forecasting, statistical methods of quality. Utilization of microcomputer statistical packages, case analyses, and presentations are also included.

Prerequisite: MAS 201 or MAS 311 or MTH 224 or IEN 311 or PSY 291 or PSY 292.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MAS 311. Applied Probability and Statistics. 3 Credit Hours.

Descriptive statistics, basic probability, probability distributions, distribution theory, point and interval estimation, and single sample hypothesis testing.

Prerequisite: MTH 162 or MTH 172. Or Corequisites: MTH 162 or MTH 172 including equivalents.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MAS 312. Statistical Methods and Quality Control. 3 Credit Hours.

Two sample hypothesis testing, simple and multiple regression, analysis of variance, design of experiments, and statistical quality control.

Prerequisites: MAS 311 or IEN 311 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MAS 332. Data Acquisition, Preparation and Visualization. 3 Credit Hours.

This course provides an in depth view of working with data to extract and present valuable information. Students will learn to collect, clean, manipulate, analyze, and visualize data from various sources correctly and efficiently. Through hands-on application, students will gain an understanding of what problems can occur when dealing with a variety of data and what solutions exist. Computing is a major component of this course, and students will learn a number of in-demand technical skills.

Prerequisite: MAS 202 or MAS 312 or IEN 312 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MAS 342. Introduction to Optimization and Decision Making. 3 Credit Hours.

Introduction to deterministic mathematical models with applications to business problems. Topics include the methodology of operations research, linear, integer, and dynamic programming, project management, networks, multi-objective optimization and heuristics. Software packages are used for programming applications. Lecture, 3 hours.

Prerequisite: MTH 162 or MTH 172 AND MAS 201 or MAS 311.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MAS 432. Data Analysis. 3 Credit Hours.

This course introduces students to the analysis of various data types, with an emphasis on interpreting and communicating result. The course begins with linear regression modeling of normally distributed outcomes, and extends the concepts to other important data types frequently encountered in practice. Students will gain a firm understanding of a wide range of statistical models, when each is appropriate, and how to implement, interpret, and communicate results.

Prerequisite: MAS 202 or MAS 312 or IEN 312 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MAS 442. Stochastic Models in Operations Research. 3 Credit Hours.

Introduction to probabilistic models and their applications. Topics include inventory theory, stochastic processes (queuing systems, Markov chains), and computer simulation. Lecture, 3 hours.

Prerequisite: MAS 311 or IEN 311 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MAS 496. Directed Studies in Business Analytics. 1-3 Credit Hours.

Supervised readings, individual research project, or independent investigation of selected non-STEM related problems in the discipline. Offered only by special arrangement with supervising faculty member, who approves topic and evaluation process at time of registration.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MAS 497. Directed Studies in Business Analytics. 1-3 Credit Hours.

Supervised readings, individual research project or independent investigation of selected STEM-related problems in the discipline. Offered only by special arrangement with supervising faculty member, who approves topic and evaluation process at time of registration.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MAS 498. Special Topics in Business Analytics. 3 Credit Hours.

Special topics in selected non-STEM areas of Business Analytics.

Requisite: Sophomore Standing or Higher.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MAS 499. Special Topics in Business Analytics. 3 Credit Hours.

Special topics in selected STEM areas of Business Analytics.

Requisite: Sophomore Standing or Higher.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MAS 547. Computer Simulation Systems. 3 Credit Hours.

Introduction to discrete-event computer simulation and hands-on development of simulation models. Topics include introduction to queuing theory, input and output analysis, random number generation, and variance reduction techniques. Students practice their modeling skills using commercial state-of-the-art simulation software. Assigned readings of real-life simulation projects complement the material learned in the classroom. Lecture, 3 hours.

Prerequisite: MAS 311 or IEN 311 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MAS 548. Data Mining and Knowledge Acquisition. 3 Credit Hours.

This course provides an introduction to the principles and techniques of data mining. Topics covered include the data mining process, data preprocessing, data mining techniques and data mining evaluation. The course will involve a combination of lectures, labs, projects and case studies.

Prerequisite: MAS 312 or IEN 312 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MAS 550. Management Science Internship. 1-3 Credit Hours.

Student is individually assigned to operating business firm or other organization to gain insight into management practice in area of career interest. Periodic reports and conferences are required. Permission of department chair is required prior to registration.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MAS 555. Management Science Departmental Honors Research Project.. 3 Credit Hours.

Research project to fulfill requirements for Departmental Honors in Management Science.

Components: THI.

Grading: SUS.

Typically Offered: Offered by Announcement Only.

MAS 601. Applied Regression Analysis. 3 Credit Hours.

Theory and practical application of regression modeling and analysis. Understanding the role and responsibility of a statistician is also included.

Prerequisite: MAS 631.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MAS 610. Statistical Analysis for Managerial Decision Making. 3 Credit Hours.

Data analysis, probability concepts, distributions, sampling, estimation, hypothesis testing, simple and multiple regression and correlation analysis.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MAS 611. Principles of Quality Management. 3 Credit Hours.

The definition of quality management, its history, and comparison of various schools of thought. An introduction to the theories of systems, variation, knowledge, and psychology as they relate to quality management. Deming's fourteen points for management are studied through examples and cases.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MAS 612. Advanced Quantitative Analysis. 3 Credit Hours.

The application of probability theory to the formulation and analysis of mathematical models for decision making. Applications are taken from inventory control, forecasting, waiting lines, quality control, production, and operations management.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MAS 627. Programming for Data Analytics. 2-3 Credit Hours.

This course will provide an introduction to various programming languages useful in data analytics. Topics covered will include cleaning, manipulating, exploring and visualizing data, as well as communicating results and reproducibility. While this course will cover wide range of topics in detail, students are not expected to have prior experience with any languages covered throughout the course.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MAS 628. Introduction to Accounting Analytics. 3 Credit Hours.

This course introduces students to applications of data analytics techniques in accounting which includes: financial reporting, managerial accounting, taxation, and auditing.

Prerequisite: ACC 301. And ACC 402. And ACC 403.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MAS 629. SAS Programming for Business Analytics. 2 Credit Hours.

SAS (Statistical Analysis System) is considered a world leader in business analytics software. This course provides the student with the tools necessary to program in SAS at an intermediate level necessary for data scientists in many Fortune 500 companies in the pharmaceutical, financial, manufacturing and health care industries. The course begins with an introduction to Base SAS software, including the reading, manipulation and transformation of data. Techniques for restructuring data files, merging and concatenating data sets, creating summary reports as well as the utilization of basic statistical procedures will comprise the first half of the course. The middle of the course will focus on intermediate SAS skills for Data Management. The topics include error checking, report generation, date and time processing, PROC SQL, SAS Graph, SAS Macros, and the ODS (Output Delivery System) for production quality output. The last third of the course will include SAS statistical procedures most often utilized by data analysts and covered in the SAS Certified Statistical Business Analyst Credential.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MAS 630. Quality Management in Practice. 3 Credit Hours.

This course presents administrative systems necessary for an organization or an individual to pursue quality management. The course presents a functional model for quality management.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MAS 631. Statistics for Managerial Decision Making. 2 Credit Hours.

This course aims to familiarize the student with statistical theory, tools, and methods required for business systems analysis and improvement.

Topics include descriptive methods, elementary probability, random variables and the distributions, hypothesis testing, confidence intervals, statistical modeling, and regression.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MAS 632. Management Science Models for Decision Making. 2 Credit Hours.

This course aims to familiarize the student with Management Science tools for business systems analysis and improvement. The coverage includes linear and integer programming models, project management, simulation, queuing, and decision analysis. Some widely used software are illustrated through examples and case studies derived from business applications.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MAS 633. Introduction to Quality Management. 2 Credit Hours.

Introduction to the major elements of Dr. Deming's theory of management, including Dr. Deming's System of Profound Knowledge and Fourteen Points for Management. Additionally, participants are introduced to "Six Sigma" tools and methods. These tools and methods have been adopted with great success by many of the largest organizations in the world, for example, General Electric, Allied Signal, Dupont, American Express, and J.P. Morgan. Additionally, the course is a prerequisite for the "Six Sigma" Green Belt certification examination.

Requisite: Master of Science in Business Analytic Students Only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MAS 634. Administrative Systems for Quality Management. 2 Credit Hours.

This course presents a model to pursue quality management (QM). It features administrative systems and structures necessary for Quality Management. The administrative systems and structures presented in this course are required to sit for the Six Sigma Management "Green Belt" certification examination.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MAS 635. Design of Experiments. 2 Credit Hours.

This course presents tools and methodology useful in conducting experiments that provide valid answers to questions of interest to the experimenter. The course discusses an overall approach to obtaining and analyzing experimental data, the advantages of using structured multi factor experiments to screen for important factors, ways of minimizing the amount of data points needed to obtain desired information, and how to identify values of experimental factors that optimize the value of measured responses. Factorial designs, fractional factorial designs, screening designs, and response surface designs are presented. Emphasis is placed on the knowledge required for proper application of these methods through many examples in business and quality management.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MAS 636. Statistical Process Control and Reliability. 2 Credit Hours.

This course aims to introduce some fundamental concepts of statistical process control and reliability with an emphasis on business applications. The first part of the course focuses on control charts and other tools that are used to monitor and improve business processes. The second part of the course introduces some basic ideas of reliability models and presents methods used in identifying failure modes in products and in business systems.

Prerequisite: MAS 631.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MAS 637. Applied Regression Analysis and Forecasting. 2 Credit Hours.

This course aims to familiarize the student with statistical prediction. It covers simple and multiple regression methods as well as time series and forecasting models in business. Instead of theoretical development, the course emphasizes the application of these methods in business systems analysis and improvement.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MAS 638. Management Science Consulting. 2 Credit Hours.

The purpose of this course is to enhance students' consulting skills in management science. In addition to skills of modeling and choosing appropriate tools for analysis, these include the communication skills of presenting quantitative and analytical material in business settings. The course is structured around a set of case studies that are based on real applications of management science models and methods discussed in MAS 631 and MAS 632.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MAS 639. Data Acquisition, Preparation, and Visualization. 2 Credit Hours.

This course teaches using statistical computing software to get a better understanding of what problems can occur (and what solutions exist) when dealing with a variety of data types and sources. It will also discuss how to address data visualization and how to leverage current methods and software to best communicate with results and decision with stakeholders.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MAS 640. Applied Time Series Analysis and Forecasting. 2 Credit Hours.

Time series data occur when a single experimental unit or process is observed repeatedly over time. Data of this type are common in finance and economics. Statistical methods that assume independence are inappropriate for time series data. This course will provide the students with the basic theory and tools for the statistical analysis and interpretation of time series data. Broadly, the methods may be categorized into time-domain and frequency-domain methods. Time-domain methods develop explicit models for the evolution of a process over time. Frequency-domain methods equivalently model the correlation structure of the time series. Other topics include methods for model-based estimation, model selection, diagnostics, forecasting, and computing as they relate to time series analysis.

Prerequisites: MAS 637 or MAS 601.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MAS 641. Operations Research Models in Management. 3 Credit Hours.

The application of Operations Research techniques in Management. Topics include linear programming, PERT/CPM, queuing theory, forecasting, inventory models, statistical quality control, decision theory, and Simulation.

Prerequisites: MAS 631 and MAS 632, and MAS 637, and MAS 639.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MAS 642. Supply Chain Analytics. 2-3 Credit Hours.

This course studies key decision areas in supply chain design and operation. Students will learn what data are needed and how to use data to measure supply chain performance. They will also learn to apply various tools and methods to analyze trends, extract knowledge and business intelligence, and make decisions. Through the analysis and discussion of case studies, they will get useful insights on how to optimize the value of supply chain processes and operations, to streamline the goals and to design flexible supply chains.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MAS 646. Generalized Linear Models. 2 Credit Hours.

This is a second course in regression modeling, extending the concept of linear regression for use with non-normal data such as binary, count, or time-to-event data. We will discuss estimation, inference, and model diagnostics with an emphasis on using statistical software to fit models and interpret the results. Topics covered include logistic regression for binary data, various extensions of logistic regression to multinomial data, Poisson regression for count data, and proportional hazards regression for time-to-event or survival data.

Prerequisite: MAS 601. Or MAS 637. With a Grade B or Higher.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MAS 647. Computer Simulation Systems. 3 Credit Hours.

Introduction to discrete-event computer simulation and hands-on development of simulation models. Topics include introduction to queuing theory, input and output analysis, random number generation, and variance reduction techniques. Students practice their modeling skills using commercial state-of-the-art simulation software. Assigned readings of real-life simulation projects complement the material learned in the classroom. Lecture, 3 hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MAS 648. Data Mining. 2 Credit Hours.

Data Mining encompasses finding meaningful and useful trends in data. The meaningful part depends on the application and even the specific data set you are using. Another definition that can be used is that data mining is the application of statistical machine learning techniques to find these trends. Our focus in this course will be on the development and use of traditional and cutting edge data mining/machine learning techniques and their applications across a spectrum of data sets. The topics we will cover are in supervised learning (regression, classification), unsupervised learning (clustering, principal components analysis, factor analysis, etc), and if time permits semi-supervised learning and recommendation systems.

Prerequisite: MAS 601. Or MAS 637. With a Grade B or Higher.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MAS 649. Big Data Analytics. 2 Credit Hours.

As firms have the ability to access and store large amounts of customer and business data, they are faced with the complexities associated with Big Data. Big Data refers to very large data sets that can be analyzed to reveal important patterns, trends, and associations, especially relating to customer behaviors and business processes. This class will discuss the changes that are needed when handling, visualizing, and/or analyzing Big Data to solve business critical questions.

Prerequisite: MAS 601. Or MAS 637. And MAS 639. with a Grade B or Higher.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MAS 650. Management Science Internship. 1-3 Credit Hours.

Student is individually assigned to operating business firm or other organization to gain insight into management practice in area of career interest. Periodic reports and conferences are required. Permission of department chair is required prior to registration.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MAS 651. Machine Learning for Data Analytics. 2 Credit Hours.

This course aims to introduce recent advanced analytical techniques developed from the Statistical, Data Mining and Machine Learning communities. These techniques have become widely used by Business Analysts and Data Scientists to address complex decision-making problems in numerous industries. This course is designed to provide students with a practical understanding of some of the most powerful Machine Learning methods used by today's Data Analysts. Specifically, students will become familiar with supervised and unsupervised learning and apply these techniques to the numerous data-driven applications in predictive analytics.

Prerequisite: MAS 648. with a Grade B or Higher.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MAS 663. Project Management and Modeling. 2 Credit Hours.

This course considers the various methods, techniques, and software tools of project management and modeling with special emphasis on real estate projects and development. Topics include: project selection and strategy, risk assessment, conflict and negotiation, budgets, costs, and resource allocation, monitoring and information systems, project control and auditing, and project closure. The course is designed to show the integration of the various roles of owners, developers, builders, architects, and engineers in the project management process.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MAS 680. Spatial Statistics. 3 Credit Hours.

Prerequisite: ECO 520.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MAS 681. Statistical Machine Learning. 3 Credit Hours.

This course introduces statistical aspects of machine learning algorithms. The focus is on characterizing the generalization ability of machine learning algorithms in order to quantify their performance on new data. It covers fundamental techniques in statistical theoretical analysis, their applications in supervised and unsupervised learning algorithms, and their applications in statistical and computational tradeoffs in non-convex optimizations.

Prerequisite: ECO 520. And ECO 620. Or MAS 601. with a Grade B or Higher.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MAS 691. Topics in Management Science. 1-3 Credit Hours.

Topics in selected areas of specialization.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MAS 692. Topics in Management Science. 1-3 Credit Hours.

Topics in selected areas of specialization.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MAS 693. Directed Study in Operations Research. 1-3 Credit Hours.

Investigation and research in special areas of interest. Offered by special arrangement.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MAS 695. Directed Study in Operations Research. 1-3 Credit Hours.

Investigation and research in special areas of interest. Offered by special arrangement.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MAS 696. Directed Study in Statistics. 1-3 Credit Hours.

Investigation and research in special areas of interest. Offered by special arrangement.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MAS 699. Directed Study. 1-3 Credit Hours.

Offered by special arrangement.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MAS 720. Research in Residence. 0 Credit Hours.

Used to establish research in residence for the thesis for the master's degree after the student has enrolled for the permissible cumulative total in MAS 710 (usually six credits). Credit not granted. May be regarded as full time residence.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MAS 725. Continuous Registration--Master's Study. 0 Credit Hours.

To establish residence for non-thesis master's students who are preparing for major examinations. Credit not granted. Regarded as full time residence.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MAS 810. Master's Thesis. 1-6 Credit Hours.

The student working on his/her master's thesis enrolls for credit, in most departments not to exceed six, as determined by his/her advisor. Credit is not awarded until the thesis has been accepted.

Components: LEC.

Grading: SUS.

Typically Offered: Offered by Announcement Only.

MAS 830. Doctoral Dissertation. 1-12 Credit Hours.

Required of all candidates for the Ph.D. The student will enroll for credit as determined by his/her advisor but not for less than a total of 24. Not more than 12 hours of MAS 730 may be taken in a regular semester, nor more than six in a summer session. Where a student has passed his/her (a) qualifying examinations, and (b) is engaged in an assistantship, he/she may still take the maximum allowable credit stated above.

Components: LEC.

Grading: SUS.

Typically Offered: Offered by Announcement Only.

MAS 850. Research in Residence. 0 Credit Hours.

Used to establish research in residence for the Ph.D., after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Credit not granted. May be regarded as full-time residence as determined by the Dean of the Graduate School.

Components: LEC.

Grading: SUS.

Typically Offered: Offered by Announcement Only.

Marine Geology and Geophysics (MGG)

MGG 686. Special Topics. 1-4 Credit Hours.

Lectures, research projects or directed readings in special topics related to Marine Geology and Geophysics.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

Marine Science (MSC)

MSC 101. Survey of Oceanography. 3 Credit Hours.

Introduction to the oceans and their significance to mankind, encompassing geological, physical, chemical, and biological processes; man's role in and on the sea, including fisheries, pollution, and ocean management. Not for major or minor.

NOT FOR ANY MSC STUDENT MAJOR OR MINOR.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MSC 102. Introduction to Weather and Climate. 3 Credit Hours.

The structure, physics, dynamics and thermodynamics of the atmosphere. Weather, weather forecasting, climate and climate change. Not for major or minor.

NOT FOR ANY MSC STUDENT MAJOR OR MINOR.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MSC 103. Survey of Modern Meteorology. 3 Credit Hours.

Dynamics and thermodynamics of the atmosphere as they relate to contemporary issues in meteorology. Overview of numerical weather prediction techniques and new technologies for monitoring weather and climate. Open to majors or minors with permission of instructor.

Pre/Corequisite: MTH 108. Or MTH 113. Or MTH 140. Or MTH 141. Or MTH 161. Or MTH 171.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MSC 104. Molecules of Life. 3 Credit Hours.

Molecules of Life explores the modern science of biological molecules, which occurs at the intersection of chemistry, biology, and medicine. We examine the major molecular components of the cell—proteins, nucleic acids, lipids, etc.—and illustrate the role of chemical principles in understanding their structure and function. Not for major or minor.

NOT FOR ANY MSC STUDENT MAJOR OR MINOR.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MSC 107. Life in the Sea. 3 Credit Hours.

Lectures provide an introduction to the plants and animals of the sea, including plankton, nekton and the benthos, with anthropogenic impacts. Not for major or minors.

NOT FOR ANY MSC STUDENT MAJOR OR MINOR.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MSC 108. Environmental Oceanography. 3 Credit Hours.

This course will focus on environmental issues facing the oceans today, including global climate destabilization, the impact of population growth on coastal environments, marine pollution, and the state of marine fisheries. An active learning approach will be adopted, with emphasis on case studies and critical analysis. Marine environmental issues will be presented in self-contained analytical exercises. Basic math needed to quantify environmental issues will be introduced. Information and questions on sustainability will be integrated throughout the course and students will be asked to think critically about these pressing concerns. Not for major or minor.

NOT FOR ANY MSC STUDENT MAJOR OR MINOR.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MSC 111. Introduction to Marine Science. 3 Credit Hours.

Geological, physical, chemical and biological processes of the world's oceans. The role of the oceans in global dynamics and man's role in and on the sea, including fisheries, pollution and ocean management. Enrollment limited to Marine Science/Marine Affairs majors and minors. Lecture and discussion, 3 hours. Field trips.

Requisite: Marine Science Major or Minor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MSC 112. Introduction to Marine Science Lab. 1 Credit Hour.

Laboratory and field exercises to accompany Marine Science.

Pre/Corequisite: MSC 111. And Marine Science Major or Minor.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

MSC 115. Tropical Marine Biology. 3 Credit Hours.

A field and lecture study of selected marine environments around South Florida, with emphasis on the interaction between organisms and the geological, physical, and chemical environment. Summer Scholars Program Only.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

MSC 121. Ocean Currents. 3 Credit Hours.

Ocean Currents will be a comprehensive, multi-disciplinary course on the history, geography, socio-economics, and physics of ocean currents. The importance of ocean currents to socioeconomics, weather, climate, transport of fish larvae and pollutants, distribution of plankton and fish, military operations, and shipping will be illustrated using many examples. The history of ocean current observations, detailed maps of ocean circulation and its variability, and the evolution of instruments, and theories from ancient to modern times will be detailed. The discovery and the most important observations of the major ocean currents will be discussed. There will be also lectures on modern ocean circulation theory. NON-MSC MAJORS ONLY

For non- MSC majors.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MSC 172. Special Topics in Marine Science. 2-6 Credit Hours.

Content varies by semester and is indicated in parentheses following course number and title in class schedule.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MSC 180. Seminar in Marine Science. 1 Credit Hour.

Seminar in current research as conducted by Marine Science faculty and graduate students. This course is intended as an introduction for first year students to contemporary research topics.

Prerequisite: MSC 111.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MSC 190. Studies in Marine Science. 1-5 Credit Hours.

For transfer courses taken at other institutions that have no direct equivalents at UM

Components: LEC.

Grading: GRD.

MSC 191. Studies in Marine Policy. 1-5 Credit Hours.

For transfer courses taken at other institutions that have no direct equivalents at UM.

Components: LEC.

Grading: GRD.

MSC 204. Environmental Statistics. 3 Credit Hours.

This introductory course provides an overview of parametric and nonparametric statistics with an emphasis on applications in the analysis of environmental data. (Not open to students with credit in BIL311 or equivalent).

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MSC 205. Mathematical Methods for Marine Science. 3 Credit Hours.

This course is meant to provide students with the mathematical tools required to pursue advanced topics in Marine Science. Not available for credit for students with major or minor in Mathematics.

Prerequisite: MTH 162 Or MTH 172 And MSC 111.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MSC 215. Chemical Oceanography. 3 Credit Hours.

An introduction to the chemistry of the oceans. Descriptive chemical oceanography of the components of ocean waters (metals, gases, organic compounds and nutrients). Biogeochemical cycles in oceanic systems.

Prerequisite: MSC 111 and CHM 112 or CHM 221.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MSC 216. Chemical Oceanography Laboratory. 1 Credit Hour.

Chemical and physical methods in chemical oceanography. Analytical and instrumental techniques used to determine density, salinity, chlorinity, dissolved oxygen, nutrients and components of the carbonate system. Corequisite: MSC 215.

Pre/Corequisite: MSC 215. and Prerequisite: CHM 114.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

MSC 217. Physical and Chemical Processes in Coastal Ecosystems. 3 Credit Hours.

This course is primarily intended for students enrolled in the Marine Affairs program to serve as an introduction to the role of physical and chemical processes in estuarine and coastal ecosystems in the context of the management of estuarine and coastal waters. Students will provide reviews of case studies in preparation for future management decisions that will require knowledge of coastal physical and chemical processes. Prerequisites: MSC 111 AND MSC 230.

Prerequisite: MSC 111 and MSC 230 and CHM 111 or CHM 121.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MSC 218. Biological Oceanography. 3 Credit Hours.

This course will examine energy flow in marine ecosystems, the biogeochemical cycles that control them, the wide variety of types of communities and ecosystems in different parts of the ocean, and the changes they have undergone over geological timescales.

Prerequisite: MSC 111.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MSC 220. Climate and Global Change. 3 Credit Hours.

The Earth's climate system and the role of natural and anthropogenic processes in shaping climate change.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MSC 222. The Earth's Climate: Past and Future. 3 Credit Hours.

This course will provide undergraduate students majoring in geological sciences, as well as enthusiastic non-majors, with the foundation to better understand climate change on geological to human timescales. The natural processes that control the earth's climate will be discussed, with special attention to the climate of the Holocene, and the potential influence climate may have played on human civilizations. Finally, the expected climate shifts and feedbacks will be discussed based on the outcome of climate models for the next century.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MSC 230. Introduction to Marine Biology. 3 Credit Hours.

The sea as an environment. Marine life, its special problems and adaptations. Emphasis on Caribbean organisms.

Prerequisite: BIL 150 Or BIL 160 and CHM 111.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MSC 232. Introduction to Marine Biology Laboratory. 1 Credit Hour.

Ecology, physiology, and behavior of marine organisms in south Florida marine habitats.

Pre/Corequisite: MSC 230. or BIL 230. and Prerequisite: BIL 151 or BIL 161.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

MSC 240. Introduction to Marine Geology. 3 Credit Hours.

The principal marine geological environments of the world, their substrate, their sediments, their flora and fauna, and their evolution through time.

Prerequisite: GSC 110 Or GSC 111 Or permission of instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MSC 300. Water Resources: History, Management, and Policy. 3 Credit Hours.

An overview of the issues and problems surrounding the management of aquatic resources in the broadest sense including water quality of natural waters, drinking water, water pollution, water quantity and supply issues, watershed management, wetland protection, and coastal management. We will explore the available strategies to wisely manage the various aquatic resources, policy options and their socio-economic aspects, legal frameworks, and institutional arrangements.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MSC 301. Introduction to Physical Oceanography. 3 Credit Hours.

Application of the laws of physics to the study of the properties and circulation of the world's oceans and atmosphere.

Prerequisite: MSC 111. And MTH 162. Or MTH 172.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MSC 302. Introduction to Physical Oceanography Lab. 1 Credit Hour.

Laboratory exercises and field work on basic fluid mechanics applicable to the ocean. These include buoyant convection and double diffusion, methods for measuring flows, gravity wave experiments in the lab and field, diffusion studies and rotating tank investigations as an analog for planetary flows.

Prerequisite: MSC 301 or ATM 405. Or Co-requisite: MSC 301 or ATM 405.

Components: LAB.

Grading: GRD.

Typically Offered: Spring.

MSC 310. Living Resources of the Ocean. 3 Credit Hours.

Marine fish and shellfish of major commercial and recreational value: biology, techniques of harvesting, and resource management.

Prerequisite: MSC 230.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MSC 313. Coastal Law. 3 Credit Hours.

Basic doctrines and public policy related to the use and regulation of the United States coastal zone and seabed.

Junior Standing.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MSC 314. Ocean Law. 3 Credit Hours.

The principles of international ocean law regarding ocean management; ocean delimitation and issues of environmental ocean regulation within international legal framework.

Junior Standing.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MSC 316. Global Primary Production. 3 Credit Hours.

Photosynthesis supports the vast majority of life on planet earth. This course reviews the magnitude and the processes that shape primary production in terrestrial, oceanic, and freshwater habitats. It includes the fate of primary production in the earth's biomes, and the role of terrestrial and aquatic productivity in regulating, and responding to, variable climate.

Prerequisite: BIL 160.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MSC 317. Earth's Biogeochemistry. 3 Credit Hours.

Outstanding features of planet Earth, including its vast oceans, climate and atmosphere, are strongly impacted by life. Scientists investigate these impacts, such as ocean acidification, variable atmospheric CO₂ concentrations, coastal anoxia, and permafrost melting, through their biogeochemical dynamics. The first part of the course covers the relevant microbial and chemical reactions that occur in the atmosphere, on land, in freshwaters and in the oceans. The second part links this mechanistic understanding to a large-scale, synthetic view of global biogeochemical cycles. These are considered in the context of global change.

Prerequisite: CHM 112.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MSC 318. Ecological Genetics. 3 Credit Hours.

This course will provide a thorough understanding of genetics (allele frequencies, heritability, recombination, QTL, the effect of migration and demography). Pre-requisites: BIL150/151 AND BIL160/161

Prerequisite: BIL 150 and BIL 160 and BIL 151 or BIL 152 or BIL 153 and BIL 161 or BIL 162.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MSC 319. Research Fundamentals. 1 Credit Hour.

Research Fundamentals will provide an introduction to academic research methods including basic laboratory techniques, data analysis, and scientific communication. Students will read the primary literature and both analyze data and communicate results using multiple formats. The course emphasizes active learning (discussions, working with peers, writing, etc.) and is directed toward early stage undergraduate students interested in pursuing research.

Prerequisite: MSC 204 Or MTH 224.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MSC 321. Scientific Programming in the Atmospheric Sciences. 3 Credit Hours.

An introduction to scientific programming in a linux environment using the FORTRAN 90/95 language with specific applications to Meteorology.

Prerequisite: CSC 120.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MSC 323. Invertebrate Zoology. 4 Credit Hours.

Biology of invertebrates, with emphasis on tropical and subtropical marine forms. Field work and combined lecture-laboratory sessions.

Prerequisite: MSC 230.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MSC 324. Biology of Fishes. 3 Credit Hours.

Selected topics on the ecology and physiology of fishes. Lectures on reproduction, respiration, osmoregulation, sense systems, hormonal control.

Prerequisite: MSC 230.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MSC 325. Biological Oceanographic Techniques. 3 Credit Hours.

Field sampling for plankton biomass and productivity; benthic biomass, and of selected physical parameters. Applications of molecular techniques and remote sensing to oceanographic problems.

Prerequisite: MSC 230.

Components: LAB.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MSC 326. Marine Genomics. 3 Credit Hours.

Intensive Lecture/laboratory course with emphasis on using genomic tools to address an independent research project of importance in the marine sciences.

Corequisite: MSC 463.

Components: LAB.

Grading: GRD.

Typically Offered: Spring.

MSC 327. Marine Animal Neurophysiology and Behavior. 3 Credit Hours.

This course will look at neural and endocrine systems in a variety of marine animal invertebrate and vertebrate models and how these systems work together to control elements of physiology, sensation and perception of the environment and behavior.

Prerequisite: BIL 230 or MSC 230, and BIL 255.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MSC 328. Introduction to Aquaculture. 3 Credit Hours.

This course will provide an introduction to the field of aquaculture, which represents one of the fastest growing industries in food production in the worlds and is a field that offers exciting job opportunities in science, business, marketing, resource management, and socioeconomics. This course will provide students with a sound background in aquaculture prior to engaging in higher-level courses in this field.

Prerequisites: MSC 111 and MSC 230 or Co-requisite: MSC 230.

Components: LEC.

Grading: GRD.

MSC 329. Marine Vertebrate Zoology. 3 Credit Hours.

The course will be a comprehensive examination of the form and function of the vertebrate lineage of marine animals from early chordates to the evolution of cartilaginous and bony fish and the emergence of tetrapods, those that evolved from marine ancestors and have since returned to the seas. A comparative point of view will be used to assess the anatomy and physiology of each taxonomic group as well as behavioral and ecological adaptations related to their life history. Specifically, the course will cover the emergence of the vertebrate body plan and the evolution of fish from agnathans through modern teleosts, as well as the tetrapod lineage of marine reptiles, marine birds, and marine mammals. We will examine critical points in vertebrate evolution where genome-wide duplication events occurred as well as instances of convergent evolution in various lineages.

Prerequisite: MSC 230.

Components: LEC.

Grading: GRD.

MSC 333. Ocean Human Health. 3 Credit Hours.

The focus of this course is on the present, future, and potential effects of oceanic processes and marine organisms on human health and wellbeing and on human impacts on the marine environment.

Prerequisite: MSC 230. Or BIL 230.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MSC 340. Ocean Policy. 3 Credit Hours.

Analysis of ocean policy issues in US fisheries, marine conservation and marine protected areas, marine pollution, coastal management and regulation of offshore oil and gas activities.

Prerequisite: MSC 111 and MSC 313 Or MSC 314 and Junior Standing.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MSC 341. Sunken Ships and Submerged Sites: An Introduction to Underwater Archaeology. 3 Credit Hours.

The course serves to provide an overview of underwater archaeology, covering general concepts, methods, field techniques, time periods and their associated unique sites and discoveries, as well as an introduction to professional application in preservation, management, and how popular media plays a role in public education and outreach. Note: There is no SCUBA diving component to this class.

Requisite: MSC 111 AND Junior Standing.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MSC 342. Decision Making and the Environment. 3 Credit Hours.

A basic, critical appreciation of interdisciplinary decision theory as applied to natural resources management. Specific goals include comprehension of: decision making under uncertainty, evolutionary social science, managing common pool resources, and behavioral economics.

Junior Standing.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MSC 345. Economics of Natural Resources and the Environment. 3 Credit Hours.

A comprehensive overview of the economics of national, international, and global environmental problems. A unifying theme throughout is sustainable development defined as "maximizing the net benefits of economic development while maintaining the services and quality of natural resources over time". We will use economic reasoning to examine causes and consequences of environmental and resource problems, and measures for dealing with them.

Prerequisite: ECO 211.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MSC 346. Climate Science and Policy. 3 Credit Hours.

The scientific evidence for, and the projected consequences of, climate change. The political and geo-engineering responses to the problem.

Prerequisite: MSC 111. Or ATM 103. Or ECS 111. And Requisite: Junior Standing.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MSC 347. Polar Science and Policy. 3 Credit Hours.

The course will address the physical, chemical, and biological properties of the polar oceans, atmosphere, and coastal regions. The interactions between ocean, ice, atmosphere, and land will be discussed in detail, not only in terms of local relationships, with cross-disciplinary linkages, but also with emphasis on the influence the Polar Regions exert on the global climate, biogeochemical cycles, ecosystems and local human populations.

Prerequisite: MSC 111 and MSC 230.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MSC 350. Survey of Marine Mammals. 3 Credit Hours.

The biology, physiology, natural history, behavior, and conservation of marine mammals.

Prerequisite: MSC 230. Or BIL 230.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MSC 351. Climate, Oceanography, and Biogeography of the Galapagos. 3 Credit Hours.

This course and its companion describe the climate, oceanography of the Galapagos Islands, and explore the ways the physical environment has influenced biodiversity on the islands. This field intensive course sequence is part of the Galapagos semester abroad program.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MSC 352. Biophysical Dynamics in the Ocean: Biogeography and Evolution of the Galapagos. 3 Credit Hours.

Course expands aspects of bio-physical description of the Galapagos in comparison with other systems. Emphasis on identification of flow regimes in various settings based on winds and buoyancy forcing and characterization of the resulting biological niches. Analysis focuses on scales and components of the resulting biogeography. Biological aspects covered include bioenergetics and reproduction in relation to their role in evolution. This field intensive course sequence is part of the Galapagos semester abroad program.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MSC 355. Limnology. 3 Credit Hours.

This course is an introduction to the physical, chemical, and biological properties of freshwater ecosystems. It is intended as an upper level course for juniors and seniors. It emphasizes the ecological process of lakes, rivers, and to less extent, streams. The role of watershed processes is considered in the context of management of rivers and estuaries. Case studies integrate the scientific understanding of freshwater ecosystem function with management decisions. Applied aspects of freshwater systems are included.

Prerequisite: MSC 230.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MSC 364. Life in Moving Fluids. 3 Credit Hours.

The physical characteristics of air and water are described in relation to various flow phenomena that play a part in life functions. Adaptations of form and function reflect the very different properties of the media (air and water) of terrestrial and aquatic life. Energy conversion and transfer limit form and function and enable a wide variety of survival strategies.

Prerequisite: MSC 230 Or BIL 360.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MSC 365. Tropical Coastal Ecosystems: Lab and Field Methods. 1 Credit Hour.

This course will provide students with the theory and application of field sampling methods used to document status and trends in the health of coral reef, seagrass, and mangrove ecosystems. Students will learn about sampling theory, sampling methods, sampling equipment, and species identifications using a combination of classroom and field activities. This 1-credit course is designed as a companion to MSC 366 where theory detailed in this class is put to practice to design and execute a targeted, small-scale sampling program for the coastal ecosystems found in South Florida. Lectures will be complemented with field activities to be carried out at sites around Key Biscayne and at the UM Broad Key station.

Pre/Corequisite: MSC 366.

Components: LAB.

Grading: GRD.

Typically Offered: Spring.

MSC 366. Tropical Coastal Ecosystems. 3 Credit Hours.

This course will provide a comprehensive background on the ecology, conservation, and restoration of the three main tropical coastal ecosystems: Mangroves, Seagrasses, and Coral Reefs. The first part of the course will consist of a review of ecological theory, followed by lectures on the dynamics of the three ecosystems, including diversity, community structure, stress ecology, management tools, and novel restoration paradigms. Classes will be complemented by student presentations, in-class activities, and media-outreach projects. Readings for this class will include a required textbook and papers from the primary literature. Grades will be based on exams, quizzes, in-class projects, and student presentations.

Prerequisite: MSC 230. Or BIL 230.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MSC 370. Current Research in Marine Biology: Seminars and Discussion. 2 Credit Hours.

These discussions and seminars comprising a 2 cr course provide well-prepared undergraduate students interested in marine research with an introduction to graduate student-presented science in the specialization of marine biology.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MSC 371. Readings in Marine Science. 1-3 Credit Hours.

Library research with faculty supervision. Bibliography to be submitted in preparation for laboratory and/or field research project. (No more than 6 credits in total from MSC371, MSC411, and MSC412 can be counted towards the MSC major or minor requirements.)

Permission of Instructor.

Components: DIS.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MSC 372. Special Topics in Marine Science. 1-6 Credit Hours.

Content varies by semester and is indicated in parentheses following course number and title in class schedule.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MSC 373. Writing the GRFP and Graduate School Applications. 1 Credit Hour.

Writing the GRFP (graduate research fellow proposal) and Graduate School Applications is a practical course for undergraduate students interested in applying to graduate school next year or in the future. We will review NSF guidelines for the GRFP and both discuss and implement the steps for this proposal and graduate school applications. Basic tips on writing will be covered. Students will write a two page research statement and three page personal statement for the GRFP and then will modify these statements to use in graduate school applications. Students will be involved in reading and providing constructive criticisms to their fellow classmates. (No more than 3 credits in total from MSC370-level courses can be counted towards the MSC major or minor requirements.)

Requisite: Junior or Senior Standing.

Components: DIS.

Grading: SUS.

Typically Offered: Fall.

MSC 380. Field Studies in Marine and Aquatic Science. 1-4 Credit Hours.

Field course to selected marine, estuarine and/or aquatic sites in the United States and abroad. Travel fee may be required.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MSC 381. Marine Field Ornithology. 1-4 Credit Hours.

Waterbirds such as seabirds, shorebirds, and wading birds are key components of the marine ecosystem, including pelagic, coastal, and estuarine communities. As ecological indicators waterbird abundance provides a proxy for the health of these environments. Waterbirds have also served as important model systems for studies of behavior, evolutionary biology, and ecological theory. This course will provide an introduction to waterbird biology and conservation, including a variety of different field trips to waterbird communities.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MSC 390. Advanced Studies in Marine Science. 1-5 Credit Hours.

For transfer courses taken at other institutions that have no direct equivalents at UM.

Components: LEC.

Grading: GRD.

MSC 391. Advanced Studies in Marine Policy. 1-5 Credit Hours.

For transfer courses taken at other institutions that have no direct equivalents at UM.

Components: LEC.

Grading: GRD.

MSC 403. Marine Environmental Toxicology. 3 Credit Hours.

This course will provide an introduction to the principles of environmental toxicology with an emphasis on marine ecosystems, considering a variety of different classes of toxicants, how they can impact marine organisms, the scientific methods used to assess impacts, and the regulatory frameworks used to monitor and manage their release to the environment.

Prerequisite: BIL 255. And CHM 112.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MSC 404. Marine Organismal and Environmental Health. 1 Credit Hour.

This 1-credit course will complement salt water semester courses. (Must have taken MSC403 or MSC333 and either MSC466 or MSC326 and MSC463). Students will be required to collect and analyze samples, interpret their findings and present them in a formal laboratory report due two weeks after the trip. Students will also be required to give a presentation they have prepared before the trip and attend two seminars on Marine Organismal and Environmental Health topics.

Pre/Corequisite: MSC 403 or MSC 333 or MSC 466 or MSC 326 and MSC 463.

Components: LAB.

Grading: GRD.

Typically Offered: Spring.

MSC 410. Marine Conservation Science. 3 Credit Hours.

Nature of marine biodiversity, what threatens it, and what can be done to recover the biological integrity of estuaries, coastal seas, and oceans. Topics include: distinctive aspects of marine populations and ecosystems; threats to marine biological diversity, singly and in combination; place-based management of marine ecosystems; and the human dimensions of marine conservation.

Junior Standing.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MSC 411. Projects in Marine Science. 1-3 Credit Hours.

Individual, independent research projects with faculty supervision. A formal written report is required. (No more than 6 credits in total from MSC371, MSC411, and MSC412 can be counted towards the MSC major or minor requirements.)

Requisite: Junior or Senior Standing.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

MSC 412. Undergraduate Thesis in Marine Science. 1 Credit Hour.

Students will write a formal thesis summarizing the results of independent research carried out under faculty supervision.

MSC 411 AND Senior Standing.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MSC 415. Coral Reef Science and Management. 3 Credit Hours.

The interdisciplinary nature of coral reef science and management: biological, environmental, ecological and socioeconomic aspects of coral reef science, coral reef management problems and approaches at local to global scales, and the implications of climate change for coral reef science and management.

Prerequisite: MSC 230.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MSC 417. Marine Biota and Biogeochemical Cycles. 3 Credit Hours.

The distribution of dissolved particulate materials in the sea is not uniform in time or space. Variability in these reflects the diverse biological sources, transformations, and sinks of chemical constituents in the sea. This course focuses on the role of marine organisms in marine biogeochemical cycling, with particular emphasis on the marine carbon and the nutrients. We visualize and query the ocean system using publicly available global ocean data sets and the application Ocean Data View. The material is presented as a capstone bringing together the physical, chemical and biological dynamics of the ocean as a single system.

Prerequisite: MSC 215.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MSC 418. Climate Law. 3 Credit Hours.

Climate Law evaluates the interactions between climate and the law, with an emphasis on existing laws and the gaps in current legislation related to the climate environment. The course will analyze court cases, domestic and foreign laws, treaties, and international conventions. In addition, the course will examine how climate manipulation requires an international model for the future.

Prerequisite: ATM 220 or MSC 220 and Junior Standing.

Components: LEC.

Grading: GRD.

MSC 420. Political Ecology of the Galapagos. 3 Credit Hours.

This field course in the Galapagos National Park offers a rare chance to examine the human interactions in this highly politicized landscape of conservation. Students practice the political ecology approach for doing ethnographic field work and explore how it can lead to wiser resource management. Part of UGalapagos semester.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MSC 421. Terrestrial Biology and Adaptations of the Galapagos.. 3 Credit Hours.

This course will examine the terrestrial plant and animal life of Isabela Island, discuss the biology and how it adapted to life on Isabela. Through field and laboratory exercises we will explore the power of organisms' DNA in shaping life into unique forms like those famously present in today's Galapagos. Part of UGalapagos semester.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MSC 422. Marine Ecology of the Galapagos. 3 Credit Hours.

This course focuses on marine ecosystems of the Galapagos, emphasizing near-shore environments. Topics will include how the unique location and oceanography of the Galapagos have shaped the species composition of resident and migrant marine animals. The role of genetic drift, local habitat characteristics and natural selection on marine ecosystems will be examined. This is a field intensive course with time spent in intertidal, near-shore and off-shore island environments. Part of UGalapagos semester.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MSC 423. Marine Conservation Biology and Fisheries of the Galapagos. 3 Credit Hours.

The Galápagos are located in a uniquely productive area of the sea, which has allowed the development of rich and unique marine biota. The first week of the course will carry the students through the dynamic, climatic, and oceanographic circumstances that determine the unique character of the Galapagos. The second week will cover scientific evaluation of the threats to the marine biodiversity of the Galapagos, focusing on sharks, penguins, sea turtles and other at-risk species and habitats. Part of UGalapagos semester.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MSC 424. Origin and Geology of the Galapagos Islands.. 3 Credit Hours.

This course will explore the origin and geology of volcanic oceanic islands, using the Galapagos Islands as a natural laboratory. Though all share a common origin in plate tectonic theory, each island presents a host of environments that originate in the processes of volcanic action, erosion and hydrology. Individual islands therefore develop distinctive ecosystems within which organisms interact and evolve. The emphasis of this course will be to lay out the underlying geological processes that have led to the formation of the islands and to their present state, and then to explore the ways the physical environment has influenced adaptation and biodiversity. Part of UGalapagos semester.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MSC 425. Galapagos Community-Based Research and Service. 2 Credit Hours.

Individual, civic engagement activities identified in consultation with the people, national park and local government of Puerto Villamil, Isla Isabela, as part of the marine science semester program in the Galapagos Islands. Student research and service is faculty supervised and concluded by submission of a formal written report. This course may not be counted towards the MSC elective requirement for majors or minors.

Components: PRA.

Grading: CNC.

Typically Offered: Fall & Spring.

MSC 427. Field experience in the Galapagos. 2 Credit Hours.

Three week Summer I field course explores the flora, fauna, geology, and society of the Galapagos Islands.

Prerequisite: MSC 111 or ECS 111 or Permission of Instructor.

Components: PRA.

Grading: GRD.

Typically Offered: Summer.

MSC 432. Comparative Ecology of Terrestrial and Marine Systems. 3 Credit Hours.

A comparison of various biotic and abiotic controls on terrestrial and marine ecosystems is undertaken. The course stresses proximate mechanisms and underlying evolutionary processes. Analysis methods and models of various ecosystems are compared and critiqued. Issues involved in sustainability and conservation of resources are discussed in relation to agriculture, fisheries and forestry. The importance of biodiversity and climate change in the future of ecosystems is stressed.

Prerequisite: MTH 162. And BIL 330. Or ECS 232.

Components: LEC.

Grading: GRD.

MSC 460. Spatial Applications in Marine Science. 3 Credit Hours.

The concepts and marine applications of Geographic Information Systems. Every class period will entail short class lectures and hands on computer based GIS exercise on marine science related issues. Students will learn how to use ArcGIS Desktop or Arc Pro.

Prerequisite: MSC 111 and MSC 112 and Requisite: Junior Standing.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MSC 462. Marine Biomedicine. 3 Credit Hours.

The course will cover diverse bioactive molecules that are derived from marine sources ranging from sponges to sharks. The isolation and characterization of these compounds as well as their potential application in clinical medicine and human health will be reviewed. The class will also cover marine-derived factors used in biotechnology and marine animal models used in biomedical research with an emphasis on marine immunology.

Prerequisite: BIL 255 and CHM 112.

Components: LEC.

Grading: GRD.

MSC 463. Marine Conservation Genetics. 3 Credit Hours.

This course seeks to integrate lectures, fieldwork and laboratory genetics to enhance an understanding of biodiversity, genetic diversity, and current conservation issues.

Corequisite: MSC 326.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MSC 464. Marine Comparative Immunology Lab. 1 Credit Hour.

The laboratory course will cover immunology techniques used in the assessment of immune function and immune reactivity in diverse marine taxa from sponges to fish to mammals.

Prerequisite or Co-requisite: MSC 465.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

MSC 465. Marine Comparative Immunology. 3 Credit Hours.

The course will cover immune function in diverse marine taxa from sponges to fish and the evolution of innate and adaptive immune mechanisms from a comparative point of view, with an emphasis on shark and fish immunology. Adaptations related to living in a microbe-rich marine environment will be highlighted. Potential applications of research findings will be addressed with respect to conservation and aquaculture. The role of invertebrate and vertebrate models in the study of the evolution of the immune system and applications for human health and medicine will be discussed.

Prerequisite: BIL 255.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MSC 466. Environmental Physiology: Oxygen, Water, and Ionoregulatory Stress. 3 Credit Hours.

This is an intensive laboratory course that combines and elaborates on concepts learned in BIL 360. Topics will include homeostasis, interactions with the external environment, and life with limited oxygen and water. Lectures will be highly discussion-based; students will be expected to read primary research articles as suggested by the professor before lecture to foster participation in those discussions and form hypotheses about accompanying laboratory. Each lab will be written up as a formal laboratory report (i.e., Introduction, Materials and Methods, Results and Discussion).

Prerequisite: BIL 255.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

Marketing (MKT)

MKT 201. Foundations of Marketing. 3 Credit Hours.

Understanding and satisfying consumer need through product planning, pricing, promotion, and distribution. Students identify and analyze marketing problems. Discovery and application of marketing skills are developed by marketing planning assignments, computer simulations, and case analysis. Freshman or Sophomore AND Business School.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MKT 301. Marketing Foundations. 3 Credit Hours.

Understanding and satisfying consumer needs through product planning, pricing, promotion, and distribution. Students identify and analyze marketing problems. Discovery and application of marketing skills are developed by marketing planning assignments, computer simulation, and case analysis. Requisite: Sophomore Standing or Higher.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MKT 302. Marketing Research and Market Analysis. 3 Credit Hours.

Examination of the process, role, and function of marketing research, including research problem formation, research methods and procedures, data acquisition, sampling theory and practice, data analysis, presentation of results, ethical issues, and application for each of the above.

Prerequisite: MKT 201 or MKT 301 and MAS 202 or MAS 312 and Requisite: Business School.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MKT 310. Consumer Behavior and Marketing Strategy. 3 Credit Hours.

The study of behavioral science research findings, principles, and theories, especially those from psychology and sociology, as they relate to the determinants of consumer buying behavior. The case approach is utilized to stimulate the development of creative marketing strategy.

Prerequisite: MKT 201 or MKT 301.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MKT 320. Retailing. 3 Credit Hours.

Retail store management, location, buying, merchandise control, policies, services, pricing, expenses, profits, training and supervision of retail sales force, and administrative problems are discussed.

Prerequisite: MKT 201 or MKT 301.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MKT 340. Professional Selling. 3 Credit Hours.

Nature of the professional selling function and its relationship and contribution to the marketing strategy of organizations. Special emphasis is placed on broadly applicable principles and effective personal communication skills during the sales process.

Prerequisite: MKT 201 or MKT 301.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MKT 350. Luxury Marketing. 3 Credit Hours.

The course will develop a framework for understanding the essential elements of effective marketing of luxury brands, a 1.36 Trillion dollars market worldwide in 2017 (Bain & Company). Through cases, business visits, and experiential projects the students will distinguish the unique nature of luxury, understand the opportunities and challenges confronted by luxury marketers and apply proven strategies. Students will also work on an actual project created exclusively for the class exposing them to internship opportunities in the luxury market sector.

Prerequisite: MKT 201 or MKT 301.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MKT 360. International Marketing. 3 Credit Hours.

The major current factors affecting international marketing. Course is designed to acquaint students with the growing importance of world marketing in the U.S. and the strategic issues involved.

Prerequisite: MKT 201 or MKT 301.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MKT 380. New Product Development. 3 Credit Hours.

This course enables students to appreciate the systematic approach that goes into the creation and marketing of new products. Practical aspects of developing and marketing new products are inculcated through two assignments and one class project.

Prerequisite: MKT 201 or MKT 301.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MKT 385. Marketing for Entrepreneurs. 3 Credit Hours.

This course is focused on the study and practice of marketing all aspects of an entrepreneurial venture: the new company itself as well as its products or services. Topics will include: branding, pricing and costing, buying behavior, market segmentation, channel management, as well as exploring issues such as intellectual property, customer service, corporate versus product web sites, media exposure and PR, and maintaining an integrated plan for building the venture's brand.

Prerequisite: MKT 201 or MKT 301.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MKT 386. Advertising Management. 3 Credit Hours.

In this course, students learn about the components involved in researching, planning, creating, and executing advertising strategies. The class gives students a better understanding of how advertising can be effectively used in a marketing strategy. Students also learn how advertising both influences and is influenced by cultural trends. Implications of this to both marketers and society as a whole are discussed.

Prerequisite: MKT 201 or MKT 301.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MKT 387. Digital Marketing. 3 Credit Hours.

This course will introduce students to the principles of digital marketing from both perspectives of theory and practice. On the theory side, students will learn foundations and recent research and development of digital marketing. Main contemporary digital marketing issues will be extensively discussed in class, including search engine optimization, search engine marketing, online advertising, web analytics, email marketing, social media marketing, and reputation management. Students will also learn how to form an appropriate strategy for a digital marketing campaign and use quantitative skills to analyze the effectiveness of such a campaign. On the practice side, students will collaborate in teams and participate in applied learning exercises. Students will grasp critical concepts of search engine optimization by working with a local business client, laying out a suitable pre-campaign strategy, implementing and modifying the campaign in real time, and summarizing the campaign results in a meaningful and concise manner when it is over.

Prerequisite: MKT 201 or MKT 301.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MKT 388. Health Care Marketing. 3 Credit Hours.

This course is devoted to the study of healthcare marketing and the healthcare system involved with the task of marketing products and services. As healthcare reform continues to evolve current market conditions and transform existing organization into new practices, this course is focused on how managed care providers, hospitals, physicians, federal government, device and pharmaceutical companies will embrace the new patient centered market in their marketing strategies.

Prerequisite: MKT 201 or MKT 301.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MKT 389. Fundamentals of Digital Marketing Analytics. 3 Credit Hours.

This course introduces the student to the basics of evolving new media business metrics and corresponding forms of audience and competitive marketplace analysis. Students will research and evaluate business models for multiplatform new media products that use any combination of print, radio, television, internet, or mobile technologies. Product evaluations will be set within the context of comparative media economics, new media market dynamics, and advertising revenue projections. The goal will be to evaluate whether an existing or a current media product has the critical mass required for profitable advertiser metrics. Students will be exposed to developing new media usage patterns, cross platform media support strategies, new models of entertainment and news gathering, and corporate media acquisitions and mergers. Local media executives, and entrepreneurs will be invited to class to review current trends and discuss strategies for success.

Prerequisite: MKT 201 or MKT 301.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MKT 403. Marketing Management. 3 Credit Hours.

Marketing Management is a capstone course that examines new concepts and insights regarding marketing management. Through case analysis the course covers important aspects of marketing management. The students also participate in a simulation in which they manage multi-segment markets.

Prerequisite: MKT 201 or MKT 301 and FIN 302 and MKT 302 or Corequisite: MKT 302 and Business School.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MKT 469. International Marketing Management. 3 Credit Hours.

International Marketing Management is a capstone course that examines new concepts and insights regarding international marketing management. Through case analysis the course covers important aspects of international marketing management. The students also participate in a simulation in which they manage multi-country markets.

Prerequisite: MKT 360 and MKT 302 or Corequisite: MKT 302.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MKT 496. Directed Studies in Marketing. 1-3 Credit Hours.

Supervised readings, individual research project, or independent investigation of selected non-STEM related problems in the discipline. Offered only by special arrangement with supervising faculty member, who approves topic and evaluation process at time of registration.

Requisite: Business School.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MKT 497. Directed Studies in Marketing. 1-3 Credit Hours.

Supervised readings, individual research project or independent investigation of selected STEM-related problems in the discipline. Offered only by special arrangement with supervising faculty member, who approves topic and evaluation process at time of registration.

Requisite: Business School.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MKT 498. Special Topics in Marketing. 3 Credit Hours.

Special topics in selected non-STEM areas of Marketing.

Prerequisite: MKT 201 or MKT 301.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MKT 499. Special Topics in Marketing. 3 Credit Hours.

Special topics in selected STEM areas of Marketing.

Prerequisite: MKT 201 or MKT 301.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MKT 555. Marketing Departmental Honors Research Project. 3 Credit Hours.

Research project to fulfill requirements for Departmental Honors in Marketing.

Components: THI.

Grading: SUS.

Typically Offered: Spring.

MKT 639. Marketing Honors Research Project. 3 Credit Hours.

Research project to fulfill requirements for Departmental Honors in Marketing.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MKT 640. Foundations of Marketing Management. 2 Credit Hours.

Course introduces students to the analytical concepts and tools of marketing management. Special emphasis is placed on the relationships between marketing and overall company strategy, the development of a customer orientation, the integration of marketing throughout the organization, and the implementation of systems for planning and controlling the marketing effort. Students consider problems of consumer analysis, product planning, integrated communication, distribution, and pricing. Data and analysis required to make effective marketing decisions are also examined. The discovery and application of marketing management skills are developed through the use of readings, case exercises, and class discussions.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MKT 641. Marketing Research. 2 Credit Hours.

The objective of the course is to allow students to understand functional analysis of consumer and market behaviors utilizing statistical tools. The course will cover topics of secondary sources of data, sampling, questionnaire design, and analysis and interpretation of data. Project and case analysis methods will be used for instruction.

Prerequisite: MKT 640 or MKT 660.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MKT 642. Pricing and Value Management. 2 Credit Hours.

Pricing decisions require a synthesis of economic and marketing principles, an appreciation of legal and ethical constraints, and the ability to use accounting, financial, and market research data. This course is designed to teach students how to price goods and services by providing a framework for understanding pricing strategies and tactics. While pricing strategies are taught under the rubric of many diverse disciplines, we will take an integrative approach, combining strategic, economic, marketing, and psychological considerations. Topics covered include economic value and break-even analysis, price elasticity, markup and profit margin, price bundling, among others.

Prerequisite: MKT 640 or MKT 660.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MKT 643. Health Care Marketing. 2-3 Credit Hours.

This course is devoted to the study of health care marketing and the health care system involved with the task of marketing products and services.

As health care reform continues to evolve current market conditions and transform existing organization into new practices, this course is focused on how managed care providers, hospitals, physicians, federal government, device and pharmaceutical companies will embrace the new patient centered market in their marketing strategies.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MKT 644. Services Marketing. 2 Credit Hours.

Course develops skills necessary to manage companies in an increasingly service-oriented and technology-driven economy and to gain sustainable competitive advantage through delivering superior quality services. Course covers the special marketing challenges posed by the unique characteristics of services and discusses their managerial implications. The need and strategies for synergistic management of operations, systems, and people to satisfy customers in order to achieve marketing excellence and superior financial performance are also included.

Prerequisite: MKT 640 or MKT 660.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MKT 645. International Marketing. 2 Credit Hours.

Course analyzes the theories and practice of international marketing management. Course allows students to understand markets and aid in the development of marketing plans based on the nature of national as well as international markets. Issues of globalization, standardization, intermarket segments, trading blocks, global marketing strategies, local branding, global branding in the context of customer movements, product development, pricing, distribution, communication, and segmentation in global markets are also discussed.

Prerequisite: MKT 640 or MKT 660.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MKT 646. Consumer Behavior. 2 Credit Hours.

This course provides an overview of psychological and normative principles of consumer decision-making and judgment by focusing on underlying behavioral research and theory. How people process information, make decisions involving risk and uncertainty, conflicting objectives, and imperfect information are some of the main topics discussed. The implications of consumer behavior on a marketing strategy are highlighted.

Prerequisite: MKT 640 or MKT 660.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MKT 647. Advertising and Communications Management. 2 Credit Hours.

Billions of dollars are wasted every year on ineffective advertising and communication campaigns. This problem is due to an absence of a compelling strategy to serve as a foundation for developing creative executions and media plans. The course provides a balanced analysis of strategy and execution of integrated marketing communication campaigns. The effectiveness of existing and emerging communication vehicles to attain strategic marketing goals is assessed. Special emphasis is placed on advertising, sales promotions, and social media. Current and historical campaigns are also reviewed. Course requirements include case reports, projects, and class participation.

Prerequisite: MKT 640 or MKT 660.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MKT 648. New Product Development. 2 Credit Hours.

Innovation is one of the key drivers of firm value and new product development is perhaps the most important aspect of firm innovation. Yet few firms are able to develop and sustain their new product development process without mis-steps. Starting with how new products fit into the strategic landscape of a firm this course enables students to appreciate the systematic approach that goes into the creation and marketing of new products. Practical aspects of developing and marketing new products are included through two assignments and one class project.

Prerequisite: MKT 640 or MKT 660.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MKT 649. Strategic Brand Marketing. 2 Credit Hours.

More and more firms have come to realize that their brands are among their most valuable assets. The goal of this course is to teach students the strategic significance of brands in creating shareholder value. Students should develop fluency with the core principles associated with branding including: an understanding of how to develop a brand's positioning; managing total brand experience; how to manage the brand relevancy over time; familiarity with the various qualitative and quantitative methodologies that are used to evaluate brand equity; how to achieve growth through brand extension; brand design and brand messaging. The basic philosophy for this course is to blend theory and practice of brand management. Branding is both an art and a science. Few branding situations have a definitive, unqualified "right" answer as to what is the best approach. However, when armed with relevant and comprehensive theories, appropriate frameworks and models, familiarity with past successful and unsuccessful branding strategies, managers can make better and more informed decisions that are more likely to yield successful implementation.

Prerequisite: MKT 640 or MKT 660.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MKT 650. Strategic Marketing. 2 Credit Hours.

Course develops the skills necessary to strategically manage business-unit level marketing activities in a multi-brand firm. This necessitates examining all marketing mix elements, R&D, financial and production considerations simultaneously in the context of the many markets, products, and services that may concern a typical firm. The emphasis is placed on understanding internal capabilities, market competitors, and customers. Market simulation exercise, cases, and readings are utilized.

Prerequisite: MKT 640 or MKT 660.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MKT 660. Foundations of Marketing Management. 3 Credit Hours.

Marketing problems experienced by top executives are examined and fundamental problem-solving concepts are developed. Students consider problems of consumer needs, product planning, promotion, distribution and pricing. The discovery and application of marketing management skills are developed through the use of cases and a major planning project.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MKT 665. International Marketing. 3 Credit Hours.

Analysis of major U.S. foreign markets, marketing policies, and techniques are discussed.

Prerequisite: MKT 640 or MKT 660.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MKT 672. Services Marketing. 3 Credit Hours.

Course develops the skills necessary to manage services marketing and compete through delivering quality service. The unique characteristics of services and their managerial implications are examined. Importance of the synergistic management of operations, environment, systems and people to satisfy the customer is highlighted.

Prerequisite: MKT 640 or MKT 660.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MKT 675. Marketing Analytics. 2 Credit Hours.

Big data, fast computing and clever algorithms have converged to allow managers to convert data into one of their key strategic assets. In response, managers are collecting large volumes of data from diverse sources such as point-of-sale, online and social media. However, this data deluge does not automatically result in smart actions. To convert data to insights managers must develop the capability to transform data into knowledge through analytics. This has made analytics an important subject for business majors. One area where firms find analytics useful is marketing. Today firms use analytics to identify profitable customers, continuously track brands, and calculate optimal price promotions, test commercials, optimize media budgets across online and offline channels, design sales force allocation and decide the intensity of distribution channels. The goals of this course are to give you hands-on experience with data and analytics, teach you how to draw strategic marketing insights from data and show you how to make marketing decisions with greater precision without merely relying on "gut" decisions. This is not to say that intuition and creativity do not play a role in marketing. It means that analytical approaches combined with intuition makes for better marketing decisions.

Prerequisite: MKT 640 or MKT 660.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MKT 686. Behavioral Decision Theory in Consumer Research.. 3 Credit Hours.

The purpose of this seminar is to provide students with a review of the psychological literature as applied to the study of judgment and decision making with a focus on consumer research. The course will be based on behavioral decision theory and social psychology with an emphasis in generating high quality consumer research ideas. The course complements MKT 688 and MKT 689, which emphasizes information processing aspects of consumer behavior. Each week there will be discussions of a topic of consumer behavior research, drawing primarily upon readings from marketing and psychology. Students will learn how to identify important research problems, ask interesting research questions, develop theories and hypotheses, and design experiments.

Requisite: Must be registered Doctoral Student.

Components: SEM.

Grading: GRD.

Typically Offered: Spring.

MKT 687. Marketing Strategy. 3 Credit Hours.

Marketing Strategy is a vast, exciting and exploding literature that almost defies classification. However, despite this difficulty one common theme unifies and distinguishes this stream of research: it is marketing as seen through the eyes of a manager. Is it worth fighting for market share? How do we analyze competitors? Is it more profitable to introduce a new product or enter a new market? Should we build on existing relationships or seek new customers? Does loyalty management pay? Do consumers understand product quality? Can we quantify the effects of advertising and promotions? What metrics should we use to evaluate the effectiveness of marketing effort? Can we run policy simulations before committing to marketing action? These are some of the questions that marketing managers need to address. Often the questions are very broad and complex, reflecting the bewildering range of techniques that have been used to address those questions. The seminar will try to impart an appreciation of how to define and solve research problems in a marketing strategy.

Requisite: Must be registered Doctoral Student.

Components: SEM.

Grading: GRD.

Typically Offered: Fall.

MKT 688. Ph.D. Seminar in Consumer Behavior and Decision Making. 3 Credit Hours.

This course is designed to provide students with a background regarding a wide set of topics in consumer behavior focusing on theoretical models. In addition to developing a knowledge base in several extant consumer behavior literatures, this course has several additional goals. Students will: 1) become familiar with the content and style of consumer behavior research published within the marketing field, 2) develop an understanding of many methodologies and paradigms that can be used to investigate theoretical issues, 3) have several opportunities to explicate research ideas that they will hopefully be able to pursue in the remainder of the program or early in their careers, and 4) learn to critically evaluate the research of others to aid in strengthening their thinking and ultimately their own research activities.

Requisite: Must be registered Doctoral Student.

Components: SEM.

Grading: GRD.

Typically Offered: Fall.

MKT 689. Information Processing for Consumer Behavior. 1-3 Credit Hours.

Broadly the study of consumer behavior is divided into two areas - behavioral decision theory and information processing. This course will focus on information-processing aspects of consumer behavior with an emphasis in generating high quality consumer research ideas. We will cover both classic papers that provide the gist of the area covered in each session as well as research that attracted more interest from scholars in the recent years. The course complements MKT688 and MKT686, which provide students with an introduction to topics in consumer behavior and behavioral decision theory, respectively (these three Consumer Behavior PhD seminars can be taken in any sequence). Each week we will discuss a topic of consumer behavior research, drawing primarily upon readings from marketing and psychology. Students are responsible for all primary readings, which will be discussed in a seminar-format in class. Each week, we will discuss 4-5 papers. Students will also be assigned to be the "discussion leader" for individual sessions. Professor will assign these sessions to the students in the first class.

Components: SEM.

Grading: GRD.

Typically Offered: Fall.

MKT 695. Topics in Marketing. 3.00 Credit Hours.

Topics in selected areas of Marketing.

Requisite: Must be registered Doctoral Student.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

MKT 696. Topics in Marketing. 1-3 Credit Hours.

Topics in selected areas of Marketing.

Requisite: Must be registered Doctoral Student.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MKT 697. Topics in Marketing. 1-3 Credit Hours.

Topics in selected areas of Marketing.

Requisite: Must be registered Doctoral Student.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MKT 698. Topics in Marketing. 1-3 Credit Hours.

Topics in selected areas of Marketing.

Requisite: Must be registered Doctoral Student.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MKT 699. Directed Study. 1-6 Credit Hours.

Individually supervised readings or research projects. Restricted to students with superior academic records. Approval of supervising professor as to topic and evaluation of project required at time of registration.

Requisite: Must be a registered Doctoral student.

Components: THE.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MKT 830. Doctoral Dissertation. 1-12 Credit Hours.

Required of all candidates for the Ph.D. The student will enroll for credit as determined by his/her advisor but not for less than a total of 24. Not more than 12 hours of MKT 730 may be taken in a regular semester, nor more than six in a summer session. Where a student has passed his/her (a) qualifying examinations, and (b) is engaged in an assistantship, he/she may still take the maximum allowable credit stated above.

Requisite: Must be a registered Doctoral student.

Components: THE.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

Master of Arts Liberal Studies (MLS)

MLS 601. Aspects of Creative and Reflective Thought. 3 Credit Hours.

Selected aspects of creative and reflective thought, based on materials from the arts, the humanities, the sciences, the social sciences and history. The focus will be on themes and issues represented in a variety of cultural traditions.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

MLS 602. Perspectives on Human Nature. 3 Credit Hours.

Basic theories of human nature proposed by the humanities, the sciences, and the social sciences. The course deals with fundamental issues regarding the concept of human nature, such as the nature of the self and its relation to society, the impact of culture on self perception and the relation of thought to human action.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

MLS 603. Theories of the Physical Universe. 3 Credit Hours.

Various understandings of the nature of the universe and their impact on human culture. The course will deal with critical issues addressed in the various attempts to understand the physical world, such as fundamental structures and processes, the limitation of human perception, and the interaction between the human species and its environment.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

MLS 611. Studies in the Humanities. 3 Credit Hours.

Interdisciplinary study of selected topics in the Humanities.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

MLS 612. Studies in the Social Sciences. 3 Credit Hours.

Interdisciplinary study of selected topics in the Social Sciences.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MLS 613. Studies in the Sciences. 3 Credit Hours.

Interdisciplinary study of selected topics in the sciences.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MLS 621. Studies in the Humanities. 3 Credit Hours.**Components:** SEM.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**MLS 625. Special Topics. 3 Credit Hours.****Components:** SEM.**Grading:** GRD.**Typically Offered:** Fall & Spring.**MLS 626. Special Topics. 3 Credit Hours.****Components:** LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**MLS 627. Special Topics. 3 Credit Hours.****Components:** SEM.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**MLS 631. Studies in the Humanities. 3 Credit Hours.****Components:** LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**MLS 696. Directed Readings. 1-3 Credit Hours.**

Requisite: Plan of Master of Arts Liberal Studies.

Components: THI.**Grading:** GRD.**Typically Offered:** Fall & Spring.**MLS 697. Directed Readings. 1-3 Credit Hours.**

Requisite: Plan of Master of Arts Liberal Studies.

Components: THI.**Grading:** GRD.**Typically Offered:** Fall & Spring.**MLS 798. Seminar in Liberal Studies. 3 Credit Hours.****Components:** LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**MLS 799. Seminar in Liberal Studies. 3 Credit Hours.****Components:** SEM.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**MLS 810. Master's Thesis. 1-6 Credit Hours.**

The student working on his/her master's thesis enrolls for credit, in most departments not to exceed six, as determined by his/her advisor. Credit is not awarded until the thesis has been accepted.

Requisite: Plan of Master of Arts Liberal Studies.

Components: THI.**Grading:** SUS.**Typically Offered:** Fall & Spring.**MLS 815. MALS Project. 1-6 Credit Hours.**

The student working on his/her MALS project enrolls for credit, not to exceed 6, as determined by his/her advisor. Credit is not awarded until the project has been accepted.

Requisite: Plan of Master of Arts Liberal Studies.

Components: THI.**Grading:** GRD.**Typically Offered:** Fall & Spring.

MLS 820. Research in Residence. 1 Credit Hour.

Used to establish research in residence for the thesis for the master's degree after the student has enrolled for the permissible cumulative total in PSY 710 (usually six credits). Credit not granted. May be regarded as full time residence.

Requisite: Plan of Master of Arts Liberal Studies.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

MLS 825. Continuous Registration-Master's Study. 1 Credit Hour.

To establish residence for non-thesis students who are preparing for major examinations. Credit not granted. Regarded as full time residence.

Requisite: Plan of Master of Arts Liberal Studies.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

Mathematics (MTH)

MTH 099. Intermediate Algebra. 3 Credit Hours.

Real number operations, polynomials, factoring, rational numbers and rational expressions. Cannot be used to fulfill the 120 credits required for graduation.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MTH 101. Algebra for College Students. 3 Credit Hours.

Algebraic operations and properties of the real numbers; linear and quadratic equations and inequalities; polynomials and factoring; rational expressions; radical expressions; graphs of lines; systems of linear equations.

Requisite: SAT Math Section Score \geq 550 or Math ACT Score \geq 22 or ALEKS score \geq 40 or passing grade in MTH 099.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MTH 105. Algebra and Trigonometry. 5 Credit Hours.

An intensive course in algebra and trigonometry as covered in MTH 107-108, but without analytic geometry.

Requisite: SAT Math Section Score \geq 600 OR Math ACT Score \geq 25 OR ALEKS score \geq 55 OR passing grade in MTH 101.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MTH 107. Precalculus Mathematics I. 3 Credit Hours.

Algebraic operations; equations and inequalities; complex numbers; functions and their graphs; polynomial, exponential, and logarithmic functions; systems of equations.

Requisite: SAT Math Section Score \geq 600 OR Math ACT Score \geq 25 OR ALEKS score \geq 55 OR passing grade in MTH 101.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MTH 108. Precalculus Mathematics II. 3 Credit Hours.

Rational functions; analytic geometry; trigonometric functions, identities, and equations.

Requisite: SAT Math Section Score \geq 650 OR Math ACT Score \geq 28 OR ALEKS score \geq 65 OR a passing grade in MTH 107.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MTH 113. Finite Mathematics. 3 Credit Hours.

Sets, logic, counting techniques, elementary probability and statistics, mathematics in finance, linear programming, algebraic structures, symmetry. The selection of topics may vary by instructor. Intended for BA students.

Prerequisite: MTH 101 or MTH 107. Or Requisite: ALEKS score \geq 60 or SAT MATH score \geq 630 or SAT MATH Section score \geq 620 or ACT score \geq 28.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MTH 130. Introductory Calculus. 3 Credit Hours.

A one-semester survey of the fundamental principles of calculus, functions, limits, derivatives, definite integrals, applications. Not for students planning further study of calculus beyond this course.

Requisite: ALEKS score ≥ 65 or SAT MATH score ≥ 630 or SAT MATH Section score ≥ 650 or ACT score ≥ 28 or AP Calculus AB score of 3 or passing grade in MTH 107.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MTH 133. Games and Strategies. 3 Credit Hours.

A mathematical introduction to the theory of games, strategies, and optimal responses. Primarily intended for students in a B.A. program.

Prerequisite: MTH 113 or MTH 130.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MTH 140. Calculus Concepts with Foundations A. 4 Credit Hours.

Tools from algebra and trigonometry for calculus. Functions and graphs, limits and continuity, the derivative and applications.

Requisite: ALEKS score ≥ 65 OR SAT MATH ≥ 630 OR SAT MATH SECTION ≥ 650 OR ACT ≥ 28 OR AP Calculus score of 3.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MTH 141. Calculus Concepts with Foundations B. 4 Credit Hours.

Tools from algebra, trigonometry, and analytic geometry for calculus. Further aspects of differentiation. Antiderivatives, definite integrals, and their applications.

Prerequisite: MTH 140. Min Grade C-.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MTH 151. Calculus I for Engineers. 5 Credit Hours.

Analytic geometry, limits and continuity, derivatives, the definite integral, and applications relevant to engineering. Intended for students taking PHY 205 concurrently.

Requisite: SAT Math Section Score ≥ 730 OR Math ACT Score ≥ 31 OR ALEKS score ≥ 76 OR C- or higher in MTH 105 or MTH 108.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MTH 161. Calculus I. 4 Credit Hours.

Limits and continuity, derivatives and applications, the definite integral and applications.

Requisite: ALEKS score ≥ 76 or SAT MATH score ≥ 700 or SAT MATH SECTION ≥ 730 or ACT score ≥ 31 or score of 4 AP Calculus (AB) or score of 3 in AP Calculus (BC) or a C- or higher in MTH 108.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MTH 162. Calculus II. 4 Credit Hours.

Transcendental functions, methods of integration, improper integrals, infinite series, polar coordinates, and introduction to differential equations.

Prerequisite: MTH 141 or MTH 151 or MTH 161 or MTH 171.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MTH 171. Calculus I. 4 Credit Hours.

The theory of limits, the derivative and the definite integral, techniques and applications. The sequence MTH 171-172 is more conceptually-oriented than MTH 161-162.

Requisite: Prism Program.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MTH 172. Calculus II. 4 Credit Hours.

Continuation of MTH 171. Additional topics on the derivative and definite integral, improper integrals, infinite series, and introduction to differential equations.

Prerequisite: MTH 171.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MTH 210. Introduction to Linear Algebra. 3 Credit Hours.

Vectors, matrix algebra, systems of linear equations, and related geometry in Euclidean spaces. Fundamentals of vector spaces, linear transformations, determinants, eigenvalues, and eigenspaces.

Pre/Corequisite: MTH 162 or MTH 172.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MTH 211. Calculus III. 3 Credit Hours.

Vectors in space, partial differentiation, multiple integration.

Prerequisite: MTH 162 or MTH 172. Requisite: Not open to students with credit in MTH 310 or MTH 433 or MTH 533.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MTH 224. Introduction to Probability and Statistics. 3 Credit Hours.

Probability distributions, random variables, expectation and variance, point estimation, interval estimation, testing of hypotheses, analysis of variance.

Pre/Corequisite: MTH 162 or MTH 172.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MTH 230. Introduction to Abstract Mathematics. 3 Credit Hours.

Fundamentals of set theory, logic and methods of mathematical proof.

Pre/Corequisite: MTH 162 or MTH 172.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MTH 309. Discrete Mathematics I. 3 Credit Hours.

Mathematical methods of Computer Science and Computer Engineering. Mathematical reasoning, sets, relations, functions, Boolean algebra, combinatorics, graphs.

Prerequisite: MTH 141 or MTH 151 or MTH 161 or MTH 171.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MTH 310. Multivariable Calculus. 3 Credit Hours.

Equations of curves, surfaces, solids; vector differential calculus; integration of scalar valued functions. Applications. Intended for mathematics majors.

Prerequisite: MTH 210 and MTH 162 or MTH 172. Requisite: Not open to students with credit in MTH 433 OR MTH 533.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MTH 311. Introduction to Ordinary Differential Equations. 3 Credit Hours.

Theory and applications of first-order differential equations. Theory and applications of higher order linear equations and first order linear systems, including matrix methods.

Prerequisite: MTH 162 or MTH 172.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MTH 320. Introduction to Numerical Analysis. 3 Credit Hours.

Interpolation, quadrature, numerical solution of algebraic and transcendental equations, and optimization.

Prerequisite: MTH 210 and MTH 211 or MTH 310.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MTH 359. Mathematical Models in Biology and Medicine. 3 Credit Hours.

Fundamentals of the dynamical systems approach to modeling temporal change in biological systems. An introduction to the analysis of mathematical models in biology and medicine with detailed, concrete examples drawn from ecology, cell biology, neuro-science, and physiology.

Prerequisite: MTH 162 or MTH 172.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MTH 433. Advanced Calculus. 3 Credit Hours.

A rigorous and comprehensive treatment of the theoretical concepts of calculus. The real number system; sequences; series; continuity, differentiation, and integration of functions of one variable.

Prerequisite: MTH 230 and MTH 310 or MTH 211. Not open for Students with Credit in MTH 533.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MTH 461. Survey of Modern Algebra. 3 Credit Hours.

Algebraic systems, equivalence classes, groups, rings, fields, unique factorization domains.

Prerequisite: MTH 210 and MTH 230. Requisite: Not open to students with credit in MTH 561.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MTH 471. Directed Readings. 1-3 Credit Hours.

Topics selected from algebra, geometry, analysis, topology.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MTH 472. Directed Readings. 1-3 Credit Hours.

Topics selected from algebra, geometry, analysis, topology.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MTH 502. History of Mathematics. 3 Credit Hours.

The development of mathematics from its earliest beginnings through the first half of the twentieth century. Numeral systems, geometry, algebra, analysis and set theory.

Prerequisite: 2 Courses in MTH 200 or Higher.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MTH 504. Foundations of Geometry. 3 Credit Hours.

Axiom systems and models of Euclidean and Non-Euclidean geometry.

Prerequisite: MTH 230 or MTH 309.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MTH 505. Theory of Numbers. 3 Credit Hours.

Divisibility, primes; congruences, quadratic residues and reciprocity; Diophantine equations. Applications to cryptography.

Prerequisite: MTH 210 or MTH 504.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MTH 506. Mathematical Logic. 3 Credit Hours.

Logics, truth, proof, logical consequence, model theory, formalization, and computation. Meta-theory of first-order logic, computability theory, and Godel's incompleteness theorems. Related results by Church, Turing, and Tarski. Discussion of their philosophical significance.

Prerequisite: MTH 230.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MTH 510. Linear Algebra. 3 Credit Hours.

Abstract vector spaces, bases and dimensions, linear maps, eigenvalues and eigenvectors, inner product spaces, operators, spectral theorems, canonical forms.

Prerequisite: MTH 210 and MTH 230 or MTH 309.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MTH 512. Elementary Complex Analysis. 3 Credit Hours.

Complex variables; conformal mapping, contour integration.

Prerequisite: MTH 310 or MTH 211.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MTH 513. Partial Differential Equations I. 3 Credit Hours.

Derivation, well posedness, and qualitative properties of initial value and boundary value problems for the heat, wave and Laplace equations. Energy methods, causality, maximum principles, heat kernels, Fourier series, and potential theory.

Prerequisite: MTH 210 and MTH 311 and MTH 211 or MTH 310.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MTH 514. Partial Differential Equations II. 3 Credit Hours.

Continuation of MTH 513. Approximations of solutions, distributions and integral transform methods, spectral theory and scattering. Applications to physical problems. Nonlinear equations and phenomena.

Prerequisite: MTH 513.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MTH 515. Ordinary Differential Equations. 3 Credit Hours.

Linear systems, equilibrium and periodic solutions, stability analysis, bifurcation, phase plane analysis, boundary value problems, applications to engineering and physics.

Prerequisite: MTH 311 and MTH 211 or MTH 310.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MTH 516. Dynamics and Bifurcations. 3 Credit Hours.

Bifurcation of equilibrium and periodic solutions, global theory of planar systems, planar maps, nonlinear vibrations, forced oscillations, chaotic solutions, Hamiltonian systems, applications to engineering and physics.

Prerequisite: MTH 515.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MTH 520. Numerical Linear Algebra. 3 Credit Hours.

Topics from numerical linear algebra including solving systems of equations, LU, QR, and SVD factorizations, eigenvalues and eigenvectors, interactive methods, and applications.

Prerequisite: MTH 320.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MTH 521. Numerical Methods in Differential Equations. 3 Credit Hours.

Numerical solution of ordinary and partial differential equations.

Prerequisite: MTH 320 or MTH 520.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MTH 524. Introduction to Probability. 3 Credit Hours.

Probability spaces, random variables, expectation, limit theorems.

Prerequisite: MTH 224 and MTH 211 or MTH 310.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MTH 525. Introduction to Mathematical Statistics. 3 Credit Hours.

Probability distributions, theory of sampling and hypothesis testing.

Prerequisite: MTH 524.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MTH 527. Theory of Computing. 3 Credit Hours.

Sets, relations, and languages. Automata theory. Basic computability theory. Turing machines. The complexity classes P and NP.

Prerequisite: MTH 309 or MTH 461.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MTH 531. Topology I. 3 Credit Hours.

Set theory, topological spaces, compactness, connectedness, separation properties, quotient spaces, Tychonoff Theorem, compactification, Urysohn Lemma and Tietze Extension Theorem, function spaces.

Prerequisite: MTH 230.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MTH 532. Topology II. 3 Credit Hours.

Differential and topological manifolds, classical groups and associated manifolds, tangent and tensor bundles, vector fields, differential forms, transversality, Sard's theorem, Stokes' Theorem.

Prerequisite: MTH 210 and MTH 531.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MTH 533. Introduction to Real Analysis I. 3 Credit Hours.

Sequences and series in Euclidean space; sequences and series of functions; Fourier series; continuity, differentiation, and integration of functions between Euclidean spaces; implicit and inverse function theorems.

Prerequisite: MTH 230 And MTH 211 Or MTH 310.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MTH 534. Introduction to Real Analysis II. 3 Credit Hours.

Continuation of MTH 533.

Prerequisite: MTH 533.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MTH 542. Statistical Analysis. 3 Credit Hours.

Statistical inference about one or two populations from interval, ordinal and categorical data; analysis of variance; simple and multiple linear regression; designing research studies.

Prerequisite: MTH 210 and MTH 224.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MTH 547. Introduction to Mathematical Finance. 3 Credit Hours.

Models of financial markets. Derivative securities: European and American options. Tools of mathematical finance: binomial trees, martingales, stopping times. Concepts of arbitrage and hedging. Risk-neutral valuation of financial derivatives; the Black-Scholes formula and its applications.

Prerequisite: MTH 224 and MTH 211 or MTH 310.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MTH 551. Introduction to Differential Geometry. 3 Credit Hours.

Geometry of curves and surfaces in Euclidean space. Local space curve theory, intrinsic and extrinsic curvature of surfaces, geodesics, parallelism, and differential forms.

Prerequisite: MTH 210 And MTH 211 Or MTH 310.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MTH 561. Abstract Algebra I. 3 Credit Hours.

Groups; rings; linear algebra; modules.

Prerequisite: MTH 210 and MTH 230.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MTH 562. Abstract Algebra II. 3 Credit Hours.

Continuation of MTH 561.

Prerequisite: MTH 561.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MTH 571. Directed Readings in Mathematics. 1-3 Credit Hours.

Readings in special topics.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

MTH 591. Topics in Mathematics. 1-3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MTH 592. Topics in Mathematics. 1-3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MTH 593. Topics in Mathematics. 1-3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MTH 602. History of Mathematics. 3 Credit Hours.

The development of mathematics from its earliest beginnings through the first half of the twentieth century. Numeral systems, geometry, algebra, analysis and set theory.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MTH 604. Foundations of Geometry. 3 Credit Hours.

Axiom systems and models of Euclidean and Non-Euclidean geometry

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MTH 605. Theory of Numbers. 3 Credit Hours.

Divisibility, primes; congruences, quadratic residues and reciprocity; Diophantine equations. Applications to cryptography.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MTH 606. Mathematical Logic. 3 Credit Hours.

Logics, truth, proof, logical consequence, model theory, formalization, and computation. Meta-theory of first-order logic, computability theory, and Godel's incompleteness theorems. Related results by Church, Turing, and Tarski. Discussion of their philosophical significance.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MTH 610. Linear Algebra. 3 Credit Hours.

Abstract vector spaces, bases and dimensions, linear maps, eigenvalues and eigenvectors, inner product spaces, operators, spectral theorems, canonical forms.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MTH 612. Elementary Complex Analysis. 3 Credit Hours.

Complex variables; conformal mapping, contour integration.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MTH 613. Partial Differential Equations I. 3 Credit Hours.

Derivation, well posedness, and qualitative properties of initial value and boundary value problems for the heat, wave and Laplace equations. Energy methods, causality, maximum principles, heat kernels, Fourier series, and potential theory.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MTH 614. Partial Differential Equations II. 3 Credit Hours.

Continuation of MTH 513. Approximations of solutions, distributions and integral transform methods, spectral theory and scattering. Applications to physical problems. Nonlinear equations and phenomena.

Prerequisite: MTH 613.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MTH 615. Ordinary Differential Equations. 3 Credit Hours.

Linear systems, equilibrium and periodic solutions, stability analysis, bifurcation, phase plane analysis, boundary value problems, applications to engineering and physics.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MTH 616. Dynamics and Bifurcations. 3 Credit Hours.

Bifurcation of equilibrium and periodic solutions, global theory of planar systems, planar maps, nonlinear vibrations, forced oscillations, chaotic solutions, Hamiltonian systems, applications to engineering and physics.

Prerequisite: MTH 615.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MTH 620. Numerical Linear Algebra. 3 Credit Hours.

Topics from numerical linear algebra including solving systems of equations, LU, QR, and SVD factorizations, eigenvalues and eigenvectors, interactive methods, and applications.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MTH 621. Numerical Methods in Differential Equations. 3 Credit Hours.

Numerical solution of ordinary and partial differential equations.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MTH 624. Introduction to Probability Theory. 3 Credit Hours.

Probability spaces, random variables, expectation, limit theorems.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MTH 625. Introduction to Mathematical Statistics. 3 Credit Hours.

Probability distributions, theory of sampling and hypothesis testing.

Prerequisite: MTH 624.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MTH 627. Theory of Computing. 0 Credit Hours.

Sets, relations, and languages. Automata theory. Basic computability theory. Turing machines. The complexity classes P and NP.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MTH 631. Topology I. 3 Credit Hours.

Set theory, topological spaces, compactness, connectedness, separation properties, quotient spaces, Tychonoff Theorem, compactification, Urysohn Lemma and Tietze Extension Theorem, function spaces.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MTH 632. Topology II. 3 Credit Hours.

Differential and topological manifolds, classical groups and associated manifolds, tangent and tensor bundles, vector fields, differential forms, transversality, Sard's theorem, Stokes' Theorem.

Prerequisite: MTH 631.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MTH 633. Introduction to Real Analysis I. 3 Credit Hours.

Sequences and series in Euclidean space; sequences and series of functions; Fourier series; continuity, differentiation, and integration of functions between Euclidean spaces; implicit and inverse function theorems.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MTH 634. Introduction to Real Analysis II. 3 Credit Hours.

Continuation of MTH 633.

Prerequisite: MTH 633.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MTH 642. Statistical Analysis. 3 Credit Hours.

Statistical inference about one or two populations from interval, ordinal and categorical data; analysis of variance; simple and multiple linear regression; designing research studies.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MTH 643. Statistical Analysis II with Financial Applications. 3 Credit Hours.

Exploratory data analysis. Designing parametric models and assessing their uncertainty. Techniques for resampling. Using multivariate distributions to model financial data; families of copulas. Analyzing time series, including ARIMA and GARCH models.

Prerequisite: MTH 642 or MTH 542.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MTH 645. Optimization Methods. 3 Credit Hours.

Linear optimization: simplex method and simplex tableaus, sensitivity analysis. Quadratic optimization and its applications in finance: risk modeling and portfolio construction. Integer programming techniques, branch and bound method. Dynamic programming - deterministic and probabilistic techniques. Software tools of optimization.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MTH 646. Quantitative Risk Analysis. 3 Credit Hours.

The modeling, measuring, and managing of financial risk using statistical and stochastic methods. Following "Basel Committee on Banking Supervision" risk analysis is now a major issue for the banking Sector. Concepts and methods covered in this course can be applied to managing risk in various areas, but will proceed in the context related to risk analysis and management in finance and insurance.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MTH 647. Introduction to Mathematical Finance. 3 Credit Hours.

Models of financial markets. Derivative securities: European and American options. Tools of mathematical finance: binomial trees, martingales, stopping times. Concepts of arbitrage and hedging. Risk-neutral valuation of financial derivatives; the Black-Scholes formula and its applications.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MTH 648. Stochastic Calculus with Application to Finance. 3 Credit Hours.

Stochastic calculus developing the basic probabilistic techniques necessary to study analytic models of financial markets. Brownian motion and the stochastic integral, stochastic differential equations, the Black-Scholes formula, Girsanov's theorem and applications to option pricing.

Prerequisite: MTH 647.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MTH 649. Computational Methods of Finance. 3 Credit Hours.

Solutions of nonlinear equations, interpolation, Monte Carlo methods, survey of matrix factorizations, numerical integration and differentiation, and introduction to finite difference and finite element methods for PDEs with applications to finance.

Prerequisite: CSC 220 and MTH 643 and MTH 648.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MTH 650. Machine Learning in Quantitative Finance. 3 Credit Hours.

Machine learning techniques for financial applications. Best practices for model selection and construction of big financial data, including regression and classification techniques, and deep learning with application to forecasting financial time series.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MTH 651. Introduction to Differential Geometry. 3 Credit Hours.

Geometry of curves and surfaces in Euclidean space. Local space curve theory, intrinsic and extrinsic curvature of surfaces, geodesics, parallelism, and differential forms.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MTH 661. Abstract Algebra I. 3 Credit Hours.

Groups; rings; linear algebra; modules.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MTH 662. Abstract Algebra II. 3 Credit Hours.

Continuation of MTH 561.

Prerequisite: MTH 661.

Components: LEC.**Grading:** GRD.**Typically Offered:** Spring.**MTH 691. Topics in Mathematics. 1-3 Credit Hours.****Components:** LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**MTH 692. Topics in Mathematics. 1-3 Credit Hours.****Components:** LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**MTH 693. Topics in Mathematics. 1-3 Credit Hours.****Components:** LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**MTH 709. Data Security and Cryptography. 3 Credit Hours.**

Encryption algorithms; cryptographic techniques; access, information flow and inference controls.

Components: LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**MTH 721. Mathematical Probability. 3 Credit Hours.**

Development of the measure-theoretic approach to probability. Random variables, central limit theory, laws of large numbers, martingales.

Components: LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**MTH 722. Stochastic Processes. 3 Credit Hours.****Components:** LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**MTH 733. Real Variables. 3 Credit Hours.**First semester of a two semester sequence: General measure theory, Lebesgue measure and integration, L_p spaces, Fourier series in one and many variables, Fourier transforms, distributions, Sobolev spaces, applications to partial differential equations.**Components:** LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**MTH 734. Real Variables. 3 Credit Hours.**Second semester of a two semester sequence: General measure theory, Lebesgue measure and integration, L_p spaces, Fourier series in one and many variables, Fourier transforms, distributions, Sobolev spaces, applications to partial differential equations.**Components:** LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**MTH 735. Complex Variables. 3 Credit Hours.**

First semester of a two semester sequence: Analytic functions, conformality, Cauchy's Theorem, representation theorems, harmonic functions, calculus of residues, Riemann Mapping Theorem, entire and meromorphic functions, analytic continuation, normal families.

Components: LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**MTH 736. Complex Variables. 3 Credit Hours.**

Second semester of a two semester sequence: Analytic functions, conformality, Cauchy's Theorem, representation theorems, harmonic functions, calculus of residues, Riemann Mapping Theorem, entire and meromorphic functions, analytic continuation, normal families.

Components: LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.

MTH 741. Algebraic Topology. 3 Credit Hours.

First semester of a two semester sequence: Homotopy and homotopy type, fundamental group, covering spaces, higher homotopy groups, simplicial singular and cellular homology, Eilenberg-Steenrod axioms, cohomology, universal coefficient theorem, products, Kunnetth formula, duality theorems for manifolds, computations and applications.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MTH 742. Algebraic Topology. 3 Credit Hours.

Second semester of a two semester sequence: Homotopy and homotopy type, fundamental group, covering spaces, higher homotopy groups, simplicial singular and cellular homology, Eilenberg-Steenrod axioms, cohomology, universal coefficient theorem, products, Kunnetth formula, duality theorems for manifolds, computations and applications.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MTH 751. Differential Geometry. 3 Credit Hours.

First semester of a two semester sequence.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MTH 752. Differential Geometry. 3 Credit Hours.

Second semester of a two semester sequence.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MTH 757. Lie Groups. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MTH 761. Abstract Algebra I. 3 Credit Hours.

First semester of a two semester sequence: Group theory, ring theory, module theory, linear algebra.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MTH 762. Abstract Algebra II. 3 Credit Hours.

Second semester of a two semester sequence: Group theory, ring theory, module theory, linear algebra.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MTH 770. Directed Readings or Research. 2-4 Credit Hours.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MTH 780. Topics in Analysis. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MTH 781. Topics in Analysis. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MTH 782. Topics in Topology. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MTH 783. Topics in Topology. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MTH 785. Topics in Algebra. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MTH 786. Topics in Mathematics. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MTH 787. Topics in Mathematics. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MTH 820. Research in Residence. 1 Credit Hour.

To establish a residence for non-thesis master's students who are preparing for major examinations. Credit not granted. Regarded as full-time residence.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MTH 830. Pre-Candidacy Doctoral Dissertation. 1-12 Credit Hours.

Credits earned in this course apply towards the 12 credit hour dissertation research requirement of the graduate school. The student will enroll for credit as determined by his/her dissertation advisor. Up to 12 hours may be taken in a regular semester, but not more than six in a summer session.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

MTH 835. Research Project. 1-6 Credit Hours.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MTH 840. Post-Candidacy Doctoral Dissertation. 1-6 Credit Hours.

Credits earned in this course apply towards the 12 credit hour dissertation research requirement of the graduate school. The student will enroll for credit as determined by his/her dissertation advisor. Up to 12 hours may be taken in a regular semester, but not more than six in a summer session.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

MTH 845. Research in Residence. 1 Credit Hour.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

MTH 850. Research in Residence. 1 Credit Hour.

Used to establish research in residence for the Ph.D. after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Credit not granted. May be regarded as full-time residence as determined by the Dean of the Graduate School.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

Mechanical and Aerospace Engineering (MAE)

MAE 100. Introduction to Mechanical and Aerospace Engineering. 3 Credit Hours.

Basic principles of automobile engines and engine efficiency. Introduction to robots and controls. Basic concepts of solar engineering and solar energy utilization. Principles of fuel cells and hydrogen energy. Introduction to aerospace engineering including the aspects of aerodynamics, propulsion and flight dynamics. Introduction to Aerodynamics of air planes and rockets.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

MAE 111. Introduction to Engineering I. 3 Credit Hours.

Use of engineering tools and computer techniques for problem solving. Data acquisition, analysis, presentation, software design, and computer aided drafting are covered. Development of design skills through several design and building competitions. Introduction to professional ethics and intellectual property rights. Introduction to use of MATLAB, AutoCAD, and programming in C++.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MAE 112. Introduction to Engineering II. 2 Credit Hours.

Introduction to engineering design and the design process. Course topics include safety, reliability, human and environmental factors, economic analysis, and cost estimation. Professional ethics, product liability, solid modeling, machine shop orientation, and practice are also included. Group design projects.

Prerequisite: MAE 111.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MAE 202. Dynamics. 3 Credit Hours.

Discussion of motion description and analysis, application of Newton's laws, energy, and momentum principles to mechanical systems. Introduction to mechanical vibrations. Corequisite: PHY 205.

Prerequisite: CAE 210.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MAE 207. Mechanics of Solids II. 3 Credit Hours.

Discussion of displacements, instability, flexural, shear, torsional, and principle stresses. Introduction to statically indeterminate analysis.

Prerequisite: CAE 210.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MAE 241. Measurements Laboratory. 3 Credit Hours.

Introduction to experimental mechanical engineering. Basic principles of measurement, data interpretation, and uncertainty analysis are covered.

Laboratory exercises in mechanical engineering areas are included. Corequisite: EEN 201 or 205.

Prerequisite: MAE 207 and IEN 311 and ENG 107.

Components: IND.

Grading: GRD.

Typically Offered: Fall.

MAE 301. Engineering Materials Science. 3 Credit Hours.

Introduction to the physics and chemistry of the solid state including the structure and properties of metals, polymers, and ceramics. Corequisite: PHY 207.

Prerequisite: PHY 207.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MAE 302. Mechanical Behavior of Materials. 3 Credit Hours.

Application of metallurgy and mechanics to the study of the plastic deformation and fracture of metals, ceramics, and plastics.

Prerequisite: MAE 207.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MAE 303. Thermodynamics I. 3 Credit Hours.

Thermodynamic properties of materials; the first and second laws of thermodynamics; application to thermodynamic processes; introduction to heat transfer.

Prerequisite: PHY 206 and MTH 162 or MTH 172.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MAE 309. Fluid Mechanics. 3 Credit Hours.

Course topics include fluid statics, fluid flow concepts, dynamics of inviscid and viscous fluids, closed and open channel flow, and compressibility effects.

Prerequisite: CAE 210 and PHY 206.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MAE 310. Heat Transfer. 3 Credit Hours.

Application of elementary methods of solution to heat transfer problems involving steady and unsteady state conduction, radiation, and convection. Introduction of meaningful experimental data is also included.

Prerequisite: MAE 303.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MAE 341. Mechanical Design I. 3 Credit Hours.

Concepts and software for kinematics, solid modeling, and project management. Fundamentals of mechanical design: stresses in and failure of mechanical elements. Individual and group design projects.

Prerequisite: MAE 202 and MAE 207.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MAE 342. Mechanical Design II. 3 Credit Hours.

Review of the design process and creativity in design. Topics include design and reliability gears, shafts, etc. Individual and group design projects are included.

Prerequisite: MAE 341.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MAE 351. Mechanics Laboratory. 2.00 Credit Hours.

Exercises in the experimental determination of the mechanical properties of materials and the static and dynamic characteristics of mechanical and structural elements. Lecture, 1 hour; laboratory, 3 hours.

Prerequisite: MAE 302.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MAE 362. Computer Analysis of Mechanical and Aerospace Engineering Problems. 3 Credit Hours.

Exploration of physical systems behavior using discrete models. Topics include numerical analysis, solid modeling, and software evaluation. Students solve engineering problems using student-developed and existing software. Corequisite: MAE 310.

Prerequisite: MAE 111, MAE 341 and MTH 211. Corequisite: MAE 310.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MAE 371. Aerodynamics. 3 Credit Hours.

Course discusses the history of flight. Topics include fundamental variables, the atmosphere, basic equations, their approximations, compressibility, viscosity, flow regimes potential flow, and aerodynamics of airfoil and wing.

Prerequisite: MAE 309.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MAE 399. Cooperative Education. 1 Credit Hour.

Practical application of classroom theory through alternating semester or summer employment with firms offering positions consistent with the student's field of study. Course may be repeated.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MAE 404. Experimental Engineering Laboratory. 2.00 Credit Hours.

Experimental analysis of problems in fluid mechanics, thermodynamics, and other areas of engineering. Lecture, 1 hour; laboratory, 3 hours.

Prerequisite: MAE 303 and MAE 309 and MAE 310.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MAE 408. Heating, Ventilating, and Air Conditioning. 3 Credit Hours.

Principles and procedures for the analysis and design of heating, ventilating and air conditioning (HVAC) systems, including moist air properties and conditioning processes, heating and cooling load calculations, building energy consumption, thermal comfort, and indoor air quality. Not available for students having taken MAE 405.

Prerequisite: MAE 303.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MAE 412. System Dynamics. 3 Credit Hours.

Course topics include dynamic modeling of mechanical and thermo-fluid systems. Laplace transforms, transfer functions, energy concepts, causality, linearity, linear graph models, energy transducing system elements, frequency domain methods.

Prerequisite: ECE 201 or ECE 205 and MAE 202 and MAE 309.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MAE 415. Automatic Control. 3 Credit Hours.

Introduction to system theory, transfer functions, and state space modeling of physical systems. Course topics include stability, analysis and design of PID, Lead/Lag, other forms of controllers in time and frequency domains, root locus Bode diagrams, gain and phase margins, Nichols chart, Nyquist criterion, and systems with time delay.

Requisite: Senior Status.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MAE 420. Applied Thermodynamics. 3 Credit Hours.

Cycle irreversibility; energy. Power and refrigeration cycles. Behavior of mixtures and solutions. Chemical thermodynamics, including combustion fundamentals. Compressible fluids. Advanced energy systems.

Prerequisite: MAE 303.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MAE 440. Introduction to Capstone Design. 3 Credit Hours.

Lectures and classroom discussion of the design process including product safety and manufacturability. Students are required to design, fabricate, test, and analyze the data from a design project chosen by the students. The students are required to form individual groups to accomplish the desired objectives of the design project.

Prerequisite: MAE 303 and MAE 309.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MAE 441. Design of Fluid and Thermal Systems. 3 Credit Hours.

Course topics include thermal and fluid systems design fundamentals, piping systems, selection of pumps, piping system design practices, classification of heat exchangers. Basic design methods of heat exchange equipment is also included.

Prerequisite: MAE 309 and MAE 310.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MAE 442. Capstone Design Project-I. 1 Credit Hour.

Lectures and classroom discussions cover (i) legal, ethical, and societal responsibilities of engineers, (ii) design factors such as product safety, reliability, life cycle costs, and manufacturability, and (iii) other aspects such as global market, contemporary issues, and continuous learning process. Students are required to select group design projects from the breadth of mechanical engineering activity and present project to serve as the basis for MAE 443.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MAE 443. Capstone Design Project-II. 2 Credit Hours.

Continuation of the Capstone Design Project-I course. A mechanical system is designed, implemented, documented, and presented.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MAE 444. Capstone Aerospace Design Project-I. 3 Credit Hours.

Lectures and classroom discussions cover (i) legal, ethical and societal responsibilities of engineers, (ii) design factors such as product safety, reliability, life cycle costs and manufacturability, and (iii) other aspects such as global market, contemporary issues and continuous learning process. Students are required to select group design projects from the breadth of aerospace engineering activity and present project proposals to serve as the basis for MAE 445.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MAE 445. Capstone Aerospace Design Project-II. 3 Credit Hours.

Continuation of the Capstone Aerospace Design Project-I course. An aerospace system/subsystem is designed, implemented, documented and presented.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MAE 446. Aircraft Design. 3 Credit Hours.

Concepts of aircraft design emphasizing on design layout including the airfoil geometry selection, propulsion integration, configuration layout, payload and landing gear system. Corequisite: MAE 471.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MAE 470. Introduction to Aerospace Structures. 3 Credit Hours.

Course topics include mechanics of thin-walled aerospace structures, load analysis, virtual work, energy principles, stability of aerostructures, and finite element methods.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MAE 471. Flight Dynamics. 3 Credit Hours.

Course topics include aerodynamic performance, stability, control, propulsion systems, and structures. Case Studies of Aerospace Systems are also included.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MAE 472. Design of Aerospace Structures. 3 Credit Hours.

Design Philosophy and principles of aerospace structures. Detailed design of wing box structure, fuselage, landing gear mechanism, fasteners and structural joints. Application of composite materials.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MAE 490. Undergraduate Research. 1-3 Credit Hours.

Research Projects. Individual investigation of current problems.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MAE 501. Methods of Engineering Analysis. 3 Credit Hours.

Analysis of engineering systems in equilibrium and motion. Examples considered from mechanical, electrical, thermal and fluids engineering. Mathematical theory and computer methods for obtaining numerical solutions are developed for various cases involving discrete and continuous systems. Lecture, 3 hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MAE 502. Vibrations. 3 Credit Hours.

Basic theory of free and forced vibrations of mechanical systems with and without damping. Applications to systems with one and several degrees of freedom are included.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MAE 503. Internal Combustion Engines. 3 Credit Hours.

Course discusses engine types, characteristics, and operation. Topics include performance factors, fuel combustion, power cycles, knock and engine variables, exhaust emissions, fuel metering, compressors, and turbines.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MAE 505. Design for Manufacturability. 3 Credit Hours.

Manufacturing concerns at design stage. Design theory and methodology. Statistical considerations in geometric dimensioning, tolerances, reliability-based design, and quality control. Producibility, design for assembly, and value engineering. Life cycle costs and optimum design using nonlinear programming and Taguchi approaches. Hands on projects on machine tools.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MAE 506. Nuclear Engineering. 3 Credit Hours.

Course topics include a review of neutron physics, chain reactions, reactor theory, steady state operation, and reactor kinetics. Control, long term reactivity changes, materials, heat transfer, and shielding are also included. Lecture, 3 hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MAE 507. Advanced Mechanics of Solids. 3 Credit Hours.

Courses discusses the basic elements of elasticity, plasticity, and viscoelasticity. Application to mechanical systems at rest and in motion are included.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MAE 508. Intermediate Heat Transfer. 3 Credit Hours.

Course discusses steady and unsteady heat transfer by conduction, convective heat transfer in laminar and turbulent fluid flow, natural convection, and heat transfer by radiation.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MAE 510. Fundamentals of Solar Energy Utilization. 3 Credit Hours.

Fundamentals basic to the design and performance analysis of thermal systems for the capture and utilization of Solar Energy.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MAE 512. Intermediate Fluid Mechanics. 3 Credit Hours.

Course topics include conservation of mass, momentum, and energy, potential flow, viscous laminar and turbulent flows, the Reynolds analogy, and Boundary-layer approximations. Gas dynamics are also discussed.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MAE 514. Advanced Internal Combustion Engines Experimental Studies. 3 Credit Hours.

Experimental mechanical engineering as it pertains to internal combustion engines. The principal measurements necessary to analyze the operation of an internal combustion engine are covered. Emphasis is placed on experiment planning, data interpretation, and error analysis.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MAE 516. Introduction to Composite Materials. 3 Credit Hours.

Course provides an introduction to composite materials and terminology. Topics include advantages offered by composite materials, current aerospace, automotive, and bio-mechanics applications, experimental results, analytical models, and effects of impact and fatigue loads. The environment's impact on composite materials' performance and design procedures are discussed. Case studies examining composite materials as efficient replacements are also included.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MAE 521. Exhaust Emission Control. 3 Credit Hours.

Course topics include automotive emissions, air pollution, combustion of homogeneous mixtures, emission control systems, Federal emission standards, and emission instrumentation and measurement. Lecture, 2 hours; Laboratory, 3 hours.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MAE 528. Fuel Cells. 3 Credit Hours.

Introduction to fuel cells, thermodynamics of fuel cells, electrochemical kinetics in fuel cells, transport phenomena in fuel cells, introduction to various types of fuel cells.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MAE 539. Heating, Ventilating and Air Conditioning System Design. 3 Credit Hours.

Course topics include basic HVAC systems, multizone systems, dual-duct systems, terminal reheat systems, variable air volume systems, induction and induction reheat systems, special applications, hydronic systems, unitary and heat pump systems, hydronic heat recovery systems, cooling and heating load calculation duct and piping design, overall system design, and integration.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MAE 540. Energy Conversion. 3 Credit Hours.

Course topics include energy conversion, utilization, present and projected consumption of energy, thermodynamic principles, nuclear energy, fission and fusion reactions, hydroelectric power, and solar energy. Alternative energy sources, the hydrogen economy, and the energy-environment-economy system are also discussed.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MAE 551. Special Problems. 1-3 Credit Hours.

Project course introducing methods of research through an individual investigation of current problems. Offered by special arrangement only.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MAE 552. Special Problems. 1-3 Credit Hours.

Project course introducing methods of research through an individual investigation of current problems. Offered by special arrangement only.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MAE 570. Aero Propulsion. 3 Credit Hours.

Definition of the atmosphere, propulsion basics, rocket fundamentals, turbine fundamentals, gas turbine cycles, component matching, math and computer models, aircraft missions, cycle section, reliability, and durability are analyzed.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MAE 590. Special Topics. 1-4 Credit Hours.

Subtitles describing the topics will be shown in parentheses in the class schedule, following the "Special Topics."

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MAE 591. Special Topics. 1-4 Credit Hours.

Subtitles describing the topics will be shown in parentheses in the class schedule, following the "Special Topics."

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MAE 592. Special Topics. 1-4 Credit Hours.

Subtitles describing the topics will be shown in parentheses in the class schedule, following the "Special Topics."

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MAE 599. Cooperative Education. 1 Credit Hour.

Practical application of classroom theory through alternating semester or summer employment with industries offering positions consistent with the student's field of study. Course may be repeated. Periodic reports and conferences are required.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MAE 601. Methods of Engineering Analysis. 3 Credit Hours.

Analysis of engineering systems in equilibrium and motion. Examples considered from mechanical, electrical, thermal and fluids engineering. Mathematical theory and computer methods for obtaining numerical solutions are developed for various cases involving discrete and continuous systems. Lecture, 3 hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MAE 602. Vibrations. 3 Credit Hours.

Basic theory of free and forced vibrations of mechanical systems with and without damping. Applications to systems with one and several degrees of freedom are included.

Components: LEC.

Grading: GRD.

MAE 603. Internal Combustion Engines. 3 Credit Hours.

Course discusses engine types, characteristics, and operation. Topics include performance factors, fuel combustion, power cycles, knock and engine variables, exhaust emissions, fuel metering, compressors, and turbines.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MAE 605. Design for Manufacturability. 3 Credit Hours.

Manufacturing concerns at design stage. Design theory and methodology. Statistical considerations in geometric dimensioning, tolerances, reliability-based design, and quality control. Producibility, design for assembly, and value engineering. Life cycle costs and optimum design using nonlinear programming and Taguchi approaches. Hands on projects on machine tools.

Components: LAB.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MAE 607. Advanced Mechanics of Solids. 3 Credit Hours.

Courses discusses the basic elements of elasticity, plasticity, and viscoelasticity. Application to mechanical systems at rest and in motion are included.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MAE 608. Intermediate Heat Transfer. 3 Credit Hours.

Course discusses steady and unsteady heat transfer by conduction, convective heat transfer in laminar and turbulent fluid flow, natural convection, and heat transfer by radiation.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MAE 612. Intermediate Fluid Mechanics. 3 Credit Hours.

Course topics include conservation of mass, momentum, and energy, potential flow, viscous laminar and turbulent flows, the Reynolds analogy, and Boundary-layer approximations. Gas dynamics are also discussed.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MAE 614. Advanced Internal Combustion Engines Experimental Studies. 3 Credit Hours.

Experimental mechanical engineering as it pertains to internal combustion engines. The principal measurements necessary to analyze the operation of an internal combustion engine are covered. Emphasis is placed on experiment planning, data interpretation, and error analysis.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MAE 616. Introduction to Composite Materials. 3 Credit Hours.

Course provides an introduction to composite materials and terminology. Topics include advantages offered by composite materials, current aerospace, automotive, and bio-mechanics applications, experimental results, analytical models, and effects of impact and fatigue loads. The environment's impact on composite materials' performance and design procedures are discussed. Case studies examining composite materials as efficient replacements are also included.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MAE 621. Exhaust Emission Control. 3 Credit Hours.

Course topics include automotive emissions, air pollution, combustion of homogeneous mixtures, emission control systems, Federal emission standards, and emission instrumentation and measurement. Lecture, 2 hours; Laboratory, 3 hours.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MAE 628. Fuel Cells. 3 Credit Hours.

Introduction to fuel cells, thermodynamics of fuel cells, electrochemical kinetics in fuel cells, transport phenomena in fuel cells, introduction to various types of fuel cells.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MAE 639. Heating, Ventilating and Air Conditioning System Design. 3 Credit Hours.

Course topics include basic HVAC systems, multizone systems, dual-duct systems, terminal reheat systems, variable air volume systems, induction and induction reheat systems, special applications, hydronic systems, unitary and heat pump systems, hydronic heat recovery systems, cooling and heating load calculation duct and piping design, overall system design, and integration.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MAE 640. Energy Conversion. 3 Credit Hours.

Course topics include energy conversion, utilization, present and projected consumption of energy, thermodynamic principles, nuclear energy, fission and fusion reactions, hydroelectric power, and solar energy. Alternative energy sources, the hydrogen economy, and the energy-environment-economy system are also discussed.

Requisite: Senior Status.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MAE 651. Special Problems. 1-3 Credit Hours.

Project course introducing methods of research through an individual investigation of current problems. Offered by special arrangement only.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MAE 652. Special Problems. 1-3 Credit Hours.

Project course introducing methods of research through an individual investigation of current problems. Offered by special arrangement only.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MAE 670. Aero Propulsion. 3 Credit Hours.

Definition of the atmosphere, propulsion basics, rocket fundamentals, turbine fundamentals, gas turbine cycles, component matching, math and computer models, aircraft missions, cycle section, reliability, and durability are analyzed.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MAE 690. Special Topics. 1-4 Credit Hours.

Subtitles describing the topics will be shown in parentheses in the class schedule, following the "Special Topics."

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MAE 691. Special Topics. 1-4 Credit Hours.

Subtitles describing the topics will be shown in parentheses in the class schedule, following the "Special Topics."

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MAE 692. Special Topics. 1-4 Credit Hours.

Subtitles describing the topics will be shown in parentheses in the class schedule, following the "Special Topics."

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MAE 699. Cooperative Education. 1 Credit Hour.

Practical application of classroom theory through alternating semester or summer employment with industries offering positions consistent with the student's field of study. Course may be repeated. Periodic reports and conferences are required.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MAE 701. Advanced Heat Transfer--Conduction and Radiation. 3 Credit Hours.

Advanced analytical methods of solutions of boundary value problems of steady, periodic, and unsteady heat conductions. Topics include techniques of transient point, line, and plane sources and sinks, thermodynamics of radiative equilibrium, radiative exchange, geometrical factors, network, and other methods. Lecture, 3 hours.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MAE 702. Advanced Heat Transfer--Convection. 3 Credit Hours.

The analogy between heat, mass, and momentum transfers. Topics include the transfer mechanism, heat transfer to liquid metals, boiling and condensation mechanisms, heat transfer in two-phase flow, ablation heat transfer, transpiration, film cooling, and heat exchanges. Lecture, 3 hours.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MAE 705. Finite Element Methods in Mechanical and Aerospace Engineering. 3 Credit Hours.

Finite-element analysis methods for static and dynamic analysis of mechanical and aerospace structures, heat transfer analysis, and fluid flow applications. Primary emphasis is placed on underlying mechanics and numerical techniques. Consideration is also given to the use of existing programs, such as ANSYS, NASTRAN and FIDAP, designing proper meshes, and choosing the proper element. A term project is included.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MAE 706. Experimental Methods in Fluid Mechanics. 3 Credit Hours.

Course topics include methods of flow visualization, laser techniques in measurement of wall motions, conduit compliance, Newtonian and non-Newtonian properties of fluids, measurement of unsteady flow and pressure, laser Doppler anemometry, ultrasound Doppler velocimetry, electro-magnetic flowmetry, measurement of steady and unsteady wall shear stresses and boundary layers.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MAE 713. Transport Phenomena. 3 Credit Hours.

Course topics include laws of molecular transfer, the kinetic theory explanation of molecular transfer phenomena, introduction to turbulence, and molecular transfer in laminar and turbulent flows with experimental results. A unified treatment of salient aspects of momentum, heat, and mass transfer including the relationship between rate and conservation equations are also discussed.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MAE 714. Computational Fluid Dynamics. 3 Credit Hours.

Incompressible flow equations in rectangular co-ordinates. Topics include basic computational methods for incompressible flow, three dimensional flows, compressible flow equations in rectangular coordinates, basic computational methods for compressible flows, treatment of shocks, artificial viscosities, convergence, other mesh systems, programming, testing, and information processing.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MAE 730. Mechanical Systems Optimization. 3 Credit Hours.

Optimization as an element of the engineering design process. Topics include comparative examination of unconstrained algorithms, as well as development and application of methods for constrained optimization problems. Case studies which demonstrate the theory and application of mathematical programming as a design tool are also included.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MAE 740. Continuum Mechanics. 3 Credit Hours.

Course discusses concepts that are common to all continuous media. Topics include elements of tensor analysis, motion, deformation, vorticity, material derivatives, mass balance equation, and balance of linear and angular momentum as well as energy. Stress and its geometric characterization, constitutive equations of solid and fluid type behavior, fundamental applications, and the Clausius-Duhem inequality are also covered.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MAE 751. Master's Project. 3 Credit Hours.

A required project for M.S. students in the non-thesis option.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MAE 752. Master's Capstone Project. 4 Credit Hours.

A required project for the five year BSME/MSME program.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MAE 780. Graduate Colloquium. 1 Credit Hour.

Presentations by selected speakers of weekly programs dealing with topics of interest in Mechanical Engineering. Attendance is required of all students registered in Mechanical Engineering graduate programs.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

MAE 791. Professional Communications Skills for Engineering Grad Students. 0 Credit Hours.

This course covers fundamental areas in professional communication for Engineering graduate students. Topic areas include: presenting research at conferences, writing manuscripts for publication, preparing the dissertation, the PhD comprehensive exams, effective teaching and mentoring, and obtaining positions in academia. Through interactive workshops, in-class exercises, brief presentations and assignments, students will have an opportunity to practice and strengthen necessary communication skills, developing collaborations, and developing effective presentation skills.

Components: MOD.

Grading: SUS.

Typically Offered: Fall & Spring.

MAE 792. Special Problems. 1-3 Credit Hours.

Research and/or design projects consisting of individual investigation of current problems. Offered by special arrangement only.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MAE 798. Advanced Topics. 1-3 Credit Hours.

Subject matter offerings based upon student demand and availability of faculty. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title "Advanced Topics".

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MAE 810. Master's Thesis. 1-6 Credit Hours.

The student working on his/her master's thesis enrolls for credit, in most departments not to exceed six, as determined by his/her advisor. Credit is not awarded until the thesis has been accepted.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

MAE 820. Research in Residence. 1 Credit Hour.

Used to establish research in residence for the thesis for the master's degree after the student has enrolled for the permissible cumulative total in MAE 710 (usually six credits). Credit not granted. May be regarded as full time residence.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MAE 830. Pre-Candidacy Doctoral Dissertation. 1-12 Credit Hours.

Doctoral dissertation credits taken prior to Ph.D. student's candidacy. The student will enroll for credit as determined by his/her advisor. Not more than 12 hours of MAE 730 may be taken in a regular semester, nor more than six in a summer session.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

MAE 840. Post-Candidacy Doctoral Dissertation. 1-12 Credit Hours.

Doctoral dissertation credits taken after Ph.D. student has been admitted to candidacy. The student will enroll for credit as determined by his/her advisor. Not more than 12 credits in MAE 740 may be taken in a regular semester, nor more than six credits in a summer session.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

MAE 850. Research in Residence. 1 Credit Hour.

Used to establish research in residence for the Ph.D. and D.A., after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Credit not granted. May be regarded as full-time residence as determined by the Dean of the Graduate School.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

Medicine

MDR 1000. RMC Shoulder Orthopedic Surgery. 2-4 Credit Hours.

This is a 2 or 4 week elective intended to expose the senior medical student to a comprehensive experience in orthopedic shoulder surgery. During the 2 or 4 week rotation, the student will spend approximately 50% of the time in an office clinical setting evaluating patients with shoulder disorders and 50% of the time in the operating room gaining surgical experience and insight. The surgical experience will be 60% arthroscopic shoulder surgery and 40% open shoulder surgery. The elective will be spent under the direction of one surgeon. There will be on-call responsibilities though not burdensome. For those students interested in a 4 week elective, there will be clinical outcomes research opportunities, and the opportunity to work with other orthopedic specialists within the group.

Components: MOD.

Grading: GRD.

MDR 1001. RMC Developmental and Behavioral Pediatrics. 2 Credit Hours.

This is an outpatient private practice rotation is at the office of Dr. Aronson-Ramos in Coconut Creek, located in northern Broward county. This busy private practice sees children, teens, and young adults with diverse neuro-developmental issues. The practice has a family centered approach and considerable time is spent interviewing family members and observing and interacting with patients. Students will learn about diagnostic assessments and treatment planning for the most common pediatric neuro-developmental problems. Common conditions the student will encounter include: autism spectrum disorders, ADHD, developmental delays, anxiety disorders, mild depression, syndromes, disruptive behavioral disorders, obsessive compulsive disorder, among other clinical issues.

Components: MOD.

Grading: GRD.

MDR 1002. RMC Pediatric Otolaryngology. 2-4 Credit Hours.

1. This clinical elective will expose students to the subspecialty of Pediatric Otolaryngology—Head and Neck Surgery. i) Students will have the opportunity to learn by seeing patients in our private office as well as assisting in the operating room. 2. This elective is designed with two different types student interests in mind, and will be individually tailored to the individual students interests i) PRIMARY CARE TRACK (1) For students interested in entering medical fields with a primary focus on treating children (a) E.g. Pediatrics, Family Practice, etc. (2) Students will learn evidence-based medical management of acute and chronic problems of the ears, nose, and throat in children (3) Students will hone their diagnostic skills in pediatric otoscopy, rhinoscopy, and throat examinations with direct feedback (4) Student will be exposed to common Pediatric ENT surgical procedures, so they can understand firsthand exactly what they involve ii) SURGICAL SPECIALTY TRACK (1) For students interest in becoming Otolaryngologists, or other related surgical fields (a) E.g. pediatric surgery, neurosurgery, ophthalmology, plastic and craniofacial surgery, neuroradiology (2) Students will complete all the objectives of the Primary Care Track (3) Students will be exposed to surgical decision making and the criteria for medical vs. surgical management of Pediatric ENT disorders (4) Students will experience performing pre-operative work-up and post-operative management of surgical cases (5) Students will assist in more complicated Pediatric ENT surgical procedures (6) Students will have the option of performing inpatient Pediatric ENT consultations

Components: MOD.

Grading: GRD.

MDR 1003. Public Health Sub-Internship. 4 Credit Hours.

This is a 4-week required rotation for students in the MD/MPH track. This sub-internship will expose them to the professional responsibilities and work flow of a physician trained and practicing public health. Each week the student will be rotating through various clinics within the health department. They will also have weekly interaction with the Department of Health preventive medicine residents. The student will spend time at the Palm Beach County Health Department administrative offices interacting in didactic sessions and journal club presentation with the Preventive Medicine Residents. The didactic curriculum will be linked to the residency program curriculum. Students will be scheduled to rotate through the health department's HIV and sexual health clinics (OB/GYN, STD and family planning). Students will also rotate in the JFK Internal Medicine Residency continuity clinic. They will participate in the residency clinic ambulatory didactic, journal club and interdisciplinary psychology conferences. Students will also have dedicated time to complete their fieldwork and capstone during the rotation. Students will receive a final grade (P/F), based on clinical evaluations, participation in didactics, assigned tasks and a final journal club presentation.

Components: MOD.

Grading: GRD.

MDR 1004. Remediation / Make Up Place Holder. 0 Credit Hours.

Remediation / Make up place holder.

Components: CLN.

Grading: NON.

Typically Offered: Fall & Spring.

MDR 1005. Healthcare System Quality Improvement. 2 Credit Hours.

This elective was conceived out of the recognition for the need for medical students to broaden their knowledge of the healthcare system, and their role in facilitating change within this structure. In order to be well rounded physician-leaders, students should have a basic understanding of their role in the team of healthcare professionals within the framework of our healthcare system. As such, this course aims to provide students with a better understanding of how health care disciplines outside of medicine (such as nursing, pharmacy, laboratory, etc) as well as business, administration and public health fields interact. One way to study this cross-disciplinary intersection is through familiarizing oneself with the basics of process improvement as it applies to health care. This elective provides an opportunity for third and fourth year medical students to gain knowledge of the fundamentals of healthcare quality and process improvement through a combination of didactic learning sessions and hands-on experience. Students will expand their learning environment beyond the typical classroom and clinical settings in order to complete a practical, relevant quality improvement project working in collaboration with health care administrators, allied health professionals and physicians leaders at our institution. This longitudinal experience provides students the opportunity to receive two weeks of elective credit by completing online coursework through the Institute for Healthcare Improvement Open School, classroom-based didactic sessions, "field work" outside of patient-physician encounter, and, ultimately, a scholarly project in a quality/process improvement area of their choosing.

Components: MOD.

Grading: GRD.

MDR 1006. HCH Colorectal Surgery. 2-4 Credit Hours.

This is a 2 or 4 week elective that will provide students with an exposure to a private practice specializing in colorectal surgery. The student will be one-on-one with a colorectal surgeon. Dr. Schochet specializes further in high resolution anoscopy, HIV-related anal disease and minimally invasive surgery.

Components: MOD.

Grading: GRD.

MDR 1007. RMC Plastic Surgery. 2-4 Credit Hours.

This is a 2 or 4 week rotation intended for the senior medical student who is interested in plastic surgery as a career choice or simply wants exposure to the field. The rotation will provide a comprehensive exposure to all facets of aesthetic plastic and reconstructive surgery in a community setting.

Components: MOD.

Grading: GRD.

MDR 1008. WPB VAMC Pathology. 2-4 Credit Hours.

This is a 2 or 4 week rotation intended to give the student a global concept of how the ancillary medical discipline of Pathology integrates into the patient's diagnosis and ongoing management. The student, who already has a basic working knowledge of clinical medicine, will be able to appreciate the value of appropriate choice of laboratory tests to help patient management from a laboratory perspective.

Components: MOD.

Grading: GRD.

MDR 1009. RMC Medical Education Elective. 2 Credit Hours.

This elective is grounded in the University of Miami Miller School of Medicine MD/MPH track course work. It offers students who are interested in medical education the opportunity to become familiar with what is required to build and maintain a medical curriculum as well as hone their educational skills in the classroom and clinical setting. The MD/MPH curriculum is able to provide an excellent environment for learning about medical education as it incorporates both problem-based learning and didactic lectures on the Miami campus as well as integrated and traditional clerkship models at the regional campus. This elective will allow senior students the opportunity to gain further insight into the overall goals of medical education and receive a well-rounded immersion in the areas of teaching and curriculum development.

Components: MOD.

Grading: GRD.

MDR 1010. University of Miami School of Medicine Bridge Course. 0 Credit Hours.

The intention of the new Bridge Course is to facilitate the transition of medical students from IMU to UMMSM. Students will be joining the incoming second year class after successful completion of this four week course.

Components: MOD.

Grading: GRD.

Typically Offered: Fall.

MDR 1013. Med-Peds. 4 Credit Hours.

Combined Internal Medicine and Pediatrics is a unique specialty that trains physicians in the care of patients of all ages. The elective aims to give students exposure to Med/Peds in an urban primary care practice setting. Students will see routine care of newborns, infants, children, adolescents and adults, as well as care of patients with complex pediatric diseases as they transition into adulthood.

Components: MOD.

Grading: GRD.

MDR 1014. Jupiter Medical Center Cardiothoracic Surgery. 2-4 Credit Hours.

This elective in cardiothoracic surgery will provide students the ability to learn in a preceptor based model about the management of diseases of the thorax. The student will work as an active member of the thoracic team; engaging with patients in the thoracic clinic, performing preoperative and post-operative assessment, as well as hospital rounds. The student will be introduced with hands on experience with leading edge technologies as EndoBronchial Ultra-sound (EBUS), Navigational bronchoscopy, Robotic surgery as well as VATS and open procedures.

Components: MOD.

Grading: GRD.

MDR 1015. RMC Dermatology. 2 Credit Hours.

This is a two-week elective is intended to expose the senior medical student to a spectrum of experiences in a private practice outpatient dermatology setting. During the two-week rotation, the student will spend time in a private practice dermatology office and will take part in patient visits and observe common outpatient dermatologic procedures including surgical and cosmetic procedures.

Components: MOD.

Grading: GRD.

MDR 1016. RMC Interdisciplinary Women's Health. 4 Credit Hours.

Students will be exposed to all aspects of women's health, both benign and malignant disease. This rotation is suitable for students considering careers in Primary Care, OB/GYN, GYN Oncology, Breast Surgery, General Surgery or Surgical Oncology.

Components: MOD.

Grading: GRD.

MDR 1017. RMC Interdisciplinary Women's Oncology. 4 Credit Hours.

Students will be exposed to all aspects of women's oncology, including breast, ovarian and other women's cancers, including patients with genetic risk of breast or ovarian cancer. Suitable for students considering careers in Primary Care, OB/GYN, GYN Oncology, Breast Surgery, General Surgery or Surgical Oncology.

Components: MOD.

Grading: GRD.

MDR 1018. Pediatric Mobile Clinic. 2-4 Credit Hours.

This is an outpatient rotation on the University of Miami Pediatric Mobile Clinic (PMC). The PMC is a clinic on wheels that delivers comprehensive pediatric primary care primarily to uninsured children from birth to 21 years of age throughout Miami Dade County free of charge. The PMC provides care for some of the neediest children in communities including Little Havana, West Dade, Homestead, Florida City, Little Haiti/North Miami, Sweetwater, Kendall and Miami Beach. Patients encountered reflect the diverse population of Miami-Dade County. Many are new immigrants and non-English speaking patients accessing medical care for the first time. Thirteen percent of children served have complex medical needs; 20% of the children have disabilities or developmental concerns. Clinic activities include sick and well-child care and follow up for chronic conditions. Students will work independently and responsibilities will include taking histories, conducting physical exams and discussing assessment and plans of care with the entire unit team including resident and attending physicians, nurse practitioners, social worker, therapist, and psychologist. Students also have the opportunity to do basic procedures such as throat swab, urinalysis, phlebotomy and administration of immunizations and provide counseling and education to patients and families. The students will have an opportunity to participate in telehealth and medical-legal clinics on the unit as well as special projects that are taking place. In addition, students will learn about the public health issues related to caring for uninsured, underserved populations and the social determinants that play a role in health and accessing health care. They will also learn about community resources available to underserved populations.

Components: MOD.

Grading: GRD.

MDR 1019. Senior Capstone Course: Transition to Residency. 2 Credit Hours.

The Senior Capstone Course: Transition to Residency offers fourth-year medical students an opportunity to review and hone core concepts, diagnostic/therapeutic algorithms, procedural skills, and communication tools in preparation for their first-year of residency. This is an elective course offered to a maximum of 20 students per class.

Components: MOD.

Grading: GRD.

MDR 1020. WPB VAMC Radiology. 2 Credit Hours.

Students will be able to take a 2 week elective block during their fourth year in diagnostic radiology. During the block, students will spend their time in the department of radiology with the faculty and radiology technicians. They will be responsible for working with radiologists and compiling the medical history as appropriate for the imaging modality.

Components: MOD.

Grading: GRD.

MDR 1021. HCH Interventional Radiology. 2-4 Credit Hours.

Students will be able to take a 2-4 week elective during their fourth year in diagnostic and interventional radiology. During the block, students will spend their time in the department of radiology with the faculty and radiology technicians. They will be working with radiologists on diagnostic imaging, interventional procedures, imaging and compiling the medical history as appropriate for the procedure. They should also attend any conferences or other teaching seminars offered in radiology during their assigned time.

Components: MOD.

Grading: GRD.

MDR 1022. HCH Infectious Disease. 2-4 Credit Hours.

Infectious Disease Medicine requires an understanding of the microbiology, prevention and management of diseases caused by viral, bacterial, fungal and parasitic infections, including the appropriate use of antimicrobial agents, vaccines and other immunobiologic agents. The Infectious Disease fourth year elective at Holy Cross Hospital will provide students with the skills to begin to appropriately provide preventive, diagnostic and therapeutic care for many infections. There will also be specific experiences in HIV clinics to learn about the management of patients with HIV infection.

Components: MOD.

Grading: GRD.

MDR 1024. Forensic Psychiatry. 2-4 Credit Hours.

This is a 4-week elective intended to expose the senior medical student to a spectrum of experiences in forensic psychiatry. The student will spend a portion of each week in various hospital and community settings that involve the clinical practice of aspects of forensic psychiatry.

Components: MOD.

Grading: GRD.

MDR 1025. OB/GYN Boot Camp – Transition to Residency. 2 Credit Hours.

The purpose of this course is to allow all M4 students who match in OB/GYN or related residencies to enter their intern year with a solid knowledge base and set of procedural skills related to women's health, obstetrical care and gynecologic surgery. Participation in the two-week course will allow students to practice procedural and basic surgical skills, enhance their OB/GYN knowledge, and review APGO practice guidelines. This course is intended to consolidate and expand upon skills learned on the core clerkship and OB/GYN M4 electives.

Components: MOD.

Grading: GRD.

MDR 1027. RMC Venous Vascular Disease. 2-4 Credit Hours.

Phlebology is an innovative medical specialty in the diagnosis and treatment of disorders of venous origin. This elective will introduce the subspecialty of Phlebology to medical students interested in careers in vein disease and their related specialties (vascular surgery, general surgery, interventional cardiology, cardiology, cardiothoracic surgery and interventional radiology) and to the basic understanding of fundamental venous diseases pertinent to the practice in the primary care setting of internal medicine and family medicine. Phlebology pushes the forefront of medicine into a new direction by offering diagnostics, treatment options, and research and development opportunities not previously available for the patients with venous disease. This elective is intended to expose the medical student to a spectrum of experiences in a private practice outpatient phlebology office and will take part in patient visits and observe common outpatient venous procedures including office-based surgical and cosmetic procedures in Palm Beach County.

Components: MOD.

Grading: GRD.

MDR 1028. HCH Medicine Sub-I. 4 Credit Hours.

The objective of this rotation is to provide students with hands on clinical experiences that are specifically designed to mirror their upcoming roles as interns in postgraduate training. The medical Sub-intern will master specific core competencies and basic principles of inpatient medical care. The sub-I will be a member of a medical ward team that consists of an attending, two residents, and two interns. The sub-intern will work specifically with one resident on the team who will directly oversee the sub-I and the care of his/her patients. They will focus on delivery of inpatient care to general medical patients as well as collaborate with medical and surgical subspecialties and develop efficient hand offs of care. They will attend daily afternoon report and attending rounds as well as participate in daily sign out/hand off rounds. Sub-Interns will attend weekly academic half days, weekly grand rounds, and weekly sessions with sub-internship coordinators to review key inpatient topics. Typical days begin at 7am, and alternate ending at 4pm and 7 pm. You will have one day off every week. There is no night coverage during this rotation.

Components: MOD.

Grading: GRD.

MDR 1029. Plastic Surgery SUB-I. 4 Credit Hours.

The primary objective of this rotation is to promote the development and mastery of clinical core plastic, aesthetic, and reconstructive competencies and to review common reconstructive and cosmetic conditions. The practice of evidence based medicine is promoted by encouraging students to conduct literature search for current guidelines.

Components: MOD.

Grading: GRD.

MDR 1030. Transition to Clinical Rotations. 1 Credit Hour.

Overview: Students will take part in mandatory activities, including didactic, experiential and independent activities to prepare them to take part in clinical rotations at the Regional Medical Campus. This experience is required for all students prior to participating in the MD/ MPH third year rotations. Course Design: Activities will include - BLS/ ACLS training; Online training modules for clinical sites; Physical exam practice; Didactic sessions including: Working with interpreters, critical thinking, writing summary statements, wellness during clinical rotations, professionalism based discussions, taking charge of your education, the medical record. Goals/Objectives: Provide students with the knowledge to transition effectively from pre-clinical to clinical curriculum and function as a part of medical teams in the clinical setting. Provide students with the required skills to participate in the clinical curriculum at the Regional Medical Campus sites

Components: MOD.

Grading: GRD.

MDR 1031. Minimally Invasive Gynecologic Surgery. 2-4 Credit Hours.

The objective is for the student to gain experience in the diagnostic and therapeutic approaches for various obstetrical scenarios through participating in direct patient care. Students will enhance interpersonal skills and professional conduct in the female pregnant patient encounter setting. After completing the rotation, students should feel comfortable with the management of an uncomplicated vaginal delivery and also gain insight into the management of the complicated obstetrical patient.

Components: MOD.

Grading: GRD.

MDR 1032. Pediatric Palliative Care. 2-4 Credit Hours.

OVERVIEW This is a 2-4 week elective intended to expose the senior medical student to a spectrum of life-threatening and complex medical illnesses in pediatrics. The student will work directly with a faculty physician and the Palliative Care Nurse Coordinator and interface with a broad spectrum of pediatric sub-specialties. COURSE DESIGN The student will spend time at Holtz Children's Hospital on the Palliative Care consult service, seeing patients in consultation and follow-up, and discussing them with the fellows and attending on rounds. Patients may also be seen in an Outpatient Clinic setting and during Home Visits as needed. All students will meet with Dr. Cantwell, the rotation coordinator, and interact with faculty overseeing the Palliative Care initiative. Students are expected to attend the weekly Palliative Care Interdisciplinary Conference

Components: MOD.

Grading: GRD.

MDR 1033. Introduction to Orthopedic Surgery. 2 Credit Hours.

Orthopedic Surgery is an increasingly competitive field for medical students to match into. Appropriate evaluation of the students' aptitude, interest in the field, compassion for patient treatment and strength of application is important to thoroughly guide students through the residency application process. While there are multiple facets considered in an application, many students applying to residency often lack insight into their relative competitiveness and need more concrete advice as how to improve their chances of matching. The goal of this rotation is to provide qualified students who are interested in pursuing a career in Orthopaedic Surgery an opportunity to work clinically with faculty mentors (Associate Program Director/ Faculty Advisor to Orthopaedic Surgery Interest Group), both of whom have special interest in student education. In addition to this clinical experience, the faculty will provide recommendations, guidance, and mentorship towards a possible application to orthopedic residency programs. The mentors will provide comments regarding the students' performance to the Chairman/Program Director of the Orthopaedic Surgery program here at the University of Miami.

Components: MOD.

Grading: GRD.

MDR 1034. Pediatrics Boot Camp - Transition to Residency. 2 Credit Hours.

Overview: Our immersive course offers the unique opportunity to learn what it means and what is required to become a pediatrician. It includes review of key concepts and knowledge, common pediatric physiology and pediatric illnesses, practice of common procedures, and hopes to generate self-reflection and guidance on human aspects such as professionalism, communication with families, patients, and team members, leadership, wellness, and life management skills (coping with challenges and stress of residency). **Course Design:** This 2-week elective course uses highly interactive didactics such small group case discussions, procedural skills labs, group-based simulations, team building exercises, and lectures. It provides one-on-one conversations with current PGY1's (who will be on the cusp of completion of their intern year), Chief Residents, and pediatric faculty. It is divided equally into one inpatient and one outpatient week. A sample schedule is provided with this course description (see below).

Components: MOD.

Grading: GRD.

Typically Offered: Spring.

MDR 1035. Developmental-Behavioral Pediatrics. 2-4 Credit Hours.

Overview: This is a 4-week elective to expose the medical student to a spectrum of experiences in developmental and behavioral pediatrics. The student will rotate through different clinic/community settings and see patients based on the emphasis at that location. **Course Design:** The student will spend time at the Mailman Center for Child development as well as the pediatric University of Miami Hospital Clinics. The student will gain exposure to developmental-behavioral pediatrics through observation and participation in the Behavioral Pediatrics Clinic, the Interdisciplinary Developmental Service, the Developmental Screening clinic, and various aspects of the Leadership Education in Neurodevelopmental and related Disabilities (LEND) trainee program. At the various clinics, the student will learn the aspects included in a comprehensive developmental pediatrics history as well as participate in discussions to help decide treatment options. Finally, the student will complete the LEND program by attending weekly classes at the Mailman Center and creating a leadership/advocacy project.

Components: MOD.

Grading: GRD.

Typically Offered: Fall & Spring.

MDR 1036. Point Care of Ultrasound Elective. 2-4 Credit Hours.

This is an intensive 2-week elective, which will teach the senior medical student point-of-care, bedside emergency ultrasound. The medical student will gain knowledge and competency, through supervised and independent scanning with an ultrasound machine in the JMH Emergency Department, online modules, scholarly articles, image review and a final US presentation. This elective is opened to students applying into all specialties of medicine, not just emergency medicine. No Emergency Medicine SLOE's will be written based off this elective rotation.

Components: MOD.

Grading: GRD.

MDR 1037. Emergency Medicine Boot Camp - Transition to Residency. 2 Credit Hours.

The Emergency Medicine Boot Camp – Transition to Residency elective offers fourth-year medical students matching into emergency medicine the ability to enhance their critical thinking and clinical skills at the level expected of an incoming emergency medicine intern. With an effort to maximize our students' focus for successful preparation and transition into residency, this elective will review undifferentiated clinical presentations for common ED chief complaints, infuse in specialty-specific, basic science anatomy, physiology and pharmacology review, expand on the students' repertoire of procedural and clinical skills and allow for small group collaboration within the course and interdisciplinary collaboration with other specialty-specific capstone bootcamps. Elements of resident professionalism, wellness, time management and personal organization will also be addressed. This elective course is offered to all Miami and Regional Campus emergency medicine bound students. This Emergency Medicine Bootcamp elective is part of the larger Senior Capstone Courses focused on the Transitions to Residency educational initiative. While emergency medicine students can enroll in this course independently, the highest yield is if completed in conjunction and after the broader Senior Capstone Course: Transitions to Residency (MDR 1019).

Components: MOD.

Grading: GRD.

MDR 200. Medical Curriculum 2. 18 Credit Hours.

Components: MOD.

Grading: GRD.

MDR 500. Medical Curriculum 5 MD/PHD Research. 18 Credit Hours.**Components:** LEC.**Grading:** GRD.**MDR 501. Molecular Basis of Life. 4 Credit Hours.**

The Molecular Basis of Life is a course that gives the students the fundamental elements of medical biochemistry, molecular and clinical genetics. The medical biochemistry section includes the basic fundamentals of amino acids, vitamins, proteins, lipids and carbohydrates. The pathways of metabolism and energy production are also studied. The fundamentals of molecular and clinical genetics are discussed. The concepts such as translation, transcription, mutation, single and multiple gene effects are discussed.

Components: LEC.**Grading:** GRD.**MDR 502. Cellular Function and Regulation. 4 Credit Hours.**

The Cellular Function and Regulation course is an introductory course into normal cellular physiology and the general principles of pharmacology. Mechanisms of normal cellular function that are fundamental to all cellular systems are taught during this course. The general concepts of pharmacokinetics including drug delivery, distribution in the body, metabolism, and elimination are discussed during the introduction to pharmacology.

Components: LEC.**Grading:** GRD.**MDR 503. Host Defense, Pathogens, and Pathology. 6 Credit Hours.**

The Host Defenses and Pathogens course is an introductory course that deals with the general principles of immunobiology and microbiology. It also provides students with an introduction to the principles of pathology. Students are introduced into the normal functioning of the immune defense system and abnormal functioning during disease such as HIV and cancer. The microbiology section of the course deals primarily with prototypical pathogens of bacterial, viral, fungal or parasitic origin. The pathology section deals with the fundamentals of pathological process such as inflammation, necrosis, neoplasia and thrombosis.

Components: LEC.**Grading:** GRD.**MDR 504. Human Structure. 8 Credit Hours.**

The Human Structure course contains 4 sections that include gross anatomy of the human body, histology of tissues, introduction to cell biology, and introduction to embryology. In the gross anatomy section students are expected to learn the various structures of the human body and their relationships to each other. The gross anatomy course uses dissection of human cadavers and body imaging in the form of CT and MRI to assist in the teaching process. The microscopic anatomy of the various structures of the body are studied in the histology section of the course. The cell biology section introduces the students to various components of the cell and the various functions of these organelles. In the embryology section students learn about the development of the human from the union of the egg and sperm to the birth of the baby.

Components: LEC.**Grading:** GRD.**MDR 505. Introduction to Epidemiology and Infectious Disease. 2 Credit Hours.**

The principles of epidemiology including the distribution, determinants of disease frequency and their investigation. There is a review of biostatistics to help with the evaluation of scientific investigations. The basic concepts of infectious processes and disease are discussed during the infectious disease section of the course. The student will learn about the interaction between the human host and the pathogen. There are discussions on the impact of infection on the host and society. The pharmacology of the antimicrobials is discussed. The principles of epidemiology are illustrated in the study of infectious processes. (This course is no longer given. Instead Epidemiology is a separate course in the second year curriculum as it is shown below.)

Components: LEC.**Grading:** GRD.**MDR 506. Neuroscience and Behavioral Science. 8 Credit Hours.**

The Neuroscience and Behavioral Science module is an interdisciplinary approach to the study of the nervous system. It incorporates the basic sciences of neuroanatomy, neurophysiology, neurochemistry, pharmacology, neuropathology, microbiology, immunology, and behavioral psychology. Students learn the basic structure and function of the nervous system from the brain to the muscle and motor units. Common disease processes that affect the nervous system are discussed with respect to the basic science of the system. The basic and clinical aspects of behavioral science are also a major portion of the module. Students are introduced to the basic science of behavioral medicine and the common diseases that are encountered. The clinical sciences of neurology, neurosurgery, otolaryngology and psychiatry are represented and offer the clinical applications of the basic sciences.

Components: LEC.**Grading:** GRD.

MDR 507. Cardiovascular System. 7 Credit Hours.

The Cardiovascular System module is an interdisciplinary approach to the study of the cardiovascular system including the heart and blood vasculature. The basic sciences of anatomy, physiology, pharmacology, biochemistry, pathology and immunology are integrated with the clinical sciences of cardiology in the study of cardiac function and its response to changes in the body with aging from birth to the elderly. The principles of preload, afterload, cardiac output, cardiac failure, EKG, echo and stress testing are discussed. The effects of congenital defects and the surgical procedures to correct these defects are also discussed.

Components: LEC.

Grading: GRD.

MDR 508. Problem Based Learning I. 0.25 Credit Hours.

The Problem Based Learning I course has the following objectives: 1) integrate different key concepts in human structure, biochemistry, genetics, microbiology and immunology within a case based, problem-centered format and 2) promote self-directed learning and problem solving. PBL I employs small group teaching, with trained facilitators, where students engage in applying basic science principles to clinical problems.

Components: MOD.

Grading: GRD.

MDR 509. Problem Based Learning II. 0.25 Credit Hours.

The Problem Based Learning II course has the following objectives: 1) integrate different key concepts in basic sciences related to medicine within a case based, problem-centered format and 2) promote self-directed learning and problem solving. PBL II employs small group teaching, with trained facilitators, where students engage in applying basic science principles to clinical problems.

Components: MOD.

Grading: GRD.

MDR 510. Evidence Based Population Theme. 0 Credit Hours.

Components: MOD.

Grading: GRD.

MDR 511. Clinical Skills I. 0 Credit Hours.

Components: MOD.

Grading: GRD.

MDR 512. Geriatrics I. 0 Credit Hours.

Components: MOD.

Grading: GRD.

MDR 516. Complimentary Medicine and Nutrition. 0 Credit Hours.

Components: MOD.

Grading: GRD.

MDR 517. Systems Based Care Theme. 0 Credit Hours.

Components: MOD.

Grading: GRD.

MDR 518. Doctoring I the Art and Practice of Medicine I. 4 Credit Hours.

Include eight themes which are: Behavioral Medicine and Special Populations, Clinical Skills, Complementary and Alternative Medicine, Evidence-Based Medicine, Geriatrics - Pain Management and Palliative Care, Population Health, Professionalism and Systems-Based Care.

Components: LEC.

Grading: GRD.

MDR 519. Doctoring II: The Art and Practice of Medicine II. 4 Credit Hours.

Include eight themes, which are: Behavioral Medicine and Special Populations, Clinical Skills, Complementary and Alternative Medicine, Evidence-Based Medicine, Geriatrics - Pain Management and Palliative Care, Population Health, Professionalism and Systems-Based Care.

Components: LEC.

Grading: GRD.

MDR 530. Epidemiology I. 1 Credit Hour.

The principles of epidemiology including the distribution, determinants of disease frequency and their investigation. There is a review of the biostatistics to help with the evaluation of scientific investigations.

Components: LEC.

Grading: GRD.

MDR 550. CMC Introduction to the Medical Profession. 3 Credit Hours.

This course provides the foundation of the MD/MPH curriculum areas of emphasis. The course covers the role and responsibilities of physicians, concepts of population medicine and professionalism. Along with didactic sessions, the course utilizes communication skills laboratories designed to equip students for the community physician practice settings. CMC stands for Continuity Medicine Curriculum.

Components: LEC.

Grading: GRD.

MDR 551. CMC Fundamentals of Biomedical Science I. 8 Credit Hours.

The course covers the basic concepts and vocabulary in the disciplines of cell biology and physiology, genetics and biochemistry, immunology, microbiology, anatomy, histology, pharmacology, and pathology. This course will meet for about 20 hours per week with approximately 10 hours of lecture per week and 10 hours per week of small group or other non-lecture sessions. Week-long clinical cases will cover specific learning objectives for the various basic science disciplines, are facilitated by a faculty tutor and lectures are designed to complement the clinical cases. FBS I is a prerequisite for FBS 2 and 3. CMC stands for Continuity Medicine Curriculum.

Components: LEC.

Grading: GRD.

MDR 552. CMC Integration of Public Health and Medicine 1. 1 Credit Hour.

Components: MOD.

Grading: GRD.

MDR 553. CMC Physicianship Skills I. 2 Credit Hours.

The PS course will expose students to competencies that physicians must master to provide high quality and effective care in today's health care system. The course covers the fundamentals of process evaluation, quality management, out-comes assessment, patient satisfaction, patient safety, systems-based care, interprofessional team care, and complex chronic disease management. The PS course will meet for 4 - 5 hours per week. PS I is a prerequisite for PS II. CMC stands for Continuity Medicine Curriculum.

Components: LEC.

Grading: GRD.

MDR 554. CMC Fundamentals of Biomedical Science II. 5 Credit Hours.

FBS 2 continues from FBS1 with the basic concepts and vocabulary in the disciplines of cell biology and physiology, genetics and biochemistry, immunology, microbiology, anatomy, histology, pharmacology, and pathology. This course will meet for about 20 hours per week with approximately 10 hours of lecture per week and 10 hours per week of small group or other non-lecture sessions. Week-long clinical cases will cover specific learning objectives for the various basic science disciplines, are facilitated by a faculty tutor and lectures are designed to complement the clinical cases. CMC stands for Continuity Medicine Curriculum.

Components: LEC.

Grading: GRD.

MDR 555. CMC Fundamentals of Biomedical Science III. 6 Credit Hours.

FBS 3 continues from FBS2 with the basic concepts and vocabulary in the disciplines of cell biology and physiology, genetics and biochemistry, immunology, microbiology, anatomy, histology, pharmacology, and pathology. This course will meet for about 20 hours per week with approximately 10 hours of lecture per week and 10 hours per week of small group or other non-lecture sessions. Week-long clinical cases will cover specific learning objectives for the various basic science disciplines, are facilitated by a faculty tutor and lectures are designed to complement the clinical cases. CMC stands for Continuity Medicine Curriculum.

Components: LEC.

Grading: GRD.

MDR 556. CMC Integration of Public Health and Medicine 2. 2 Credit Hours.

The IPC course is designed to allow students to develop their fundamental clinical skills (communication, history taking and physical exam skills) in continuity of care environments (community practice setting and Department of Health clinics). The IPC course will meet for 4-5 hours per week and is closely coordinated and integrated with the PS course. Community and faculty preceptors will supervise and evaluate students longitudinally. IPC I is a prerequisite for IPC II. CMC stands for Continuity Medicine Curriculum.

Components: MOD.

Grading: GRD.

MDR 557. CMC Physicianship Skills II. 3 Credit Hours.

The PS course will continue to expose students to competencies that physicians must master to provide high quality and effective care in today's health care system. The course covers the fundamentals of process evaluation, quality management, outcomes assessment, patient satisfaction, patient safety, systems-based care, interprofessional team care, and complex chronic disease management. The PS course will meet for 4 - 5 hours per week. PS I is a prerequisite for PS II. CMC stands for Continuity Medicine Curriculum.

Components: LEC.

Grading: GRD.

MDR 558. CMC Neuroscience and Behavioral Science. 9 Credit Hours.

The module is an interdisciplinary approach to the study of the nervous system. In the context of the principles of continuity medicine and chronic illness, the module includes neurophysiology, neurochemistry, pharmacology, neuropathology, microbiology, immunology, and behavioral psychology. Progressing from neuroanatomy to gross anatomy, students learn the structure and function of the nervous system from the head/brain, and neck, to the muscle and motor units. Students are introduced to the basic science of behavioral medicine and the common diseases that are encountered. Finally, the basic sciences are integrated to the clinical sciences of neurology, neurosurgery, otolaryngology and psychiatry. A combination of didactic, small-group and laboratory methods are used.

Components: LEC.

Grading: GRD.

MDR 559. CMC Cardiovascular System. 7 Credit Hours.

The module is an interdisciplinary approach to the study of the cardiovascular system including the heart and blood vasculature. The basic sciences are intergrated with the clinical sciences of cardiology in the study of cardiac function and its response to changes in the body with aging from birth to the elderly. The module seeks to place cardiovascular disease and management into the context of continuity medicine and chronic illness using a combination of didactic, small-group and simulation teaching methods.

Components: LEC.

Grading: GRD.

MDR 600. Medical Curriculum 6. 18 Credit Hours.

Components: LEC.

Grading: GRD.

MDR 601. Sexual Issues in Medical Practice. 2 Credit Hours.

Components: LEC.

Grading: GRD.

MDR 602. Immunobiology. 2 Credit Hours.

Components: LEC.

Grading: GRD.

MDR 603. Pathology. 6 Credit Hours.

Components: LEC.

Grading: GRD.

MDR 604. Clinical Skills II. 6 Credit Hours.

Components: LEC.

Grading: GRD.

MDR 605. Mechanisms of Disease I. 9 Credit Hours.

Components: LEC.

Grading: GRD.

MDR 606. Mechanisms of Disease II. 9 Credit Hours.

Components: LEC.

Grading: GRD.

MDR 607. Pharmacology. 6 Credit Hours.

Components: LEC.

Grading: GRD.

MDR 608. Microbiology. 6 Credit Hours.

Components: LEC.

Grading: GRD.

MDR 609. Introduction to Psychiatry. 1 Credit Hour.

Components: LEC.

Grading: GRD.

MDR 610. Respiratory System. 5 Credit Hours.

The module is an interdisciplinary study of the respiratory system and includes the anatomy, physiology, immunology, pathology, radiology and biochemistry of the system. The pathophysiology is illustrated with clinical vignettes. Students are also exposed to the evaluation of normal physiological measurement of the respiratory system and the principles of artificial ventilation. Students should be able to solve clinical problems in pulmonary medicine and critical care by the end of the module.

Components: LEC.

Grading: GRD.

MDR 611. Accl Basic Science Curriculum. 18 Credit Hours.

Components: LEC.

Grading: GRD.

MDR 612. Renal System. 5 Credit Hours.

The module is an interdisciplinary course of the renal system. Students study the structure, function and pathophysiology of the kidneys and genitourinary tract. General concepts of acid-base and electrolyte balance are studied in the normal and diseased states. The course provides a foundation for dealing with the various diseases of the renal system encountered during the clinical years.

Components: LEC.

Grading: GRD.

MDR 613. Endocrine and Reproductive Systems. 5 Credit Hours.

The module is an interdisciplinary course that deals with the normal endocrine development, function, pathophysiology and disease processes. Students are exposed to problems solving of clinical cases involving endocrine and reproductive medicine. Students will be exposed to various evaluation and treatment tools available at this time.

Components: LEC.

Grading: GRD.

MDR 614. Gastrointestinal System and Nutrition. 5 Credit Hours.

The module is an integrated course on the molecular and cellular processes that involve the digestive system and its associated organs. The module covers the normal structure and function and the pathophysiological processes that occur during disease states of the digestive organs. Nutrition and the clinical aspects of obesity and bariatric surgery are discussed.

Components: LEC.

Grading: GRD.

MDR 615. Hematology/Oncology. 5 Credit Hours.

The module is an introductory course that covers basic hematology that is essential to the practice of medicine. Students are introduced into the variations in hematological parameters that are used in the diagnosis and monitoring of common hematological diseases. The second half of the module serves as a basic overview of cancer and includes basic concepts of oncogenesis, epidemiology, biology of cancer, pathology and the role of the immune system. Students are introduced to the various treatment modalities.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MDR 616. Dermatology and Ophthalmology. 2 Credit Hours.

The Dermatology and Ophthalmology module is an introductory course that covers the basic pathophysiology and clinical aspects of dermatology and ophthalmology that are essential for a general physician. The module covers the normal structure and function of skin, and eye. Common disease diseases of the skin and eye are discussed.

Components: LEC.

Grading: GRD.

MDR 618. Respiratory. 4 Credit Hours.

Components: LEC.

Grading: GRD.

MDR 619. Case Based Learning - Infection and Inflammation. 4 Credit Hours.

During this four week segment of the curriculum students are divided into small groups and will work with a faculty facilitator who has been trained in small group learning. Students work as a group on clinical scenarios. They are expected to work as both teacher and student during this time. Students are to focus on clinical cases involving rheumatological and infectious disease problems. They receive guiding questions with each case to assist with their learning process. The students will have opportunities to interact with experts in the various areas covered in the cases during consultation sessions. The small group sessions are case driven. The facilitator is there to assist with group dynamics and not to serve as a teacher. The student groups work through a clinical scenario during the three two-hour sessions a week.

Components: LEC.

Grading: GRD.

MDR 620. Problem Based Learning III. 0.5 Credit Hours.

During this segment of the curriculum, students are divided into small groups and will work with a faculty facilitator who has been trained in problem based learning. Students work as a group on clinical scenarios. They are expected to work as both teacher and student during this time utilizing the knowledge that they have gained during the core and organ system modules to work through these cases and develop a differential diagnosis and treatment plan for the patients. The small group sessions are student driven. Self-directed learning is emphasized. This allows the students to use their knowledge of basic sciences and to hone the skills of presentation to a clinical team in preparation for their clinical years.

Components: MOD.

Grading: GRD.

MDR 621. Problem Based Learning IV. 0.5 Credit Hours.

During this segment of the curriculum, students are divided into small groups and will work with a faculty facilitator who has been trained in problem based learning. Students work as a group on clinical scenarios. They are expected to work as both teacher and student during this time utilizing the knowledge that they have gained during the core and organ system modules to work through these cases and develop a differential diagnosis and treatment plan for the patients. The small group sessions are student driven. Self-directed learning is emphasized. This allows the students to use their knowledge of basic sciences and to hone the skills of presentation to a clinical team in preparation for their clinical years.

Components: MOD.

Grading: GRD.

MDR 622. Behavioral and Special Populations II. 0 Credit Hours.

Components: MOD.

Grading: GRD.

MDR 623. Evidence Based Population Medicine II. 0 Credit Hours.

Components: MOD.

Grading: GRD.

MDR 624. Clinical Skills II. 0 Credit Hours.

Components: MOD.

Grading: GRD.

MDR 625. Geriatrics End of Life Theme II. 0 Credit Hours.

Components: MOD.

Grading: GRD.

MDR 626. Complimentary Alternative Medicine Theme. 0 Credit Hours.

Components: MOD.

Grading: GRD.

MDR 627. Systems Based Care Theme. 0 Credit Hours.

Components: MOD.

Grading: GRD.

MDR 628. Doctoring III: The Art and Practice of Medicine III. 4 Credit Hours.

Include eight themes which are: Behavioral Medicine and Special Populations, Clinical Skills, Complementary and Alternative Medicine, Evidence-Based Medicine, Geriatrics - Pain Management and Palliative Care, Population Health, Professionalism and Systems-Based Care.

Components: LEC.

Grading: GRD.

MDR 629. Doctoring 4 the Art and Practice of Medicine. 4 Credit Hours.

Include eight themes which are: Behavioral Medicine and Special Populations, Clinical Skills, Complementary and Alternative Medicine, Evidence-Based Medicine, Geriatrics - Pain Management and Palliative Care, Population Health, Professionalism and Systems-Based Care.

Components: LEC.

Grading: GRD.

MDR 630. Epidemiology II. 1 Credit Hour.

The principles of epidemiology including the distribution, determinants of disease frequency and their investigation. There is a review of biostatistics to help with the evaluation of scientific investigations.

Components: LEC.

Grading: GRD.

MDR 650. CMC Gastrointestinal System and Nutrition. 5 Credit Hours.

The course continues the interdisciplinary approach to the study of all the systems included are the gastrointestinal system and the liver, and the normal structure-function and the pathophysiological processing during disease states of the digestive organs. The course seeks to place GI disease and nutrition management into the context of continuity medicine and chronic illness using a combination of didactic, and small-group teaching methods.

Components: LEC.

Grading: GRD.

MDR 651. CMC Respiratory System. 5 Credit Hours.

The course continues the interdisciplinary approach to the study of all the systems. It builds upon the knowledge of respiratory anatomy from the FBS course sequence and covers physiology, immunology, pathology, radiology, and biochemistry of the system. Students are also exposed to the evaluation of normal physiological measurement of the respiratory system and the principles of artificial ventilation. The course seeks to place acute and chronic respiratory disease into the context of continuity medicine using a combination of didactic, clinical case presentations and small-group teaching methods.

Components: LEC.

Grading: GRD.

MDR 652. CMC Renal System. 5 Credit Hours.

The course continues the interdisciplinary approach to the study of all the systems. The structure, function and pathophysiology of the kidneys and genito-urinary tract are covered. General concepts of acid-base and electrolyte balance are studied in the normal and acute and chronic diseased states. The course seeks to place renal disease into the context of continuity medicine and chronic illness and care, and uses a combination of didactic, clinical case presentations, simulation and small-group teaching methods.

Components: LEC.

Grading: GRD.

MDR 653. CMC Inflammation and Infectious Disease. 4 Credit Hours.

The course uses an interdisciplinary approach to present basic concepts of rheumatology (inflammation) and uses these disciplines to present the basic concepts of infectious processes and disease. The course uses a combination of didactic, clinical case presentations, and small-group teaching methods.

Components: LEC.

Grading: GRD.

MDR 654. CMC Hematology and Oncology. 5 Credit Hours.

The course presents basic hematology concepts essential to the practice of medicine. Variations in hematological parameters used in diagnosis and monitoring of common hematological diseases are presented and integrated with a basic overview of cancer. This includes basic concepts of oncogenesis, epidemiology, biology of cancer, pathology and the role of the immune system. The course seeks to place hematological disorders and cancer into the context of continuity medicine and chronic illness and care, and uses a combination of didactic, clinical case presentations and small-group teaching methods.

Components: LEC.

Grading: GRD.

MDR 655. CMC Endocrinology and Reproductive System. 5 Credit Hours.

The course is an interdisciplinary approach to the study of normal endocrine, function, pathophysiology and disease processes. Students are exposed to problem solving of clinical cases involving endocrine and reproductive medicine. The course seeks to place endocrine disorders and management into the context of continuity medicine and chronic illness using a combination of didactic and small-group teaching methods.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MDR 656. CMC Integration of Public Health and Medicine 3. 5.5 Credit Hours.

The IPC3 course is designed to allow students to apply their clinical skills (communication, history taking and physical exam skills) in continuity of care environments (community practice setting and Department of Health clinics). The IPC3 course will meet for 4-5 hours per week and is closely coordinated and integrated with the PS3 course. Community and faculty preceptors will supervise and evaluate students longitudinally.

Components: MOD.

Grading: GRD.

Typically Offered: Fall & Spring.

MDR 657. CMC Physicianship Skills 3. 5 Credit Hours.

The PS3 course exposes students to more advanced competencies that physicians must master to provide high quality and effective care in today's health care system. The course reviews and expands upon the process of evaluation, quality management, outcomes assessment, patient satisfaction, patient safety, systems-based care, interprofessional team care, and complex chronic disease management. The PS3 course will meet for 4-5 hours per week.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MDR 659. CMC Dermatology and Ophthalmology. 2 Credit Hours.

The course uses an interdisciplinary approach to present basic concepts of Dermatology and Ophthalmology and uses these disciplines to present the basic concepts of infectious processes and disease. The course uses a combination of didactic, clinical case presentations, and small-group teaching methods.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MDR 700. Medical Curriculum 7. 18 Credit Hours.

Components: LEC.

Grading: GRD.

MDR 701. Introduction to Radiology. 0 Credit Hours.

Components: LEC.

Grading: GRD.

MDR 702. Interprofessional Patient Safety. 1 Credit Hour.

The Patient Safety/Transition to the Wards module is a one week module geared towards preparing students for their role in the health care field. The goals are to provide students with the requisite knowledge, skills, behaviors and attitudes to not only deliver safe patient care but also to be able to identify and solve patient safety problems. The course involves a series of interactive didactic sessions and simulated role play at the UM-JMH Center for Patient Safety.

Components: MOD.

Grading: GRD.

MDR 703. Core Family and Community Medicine. 4 Credit Hours.

The family medicine and geriatric medicine clerkship is a community based primary care rotation where students are exposed to patients in the outpatient setting. Students are introduced to the whole patient approach to medical care. They are expected to gain a working knowledge of the types of medical conditions that are commonly seen in the primary care setting. They will become familiar with managed care concepts of health delivery. They should gain an appreciation for how cultural and social influences affect the perception of health and management of diseases. They should acquire an understanding of the concepts of continuity and coordination of care. Students will also spend one week of intensive training experience on the acute care of elders unit at Jackson Memorial Hospital. They will become proficient in the use of assessment instruments in the evaluation of the geriatric patient. Students are evaluated on their knowledge of family medicine and geriatrics, their interpersonal skills, and their professionalism.

Components: LEC.

Grading: GRD.

MDR 705. Core Generalist Primary Care Clerkship. 4 Credit Hours.

The generalist primary care clerkship exposes students to ambulatory medicine. Students are expected to become competent in the properties of common diseases seen in an outpatient setting. They will gain skills and competence in the history taking, physical examination, diagnosis and treatment of these conditions. They will also rotate through a variety of specialty care areas and will evaluate patients with the guidance of specialty care faculty. Students are evaluated on their knowledge of ambulatory medicine, their interpersonal skills, and their professionalism.

Components: LEC.

Grading: GRD.

MDR 706. Core Internal Medicine Clerkship. 8 Credit Hours.

The Internal Medicine clerkship is a rotation where students are expected to further develop their skills of history taking, physical examination, and observation. They are to gain knowledge about the diagnosis and treatment of medical conditions. They will practice their skills of communication with their team, the hospital staff, and their patients. The clerkship has didactic activities in addition to the bedside teaching, student report, and patient oriented problem solving sessions. Students are evaluated on their knowledge of medicine, their interpersonal skills, and their professionalism.

Components: LEC.

Grading: GRD.

MDR 707. Neurology Clerkship. 4 Credit Hours.

The Neurology Clerkship exposes students to common and emergency neurological diseases. Students have the option of exposure to Pediatric Neurology during the clerkship. Students are expected to become competent in the neurological examination, diagnosis, evaluation by various modalities of imaging and laboratory testing, and treatment options. Students are exposed to inpatient ward, consult and stroke services. Students are evaluated on their knowledge of neurology, their interpersonal skills, and their professionalism.

Components: LEC.

Grading: GRD.

MDR 708. Core Obstetrics and Gynecology Clerkship. 6 Credit Hours.

The Ob/Gyn clerkship offers clinical and didactic learning opportunities in the varied settings of ob/gyn practice - the operating room, inpatient wards, the clinic, labor and delivery, and the ultrasound suite. Students are assigned to JMH, community hospital and private practice sites to varying degrees to meet learning requirements. Students learn the clinical presentations and differential diagnosis of the conditions comprising the majority women's reproductive health care - with nearly even distribution of obstetrics and gynecology topics. On site clinical learning is supplemented with case based and problem based didactic learning, both in the intermediate sized classroom and small group learning settings. Ethical reasoning, EBM, suturing and communications skills and issues are covered in the workshop format. Students will learn how women's cultural, educational and socioeconomic backgrounds affect their access to health care their values about fertility, childbearing, and contraception, the consequences of sexual behaviors and their understanding of their bodies throughout life, and their power in relationships and the role of sexuality in their lives. The evaluation system focuses on medical knowledge, communications skills and EBM skills.

Components: LEC.

Grading: GRD.

MDR 709. Core Pediatrics Clerkship. 6 Credit Hours.

The clerkship exposes the students to the spectrum of the pediatric population from neonates to adolescence. It is divided into experiences on the clinical ward service, ambulatory, emergency room, neonatal and comprehensive healthcare program. Students are expected to become competent in the examination of the child and in common pediatric diseases. The teaching is divided between ward based teaching rounds and didactic sessions. Students are evaluated on their knowledge of pediatrics, their interpersonal skills, and their professionalism.

Components: LEC.

Grading: GRD.

MDR 710. Core Psychiatry Clerkship. 6 Credit Hours.

The clerkship exposes students to psychiatric disorders and the psychiatric patient. Students are expected to become competent with obtaining a psychiatric history and performing a mental status examination. They are expected to identify and evaluate patients with neuropsychiatric and substance abuse symptoms. They are expected to recognize the spectrum of ages affected by psychiatric disorders and brain diseases. They will become acquainted with the laboratory and imaging testing relevant to the clinical manifestations of psychiatric disorders. They are expected to be knowledgeable as to the various medications used in the treatment of these diseases, including potential drug interactions. Students are evaluated on their knowledge of psychiatry, their interpersonal skills, and their professionalism.

Components: LEC.

Grading: GRD.

MDR 711. Core Surgery Clerkship. 8 Credit Hours.

The surgical clerkship is a rotation where students gain knowledge about diseases that have surgery as a treatment modality. Students are exposed to the operating room and assist in surgical procedures. They are expected to gain an understanding of the pathophysiology of the disease processes and have a basic knowledge of the diagnosis and treatment of them. They are expected to develop the basic surgical skills that are expected of a general physician. Students evaluated on their knowledge of surgery, their interpersonal skills, and their professionalism.

Components: LEC.

Grading: GRD.

MDR 712. Anesthesiology Clerkship. 2 Credit Hours.

The anesthesia clerkship exposes students to the various techniques used by anesthesiologists during surgical procedures and exposes them to the pre-operative evaluation of patients and post-operative care. Students will use the simulation training devices to become competent in the techniques of management of a patient and their airway. Students will become knowledgeable on the pharmacology of the various medications used in anesthesia. Students are evaluated on their knowledge of anesthesia, their interpersonal skills, and their professionalism. No interviewing during Thanksgiving block.

Components: LEC.

Grading: GRD.

MDR 714. Caring for Families and Communities. 8 Credit Hours.

Caring for Families and Communities (CFC) clerkship will help prepare students for the unique and evolving role of the physician in the ever changing health care system. During this 8-week clerkship, you will have many opportunities to work closely with patients, primary care physicians, and other members of the health care team in the varied clinical settings in which future physicians will encounter patients. You will be learning and practicing both the traditional and less traditional skills necessary for our future physicians. You will learn about the importance of meeting the healthcare needs of communities of patients as well as individual patients and will develop some of the knowledge and skills necessary to fulfill these fundamental physician responsibilities. No matter what career path you choose, the experiences, knowledge, and skills that you gain from this clerkship are intended to help you become the best physician you can be.

Components: LEC.

Grading: GRD.

MDR 756. RMC Core Integrated Internal Medicine Clerkship. 12 Credit Hours.

The Integrated Medicine clerkship offers students parallel training in internal medicine primarily, geriatrics and palliative care. Radiology is included as it supports clinical decision making in internal medicine. Students will acquire the clinical skills, critical thinking skills, knowledge, and professional behaviors necessary to provide comprehensive medical care for adults and develop experience in the assessment, evaluation, and basic management of important, common problems encountered in inpatient internal medicine. The objectives for the clerkship are derived from the internal medicine and geriatrics clerkships on the main campus and from the Clerkship Directors in Internal Medicine guidelines. Students will spend half the rotation as part of a team with the UMMSM Internal Medicine residents based at JFK and half the rotation assigned to an internist preceptor and spend their time in both inpatient and outpatient settings. Students will also participate in a geriatrics consult service and a palliative care consult service. Academic half-days will include lecture and small-group activities in the individual disciplines along with integrated multidisciplinary activities. Assessment will be achieved by the use of the NBME Subject Exam in Medicine, clinical performance evaluation by faculty preceptor, observed clinic histories and physical exams and written case reports.

Components: LEC.

Grading: GRD.

MDR 757. JFK Neurology Clerkship. 4 Credit Hours.

The purpose of the JFK Neurology clerkship at JFK Medical Center is to provide students with an opportunity to acquire a foundation of knowledge and skills to care for patients with neurological conditions. The primary goals of the Neurology Clerkship are for you to gain competence in taking a neurologic history and performing a neurologic exam, and use them to aid in localization and diagnosis of neurologic disease. Also, it is hoped students will develop knowledge, attitudes, and skills necessary to assess, diagnose and refer patients presenting in the primary care setting with neurologic complaints. Students will have the opportunity to explore the field of neurology as a potential career path through exposure to a variety of complaints, diagnoses, patient encounters, and case-based didactics. Students are evaluated on their knowledge of neurology, their interpersonal skills, and their professionalism.

Components: LEC.

Grading: GRD.

MDR 758. RMC Core Obstetrics and Gynecology Clerkship. 6 Credit Hours.

By the end of the clerkship, students will demonstrate the ability to obtain a complete obstetric and gynecologic age-appropriate history and perform the physical examination which elicits information necessary for diagnosis and treatment. Students will complement their clinical experience in the office and on the wards with independent directed study and recognize the importance of interdisciplinary collaboration in optimizing clinical outcomes for patients, work effectively with other health professionals, and demonstrate knowledge of the role of obstetrics and gynecological care in the broader community and health care system. Academic half-days will include lecture and small-group activities. Assessment will be achieved by the use of the NBME Subject Exam in Obstetrics and Gynecology, clinical performance evaluation by faculty preceptor, observed structured clinical examination (OSCE), written case reports and journal club.

Components: LEC.

Grading: GRD.

MDR 759. RMC Core Pediatrics Clerkship. 6 Credit Hours.

By the end of this clerkship, students will demonstrate the ability to obtain a complete age-appropriate pediatric history which elicits information necessary for diagnosis and treatment and will demonstrate knowledge of appropriate health supervision, anticipatory guidance, and preventive medicine in pediatrics. Students will demonstrate interpersonal and communication skills that result in effective information exchange and collaboration with patients, their families, and other health care providers. Students will be assigned to a general pediatrician preceptor and spend their time in the clinical ward service, ambulatory, emergency room, neonatal and the hospital setting, and a comprehensive healthcare program in private practice. Academic half-days will include lecture and small-group activities. Assessment will be achieved by the use of the NBME Subject Exam in Pediatrics, clinical performance evaluation by faculty preceptor, observed clinical histories and physical exams and written case reports.

Components: LEC.

Grading: GRD.

MDR 760. RMC Core Psychiatry Clerkship. 6 Credit Hours.

By the end of this clerkship, students will demonstrate the ability to obtain a complete psychiatric history, recognize relevant physical findings and perform a complete mental status examination, and conduct a psychiatric interview which elicits information necessary for diagnosis and treatment, all of which form the basis of a therapeutic alliance with the patient. Students will demonstrate knowledge of common psychiatric emergencies and their management and demonstrate the ability to evaluate both their patient care practices and the scientific evidence, in order to improve the quality of care they deliver to patients with psychiatric illness. Academic half-days will include lecture and small-group activities. Assessment will be achieved by the use of the NBME Subject Exam in Psychiatry, clinical performance evaluation by faculty preceptor, observed clinical histories and written case reports.

Components: LEC.

Grading: GRD.

MDR 761. RMC Core Integrated Surgery Clerkship. 12 Credit Hours.

The Integrated Surgery clerkship offers students parallel training in surgery primarily, anesthesiology and radiology. Students will acquire the clinical skills, critical thinking skills, knowledge, and professional behaviors necessary to provide comprehensive pre-operative evaluation of patients and post-operative care. Students will spend half the rotation assigned to a general surgeon and the other with a vascular surgeon in order to acquire the skills and knowledge about diseases that have surgery as a treatment modality. Students will be part of the operating room teams and assist in surgical procedures. Students will be expected to assist the anesthesiology teams for pre- and post-surgical care. Radiology experiences will be provided by the JFK radiology team during discipline-specific teaching time but also as part of the care of the patient pre- and post-surgery. Academic half-days will include lecture and small-group activities in the individual disciplines along with integrated multidisciplinary activities. Assessment will be achieved by the use of the NBME Subject Exam in Surgery, clinical performance evaluation, observed clinical histories and physical exams and written case reports.

Components: LEC.

Grading: GRD.

MDR 764. RMC Core Family Medicine Clerkship. 6 Credit Hours.

The clerkship aims to train students to provide care that is compassionate, appropriate and effective for the treatment of health problems and the promotion of health. The objectives for the clerkship are derived initially from the clerkship objectives on the main campus and from the Society for the Teaching of Family Medicine guidelines. Students will be assigned to a family medicine preceptor and spend the majority of their time in the private practice. Academic half-days will include lecture and small-group activities. Assessment will be achieved by the use of the NBME Subject Exam in Family Medicine, clinical performance evaluation by faculty preceptor, observed clinical histories and physical exams and written case reports.

Components: LEC.

Grading: GRD.

MDR 765. RMC Community Public Health Practicum. 2 Credit Hours.

This course will build upon the experiences in the first two years during Community & Public Health Practicum 1. All students will spend one afternoon per week during the core clinical clerkships during this practicum course. Students will rotate through a repeating sequence of four experiences each week: an afternoon in their public health continuity clinic, an immersion experience with Department of Health sites, work on their public health capstone project, and a monthly seminar series. Seminars in contemporary Public Health Issues. In their continuity primary care clinics they will be assigned to a public health FQHC clinic in an underserved community in Palm Beach County. They will work with general internist physicians in this clinic. The course is Pass/Fall and contingent upon attendance, enthusiasm, and professionalism.

Components: MOD.

Grading: GRD.

MDR 766. RMC Physicianship Skills 4 Transition to Residency. 0 Credit Hours.

The PS4: Transitions to Residency course continues the themes addressed in PS1-2-3 related to the competencies that physicians must master to provide high quality and effective care in today's health care system. The course expands upon the themes of communication skills, medical ethics, medical humanities, wellness, time-management strategies, patient safety, systems-based care, inter-professional team care, and preparing for life as a medical resident within the applied setting of the year 3 clerkships. The PS4 course will meet for eight sessions for two-hours each during the academic year. Each session is delivered in the form of learning communities, with faculty and student continuity throughout the year. This allows for small group discussion, communication skill role plays, team-based learning, and the forging of mentoring relationships. A passing grade will be contingent on attendance at the eight sessions, completion of journal activities, and satisfactory participation.

Components: MOD.

Grading: GRD.

MDR 800. Ultrasound in Gynecology and Obstetrics. 2-4 Credit Hours.

This rotation is an intensive experience with the faculty of the Division of Ultrasound in the Department of Obstetrics and Gynecology. It is geared for students interested in the fields of Obstetrics and Gynecology, Radiology and/ or General Surgery. The emphasis of the rotation is on the use of ultrasound as a diagnostic and therapeutic tool in women's health. The student will observe and participate in diagnostic ultrasound for gynecologic problems, routine and complicated obstetrics, and ultrasound guided procedures for gynecologic and obstetrical indications. This will be complemented by time in the operating room for general gynecologic surgery and on labor and delivery. Students are expected to display a high level of intellectual curiosity and perform as a self motivated learner. For students with an interest in Obstetrics and Gynecology or Radiology there may be opportunities to become involved with research with the attending physicians.

Components: MOD.

Grading: GRD.

MDR 801. University of Miami Hospital Gynecology. 4 Credit Hours.

This rotation is intended for students with an interest in the fields of Obstetrics and Gynecology, Urology, General Surgery and Family Medicine. Students will become an integral part of the gynecology service at the University of Miami Hospital. Experience will include participation in private practice clinics, office surgery, inpatient consults, surgery in the operating room and post operative care. Surgeries will include minor procedures, operative laparoscopy, robotics and open gynecologic surgery. Students are expected to display a high level of intellectual curiosity and perform at the level of an in Obstetrics and Gynecology.

Components: MOD.

Grading: GRD.

MDR 802. Ophthalmology @ BPEI Naples FL. 2 Credit Hours.

The two week clinical elective in ophthalmology is geared toward fourth year medical students with an interest in obtaining a basic understanding of fundamental ophthalmology for students NOT pursuing a career in ophthalmology. Aspects of ophthalmology that are pertinent to the practice of internal medicine, neurology, pediatrics, family practice and other primary care specialties will also be taught. Students will rotate through the emergency room, operating room, and various subspecialty clinics at the Bascom Palmer Eye Institute where they will shadow attendings and housestaff. Students will be required to keep a patient log and will be expected to complete an online course. A case presentation session based on the patient pathology seen throughout the course will take place at the end of the rotation. Students are also welcome to attend weekly grand rounds and fluorescein conferences as well as daily resident lectures during the rotation.

Components: MOD.

Grading: GRD.

MDR 803. Mechanisms of Disease I. 1-9 Credit Hours.

Components: MOD.

Grading: PNP.

MDR 804. Mechanisms of Disease II. 1-9 Credit Hours.

Components: MOD.

Grading: PNP.

MDR 805. Geriatrics: Morse Center Palm Beach. 2 Credit Hours.

The medical student will spend two weeks at the Morse Geriatric Center and assume responsibility for the care of older patients under the supervision of a board-certified geriatrician, geriatric medicine fellows, and members of the interdisciplinary care team. Our mission is to teach, model and assess the knowledge, skills, and attitudes needed by medical students to complete a comprehensive geriatrics assessment. Clinical activities will take place in multiple chronic care venues including the Morse Geriatric Center, a long term care facility; the Levine Rehabilitation Center, a subacute rehabilitation center; the Traditions of the Palm Beaches, an assisted living center; and the Geriatric Clinic.

Components: MOD.

Grading: GRD.

MDR 806. Wound Healing. 2-4 Credit Hours.

The student will be exposed to a multitude of difficult-to-heal wounds in the lower extremity (i.e. diabetic foot ulcers, venous ulcers), trunk (pressure sores), upper extremities (traumatic, infected), and head and neck (cancers, etc.) Students will interview patients with chronic and acute wounds and identify critical pathways that will lead to the diagnosis, etiology, pathophysiology and treatment of these difficult-to-heal wounds. Students will learn to care for these wounds and make clinical interventions and recommendations to their healing.

Components: MOD.

Grading: GRD.

MDR 807. Advanced Gross Anatomy. 2-4 Credit Hours.

Intended primarily for students applying for surgical or orthopedic residency programs, this elective provides the ability to study advanced regional anatomy with opportunities for students to develop teaching and presentation skills.

Components: MOD.

Grading: GRD.

MDR 808. Third Year Anesthesiology. 2 Credit Hours.

Components: MOD.

Grading: GRD.

MDR 809. Advanced Anesthesiology. 4 Credit Hours.

The Senior Elective rotation program is consistent with the guidelines of the American Society of Anesthesiology. However, few additions and modifications are included in order to make this rotation a more meaningful one for a student who has been exposed to anesthesiology during his junior year. By the end of the rotation, the student is expected to be proficient in airway management, pharmacology of general and local anesthetics, drug interactions, and the medical evaluation of surgical patients as it pertains to anesthesia.

Components: MOD.

Grading: GRD.

MDR 810. Cell Biology Research. 2 Credit Hours.

Components: MOD.

Grading: GRD.

MDR 811. Dermatology. 2-4 Credit Hours.

The student will attend 7 clinics per week, weekly management conferences and grand rounds, the Miami Dermatology Society meetings (which are held 6 times a year), journal club, and slide conferences. The student will participate in outpatient dermatologic care, under supervision of the Chief Resident and a member of the faculty, at Jackson Memorial Hospital and the University of Miami Hospital. Development of history taking, diagnostic skills, and ambulatory management of dermatological diseases will be emphasized in this elective program. Basic diagnostic procedures, including punch and shave biopsies, Tzanck, scabies, and potassium hydroxide preparations will be taught. There will also be opportunities to observe surgical therapy and the Dermatology inpatient service. All students will be required to participate in slide reading session with Dr. Elgart and there will be a quiz at the end of the rotation.

Components: MOD.

Grading: GRD.

MDR 812. Emergency Medicine Clerkship. 4 Credit Hours.

The Emergency Medicine four-week rotation will provide both classroom teaching, simulation, and hands-on clinical experience in emergency care of patients of all ages with a wide spectrum of illnesses and injuries. Students are expected to evaluate and manage assigned patients under the direct supervision of an EM attending physician. Students will also gain additional experience at physical diagnosis and procedural skills by working with patients being evaluated by other housestaff, as appropriate for teaching. Emphasis is placed upon initial assessment, recognition, prioritization, and stabilization of acute emergency conditions. Procedural skills are an important emphasized component, including wound repair, intravenous techniques, airway management, ACLS care, fracture and soft tissue injury management, incision and drainage procedures, etc. This rotation also includes a variety of generalist skills in handling minor acute conditions that will be encountered frequently in primary care practice. The student will participate in the provision of pre-hospital emergency care with a Fire Rescue EMS crew.

Components: LEC.

Grading: GRD.

MDR 813. Emergency Medicine Intensive Care Unit. 4 Credit Hours.

The emergency medicine / intensive care clerkship will give students exposure to the evaluation and treatment of critically ill patients. Students can choose to do either the entire time in the emergency rooms or divide the clerkship between emergency rooms and the intensive care rooms. Students will become competent in the rapid, systematic approach to assessment and diagnosis of a patient in the emergency room. They will be exposed to various procedures such as intubation, central lines, lavage, and phlebotomy. Students are evaluated on their knowledge of critical care, their interpersonal skills, and their professionalism.

Components: LEC.

Grading: GRD.

MDR 815. Externship not at University of Miami. 2-8 Credit Hours.

A maximum of 12 weeks may be spent in elective time away from UMMSM. Externship time in excess of the allowable 12 weeks will be counted for credit but will not count towards fulfillment of the required 14 weeks of Electives, unless a student obtains prior written approval from the Senior Associate Dean for Undergraduate Medical Education. In other words, at least two weeks of Electives must be taken at your home school. Externship experiences must be described in the course catalog of the host institution. No externships with physicians in private practice will be approved.

Components: MOD.

Grading: GRD.

MDR 816. Family Medicine in the Florida Keys. 2-4 Credit Hours.

Since late 1992, third year medical students have been given the opportunity to complete their Family Medicine rotation in the private office of physicians practicing in the Florida Keys. The popular rotation has prompted many students to request similar experience during the senior year.

Components: MOD.

Grading: GRD.

MDR 817. Family Medicine Preceptorship. 2 Credit Hours.

Students taking the Family Medicine Preceptorship will have the opportunity to experience the true essence and diversity of Family Practice in an ambulatory setting and develop knowledge of the specialty. *Students are expected to participate with their family physician preceptor in all health care related activities. These may include but are not limited to: management of hospitalized patients, nursing home visits, home visits and volunteer activities.

Components: MOD.

Grading: GRD.

MDR 818. Family Medicine Practice Based Research. 4 Credit Hours.**Components:** MOD.**Grading:** GRD.**MDR 819. Family Medicine Sub-I. 4 Credit Hours.**

The overall goal for the students taking Inpatient Family Medicine (Ward Family Medicine) is to afford them the opportunity to experience Family Medicine in an inpatient setting, and to develop some knowledge of the specialty.

Components: MOD.**Grading:** GRD.**MDR 820. Ambulatory Internal Medicine. 2-4 Credit Hours.**

The ambulatory block rotation serves to enhance the medical student's knowledge and skills in caring for the ambulatory medical patient. Students will primarily be seeing patients which are new to the outpatient clinic, addressing preventive screening as well as care of chronic conditions such as diabetes, hypertension, cardiomyopathy, and chronic obstructive pulmonary disease. In addition, they will be exposed to patients with the following characteristics: - Ambulatory patients with acute complaints - Gender-specific medical care - Patients recently discharged from the inpatient setting or from the emergency room - Patients being evaluated for surgery - Patients presenting for routine GYN care.

Components: MOD.**Grading:** GRD.**MDR 821. Arthritis. 2-4 Credit Hours.**

This elective will teach the student an approach to the diagnosis, management and therapy of common rheumatic disease including rheumatoid arthritis, gout and osteoarthritis. In addition, unusual diseases such as systemic sclerosis, polymyositis, and vasculitis are seen. Students will become proficient in the examination of joints and interpretation of joint fluid findings.

Components: MOD.**Grading:** GRD.**MDR 822. UMH Cardiovascular Intensive Care Unit. 4 Credit Hours.**

This elective is intended to provide the senior medical student with a variety of cardiac critical care experiences, including acute myocardial infarction, heart failure, valvular heart disease, and arrhythmias. The student will also be exposed to clinical research ranging from valvular heart disease to stem cell transplantation. Three-to-four cardiology conferences will be offered each week, supplementing the daily teaching rounds, which include didactic presentations. An opportunity for procedures experience, including central line placement, will also be available.

Components: MOD.**Grading:** GRD.**MDR 823. Cardiology Teaching Lab - Harvey (4 wks). 4 Credit Hours.**

This rotation consists of a comprehensive review of cardiology for the clinician. A clinician must be able to evaluate and treat cardiology patients, as they represent the largest subset of patients they see with significant disease. Each student is trained to develop the knowledge and skills needed to conduct a complete cardiovascular history and bedside examination. The rotation includes the integration of the Bedside Evaluation with the current indications for non-invasive and invasive diagnostic testing. The diagnosis and management of valvular heart disease, coronary heart disease, hypertensive heart disease, congestive failure, and congenital lesions are covered by didactic lectures, patient presentations (certain rotations), review of highly selected material during Self-Learning time, and by group and individual sessions with Harvey, the Cardiopulmonary Patient Simulator. The UMedic multimedia computer curriculum is incorporated into the elective to further interactive self-learning. Didactic ECG and Arrhythmia lectures are given daily. Each student will also read, interpret and review electrocardiograms and arrhythmias with clinical faculty. Students will use web-based programs, Essential ECG and Essential Arrhythmia, to facilitate their learning.

Components: MOD.**Grading:** GRD.**MDR 824. JMH Cardiology Consult. 2-4 Credit Hours.**

This rotation includes consultative diagnosis, electrocardiography, and intensive medical and surgical cardiac care at JMH. Students work up patients and discuss the history and physical findings with the cardiology fellows, participate in daily consultation rounds with the attending cardiologists, and are in the supervision of fellows and faculty. Students attend and participate in the cardiology conference; and for those interested, a period of observation in the Cardiac Catheterization Laboratory may be arranged.

Components: MOD.**Grading:** GRD.**MDR 825. Clinical Cardiology at Mount Sinai Medical Center. 4 Credit Hours.****Components:** MOD.**Grading:** GRD.**MDR 826. Endocrinology, Diabetes and Metabolism. 4 Credit Hours.**

This is a 4-week elective intended to expose the senior medical student to a spectrum of experiences in Endocrinology and Diabetes. The student will spend time at Jackson Memorial Hospital (JMH) and University of Miami Hospital (UMH) on the inpatient Diabetes and Endocrinology consult services, seeing patients in consultation and follow-up and discussing them with the fellows and attending on rounds. The student will attend the JMH and VA diabetes and endocrinology outpatient clinics. All students will meet with the clerkship director and are expected to attend all conferences.

Components: MOD.**Grading:** GRD.

MDR 827. Advanced Geriatrics. 2-4 Credit Hours.

This senior level elective in geriatric medicine allows students to gain additional experience evaluating older patients in a variety of care settings under the supervision of attendings physicians and fellows in geriatric medicine. It can also be designed to give students a clinical or research experience in a specialized area of geriatrics tailored to their interests. Students will be assigned to a primary clinical venue and will have opportunities to rotate through other care settings (inpatient consultation, outpatient, home-based and/or long term care).

Components: MOD.

Grading: GRD.

MDR 828. Community Preventive Medicine. 2-4 Credit Hours.

To provide students with practice-oriented and/or service-oriented learning opportunities related to community medicine. Students will learn about the types and functions of the formal and informal medical, public health, and social support programs involved in community health care. The course is designed to be individualized to students' specific population-medicine interests.

Components: MOD.

Grading: GRD.

MDR 829. JMH Coronary Care Unit. 2-4 Credit Hours.

This elective presents students with the opportunity to follow patients with life endangering cardiac problems from the moment of admission to the hospital to discharge from the Unit. Particular emphasis is placed on clinical aspects of diagnosis and management of these patients. Participation in the insertion of Swann-Ganz and pacemaker catheters shall be allowed for students who show exceptional interest. The rotation will, in addition, provide experience in computerized monitoring of arrhythmias, EKG and echocardiographic interpretations, and experience in interpreting cardiac catheterization data.

Components: MOD.

Grading: GRD.

MDR 830. Gastroenterology. 2-4 Credit Hours.

This is a 4-week elective intended to expose the senior medical student to a wide spectrum of experiences in gastroenterology. Each week or two (depending on the length of the elective), the student will rotate through a different hospital/clinic setting and see patients/procedures based on the emphasis at that location. The student will spend time at Jackson Memorial Hospital on the consult service, seeing patients in consultation and follow-up and discussing them with the fellows and attending on rounds. The student will also watch endoscopy and learn its indications and findings. At the University of Miami Hospital, students will be exposed to a more tertiary care setting, also rounding with the fellow and attending and watching procedures, some of which are more advanced and not done at Jackson. At the University of Miami Hospital and Clinics, the student will be given an outpatient experience, including subspecialty clinics in Inflammatory Bowel Disease and Motility while also watching advanced endoscopic procedures. The student will have the opportunity to go to clinic and watch procedures at the VA as well. The rotation director will try to meet with the students during the rotation, and they are expected to attend fellow conferences and the VA and JMH fellows' clinics.

Components: MOD.

Grading: GRD.

MDR 831. General Ambulatory Internal Medicine at Veteran's Adm. 2-4 Credit Hours.

Components: MOD.

Grading: GRD.

MDR 832. Advanced Geriatrics @ Miami Jewish Home. 2 Credit Hours.

The medical student will spend two weeks at the Miami Jewish Health Systems and assume responsibility for the care of older patients under the supervision of a faculty member and members of the interdisciplinary care team. The goal is to teach, model and assess the knowledge, skills, and attitudes needed by medical students to complete a comprehensive geriatrics assessment. Clinical activities will take place in multiple chronic care venues available at the Miami Jewish Health Systems, which include a nursing home, an assisted living facility, outpatient clinics, and an inpatient hospital.

Components: MOD.

Grading: GRD.

MDR 833. Hematology. 2-4 Credit Hours.

The objective of this clinical hematology program is to allow students to obtain experience in the diagnosis and management of hematological disease, in the performance of marrow aspiration and in the study of morphology of peripheral blood cells and bone marrow. Students are expected to participate in the workup of hematology consults, hematology conferences, rounds, and seminars. Direct contact during teaching rounds between the students and faculty provides ongoing evaluation of the progress and comprehension

Components: MOD.

Grading: GRD.

MDR 834. Hepatology. 2-4 Credit Hours.

The student will be exposed to a wide spectrum of liver and biliary disease. The pathogenesis and development of a practical clinical approach to the recognition and differential diagnosis of these disorders will be emphasized. The student may opt for a predominantly outpatient or inpatient exposure or a combination of both. In the outpatient rotation the student will be assigned to the clinic fellow and will attend daily outpatient clinic at UMHC with different faculty members. In the inpatient rotation the student will round with the inpatient fellow and attending on the patients admitted to the Hepatology service at UMH and inpatient Hepatology consults. In a 4-week rotation the student may opt to spend 2 weeks in the outpatient and 2 weeks in the inpatient setting or all 4 weeks in one of them. There are daily morning conferences at 8:00 a.m., weekly liver biopsy / tumor conferences and literature review sessions.

Components: MOD.

Grading: GRD.

MDR 835. Mt. Sinai Infectious Diseases. 4 Credit Hours.

The goal of the elective is to provide the opportunity to increase understanding of the broad range of Infectious Disease through the experience of serving as a consultant. Students work closely with the fellow and Attending in Infectious Disease at Mt. Sinai Medical Center. The student is expected to see patients as a consultant. Cases are presented to Attending physician and discussed in detail. There are special microbiology laboratory conferences and a weekly Infectious Disease clinical conference.

Components: MOD.

Grading: GRD.

MDR 836. Infectious Diseases. 2-4 Credit Hours.

This elective provides a learning experience in the clinical discipline of Infectious Diseases, a discipline that stresses accurate definition of disease and establishment of an etiologic diagnosis through clinical assessment and microbiologic testing. Treatment can be rationally selected when the etiologic diagnosis is correctly identified. Appropriate initiation and discontinuation of antimicrobials are key activities on the ID service. Performing these steps under guidance of a physician with ID specialty training provides the essence of this clinical experience. This elective provides a unique opportunity to see a broad range of infectious diseases.

Components: MOD.

Grading: GRD.

MDR 837. Hospital, Health Care Services, and Access: An Interdisciplinary Inquiry. 2 Credit Hours.

Hospitals are settings in which great numbers of people converge and interact in surprisingly many ways. This interdisciplinary course will offer graduate students across the University the opportunity to appreciate and examine closely the complexity of the hospital form and the necessarily multiple perspectives within which we view, think, and work in hospitals.

Components: MOD.

Grading: GRD.

MDR 838. Latin American Externship. 4 Credit Hours.

Electives in various Latin American countries can be arranged on an individual basis. Areas of special interest will vary but most deal with tropical hygiene and medicine in underdeveloped areas. This program is a reciprocal part of our Latin American Training Program and as such entails certain stipulations. • All students will be screened by the Office of Student Affairs and recommended in writing. • Students must speak Portuguese if they are planning to travel to Brazil. All other countries in Latin America require conversational Spanish skills. • Students will be responsible for their travel, room and board, and any other incidental expense. • A maximum of 10 students will be allowed to travel to Latin America. • Length of externship is 4-6 weeks. Students will receive credit for four weeks only.

Components: MOD.

Grading: GRD.

MDR 839. JMH Medical Intensive Care Unit. 2-4 Credit Hours.

The Medical Intensive Care Unit is an eighteen bed unit that provides care for critically ill medical patients. Students will gain an understanding of caring for patients with acute and chronic respiratory failure, various types of shock, cardiogenic pulmonary edema, the acute respiratory distress syndrome, malignant hypertension, acute myocardial infarction and various complications of multi-organ system failure. Emphasis will be placed on the indications for admission to and discharge from the MICU, invasive hemodynamic monitoring and mechanical ventilatory support. Education is provided during morning work rounds with the attending, core lectures on MICU related topics, biweekly critical care journal club and informal student and housestaff case presentations.

Components: MOD.

Grading: GRD.

MDR 840. MIA VAMC Medical Intensive Care Unit. 2-4 Credit Hours.

By spending time on Attending rounds in the morning and check-out rounds in the afternoon with the housestaff, students will increase their appreciation of the problems of providing care for patients with acute and chronic respiratory failure, the various types of shock, cardiogenic pulmonary edema, the adult respiratory distress syndrome, malignant hypertension, acute myocardial infarction and various complications of multi-organ system failure.

Components: MOD.

Grading: GRD.

MDR 842. Nephrology. 4 Credit Hours.

The clinical and teaching activities focus on the provision of consultative and direct medical care for patients with renal disease, hypertension, disorders of water, electrolyte and acid-base balance, and related metabolic and immunologic disease. Contemporary technologies used in diagnosis and treatment include renal biopsy, acute and chronic hemo- and peritoneal-dialysis, renal transplantation, plasmapheresis, evaluation of nuclear flow studies, and interventional nephrology.

Components: MOD.

Grading: GRD.

MDR 843. Pulmonary. 4 Credit Hours.

This 4-week elective is intended to expose the senior medical student to a spectrum of experiences in pulmonary disease. The student will be assigned to the pulmonary consultation services at either Jackson Memorial Hospital or University of Miami Hospital.

Components: MOD.

Grading: GRD.

MDR 844. Teaching Elective 4th Year. 4 Credit Hours.

Components: MOD.

Grading: GRD.

MDR 845. HIV Primary Care Clinic. 2-4 Credit Hours.

Students, under the supervision of an HIV / Infectious Disease Attending, will act as Internist developing their skills of diagnosis and management of patients with human immunodeficiency virus (HIV) infection at the dedicated outpatient ambulatory facility. The spectrum of patients includes those with predominantly advanced HIV disease and complications to evaluation and screening of patients with mildly symptomatic or asymptomatic HIV disease. Special emphasis is placed on Infectious Disease, Primary Care, and General Internal Medicine. In addition, particular needs in the areas of psychiatry, Dermatology and Ophthalmology related to the general internist will be covered.

Components: MOD.

Grading: GRD.

MDR 846. Student Health Clinic. 2 Credit Hours.

The Student Health Service provides primary care services to UM undergraduate and graduate students. Students are seen for acute illnesses and injuries, and are followed for chronic medical problems. Specialty care services include orthopaedics, women's health, and allergy clinics. Routine lab tests and X-rays are performed on site.

Components: MOD.

Grading: GRD.

MDR 847. JMH Medicine Sub-I. 4 Credit Hours.

Two senior students will be paired, and together, will carry out all the duties and responsibilities of an intern, commensurate with their capabilities. The pair will function as an "acting intern" and will have an increased level of responsibility for direct patient care. There will be an opportunity to improve clinical and didactic skills in the diagnosis and treatment of a wide spectrum of medical disorders. They will be directly supervised by their second or third year medical resident and Attending Physician. Students will be assigned to Jackson Memorial Hospital (JMH) medical teams – General Medicine, Special Immunology/Infectious Diseases, Cardiology, Hematology/Oncology, or Transplant Nephrology. Every effort will be made to pair students with their requested fellow student as well as with residents and attendings who have demonstrated excellence in student teaching and a high level of interest in education. Assignment will be made by the Chief Medical Residents with input from the clerkship director. While students may indicate a preference, the final decision will be up to the course director.

Components: MOD.

Grading: GRD.

MDR 848. Brain Injury Neurorehab. 2-4 Credit Hours.

During the elective, the medical student will spend time on the Ryder Trauma 4th floor Neurorehab service, shadowing the Rehab attending on daily rounds. There is an opportunity to get involved in clinical research activities that are ongoing in the division. Students will also have the opportunity to become familiar with Botulinum toxin injections and Baclofen pumps.

Components: MOD.

Grading: GRD.

MDR 849. Neurology Consultation. 2-4 Credit Hours.

On this service, students who have completed the neurology clerkship are provided the opportunity to evaluate off-service neurology problems with the neurology consulting resident and attending assigned to that service.

Components: MOD.

Grading: GRD.

MDR 850. Advanced Neurology. 2-4 Credit Hours.

Third- or fourth-year students who have completed the clinical clerkship in neurology may perform an elective on the General Neurology service at Jackson Memorial Hospital or the Veterans Administration Medical Center with an array of university-run or private physician clinic choices to complement this experience. Clinic choices include Epilepsy, Veterans Administration Neurology, Neuro-ophthalmology, Neuromuscular, Stroke, Pediatric Neurology, Multiple Sclerosis, Movement Disorders, Neuro-Oncology, Sleep and Headache. Experience in EMG and Neuropathology can be arranged based on director approval and availability.

Components: MOD.

Grading: GRD.

MDR 851. Stroke Neurology. 2-4 Credit Hours.

Third- or fourth-year medical students who have completed the clinical clerkship in Neurology may perform a 2- or 4-week rotation on the stroke neurology service at Jackson Memorial Hospital under the supervision of a stroke neurology attending.

Components: MOD.

Grading: GRD.

MDR 852. Neurosurgery Sub-I. 4 Credit Hours.

The neurosurgery service covers virtually the entire gamut of modern neurosurgical practice. The clinical service is divided into teams that focus primarily on specific subspecialty areas. The spine team cares for patients with tumors, trauma, degenerative disease, and other disorders. The general cranial team deals with cerebrovascular disease, tumors, epilepsy, movement disorders, and other pathology. A separate team cares for patients with head injuries. The pediatric division cares for patients at both Jackson Memorial Hospital and Miami Children's Hospital. A separate team cares for a busy neurosurgical service at University of Miami Hospital that includes both cranial and spinal patients. The JMH Neuroscience Intensive Care Unit is one of the largest such facilities in the world and is an important center of the department's clinical activities.

Components: MOD.

Grading: GRD.

MDR 853. UMH Cardiac Catheterization. 2 Credit Hours.

This is a 2-week elective intended to expose the senior medical student to the vast array of procedures performed in interventional cardiology. During the rotation, the student will have the opportunity to interact with multiple specialists who have expertise in various areas of interventional cardiology and attend cardiology conferences. The student will spend time at the Catheterization Laboratory of University of Miami Hospital (UMH), and be actively involved in the care of patients undergoing procedures. The student will discuss all cases with cardiology fellows and attending physicians and scrub in 3 or more diagnostic and interventional catheterization procedures daily. The student will attend cardiology conferences and a weekly half-day clinic where he/she will either see patients referred for catheterization procedures or follow up patients who had recently undergone a procedure. Learning during the rotation will be case-based. The student will meet at least once weekly with the clerkship director, or a designated faculty member. During these meetings, the student will present the case log and discuss one of the two required case work-ups as detailed below.

Components: MOD.

Grading: GRD.

MDR 854. MIA VAMC Military Related Mental Health and General Psychiatry. 2-4 Credit Hours.

The medical student will be involved in the care of patients with a wide spectrum of psychiatric conditions but specific emphasis will be placed on those disorders that are related to military life and exposure to combat. The student will rotate through different clinics at the Miami VA. This rotation will give the medical student the opportunity to work with patients in different settings, such as Outpatient psychiatry, Consultation Liaison Psychiatry, and Primary Care

Components: MOD.

Grading: GRD.

MDR 855. Gynecologic Oncology. 4 Credit Hours.

Components: MOD.

Grading: GRD.

MDR 856. Gynecologic Oncology Sub-I. 4 Credit Hours.

The objective is for the student to gain experience in the diagnostic and therapeutic approaches for various gynecologic cancers through participating in direct patient care and Resident/Fellow didactic activities. Students will enhance interpersonal skills and professional conduct in the female patient encounter setting. After completing the rotation, students should feel comfortable with both pre and postoperative management of women having common gynecologic procedures, and have an understanding of the management of women with gynecologic malignancies.

Components: MOD.

Grading: GRD.

MDR 857. Maternal Fetal Medicine Sub-I. 4 Credit Hours.

The objective is for the student to gain experience in the diagnostic and therapeutic approaches for various obstetrical scenarios through participating in direct patient care. Students will enhance interpersonal skills and professional conduct in the female pregnant patient encounter setting. After completing the rotation, students should feel comfortable with the management of an uncomplicated vaginal delivery and also gain insight into the management of the complicated obstetrical patient.

Components: MOD.

Grading: GRD.

MDR 858. Reproductive Health. 2-4 Credit Hours.

The objectives are for the student to improve knowledge and skills in managing contraceptive cases that are routine and also highly complex and to learn about pregnancy options including surgical and medical abortion techniques. The student should become proficient in recognizing and managing the complications arising from contraception and abortion. Participation in the 4 week course will allow the introduction of other material including sexual assault, addiction and other issues of reproductive health.

Components: MOD.

Grading: GRD.

MDR 859. Oncology. 4 Credit Hours.

The Division of Hematology/Oncology is responsible for the diagnosis and treatment of benign hematology and neoplastic diseases at the three teaching hospitals: Jackson Memorial (JMH), University of Miami Hospitals and Clinics (UMHC), and University of Miami (UMH). The Department provides consultative services at the UMH, inpatient services and outpatient clinics at UMHC and both consultative and inpatient ward services at JMH. Only private outpatients are seen at UMHC.

Components: MOD.

Grading: GRD.

MDR 860. Ophthalmology. 2-4 Credit Hours.

The two week clinical elective in ophthalmology is geared toward medical students with an interest in obtaining a basic understanding of fundamental ophthalmology. Aspects of ophthalmology that are pertinent to the practice of internal medicine, neurology, pediatrics, family practice and other primary care specialties will also be taught. Students will rotate through the emergency room, operating room, and various subspecialty clinics at the Bascom Palmer Eye Institute where they will shadow attendings and housestaff. A comprehensive didactic course will be conducted concurrently during this two week block which includes interactive case based presentations. A final examination will be administered at the conclusion of the course. Students are also welcome to attend weekly grand rounds and fluorescein conferences as well as daily resident lectures during the rotation. An additional two weeks is offered for students considering ophthalmology as a career. All students wishing to be part of the four week course must have approval of the course coordinator. These additional two weeks may be arranged independently with a faculty ophthalmologist.

Components: MOD.

Grading: GRD.

MDR 861. MIA VAMC Ophthalmology. 2-4 Credit Hours.

To provide medical students the opportunity to shadow residents and attendings in the clinic and emergency room setting, and thereby become familiar with instrumentation utilized in standard eye examinations. To provide medical students the opportunity to watch ophthalmic surgery (cataract surgery, glaucoma surgery, retinal surgery) to provide initial exposure to microsurgical techniques.

Components: MOD.

Grading: GRD.

MDR 862. Orthopedic Trauma Elective. 2 Credit Hours.

The student will participate in the management of traumatic injuries of the musculoskeletal system, excluding hand, and spine. The participation will be directed to acquiring an adequate history and physical examination and management of trauma through conservative and surgical approaches. The student will be asked to assist in the operating room to learn surgical skills, how to set up traction and to do closed reductions with cast applications.

Components: MOD.

Grading: GRD.

MDR 863. Orthopedic Trauma Sub-I. 4 Credit Hours.

The student will participate in the management of traumatic injuries of the musculoskeletal system, excluding hand, and spine. The participation will be directed to acquiring an adequate history and physical examination and management of trauma through conservative and surgical approaches. The student will be asked to assist in the operating room to learn surgical skills, how to set up traction and to do closed reductions with cast applications.

Components: MOD.

Grading: GRD.

MDR 864. Sports Medicine Elective. 2 Credit Hours.

This rotation offers the student exposure to sports-related injuries of the musculoskeletal system. Multiple arthroscopic procedures of the shoulder, knee, elbow, and ankle are performed on the service. There will also be exposure to the management of acute concussion. The student will be exposed to a wide variety of these procedures as well their clinical presentation and postoperative management. The student will be expected to become an active participant on the team. Opportunities for research are available if a particular student is interested.

Components: MOD.

Grading: GRD.

MDR 865. Children's Orthopaedics and Rehabilitation. 2 Credit Hours.

Components: MOD.

Grading: GRD.

MDR 866. Hand Surgery. 2 Credit Hours.

The student will be provided with the opportunity to become familiar with acute injuries, chronic conditions and congenital deformities of the hand. They will learn to take a history and do a physical examination of the hand, as well as assist in the conservative and surgical management of hand problems. The student will be expected to attend rounds, clinics, surgery and conferences, both hand and general orthopedic conferences. All Students will be required to take Ortho E.R. call with the PGY2 on the hand service.

Components: MOD.

Grading: GRD.

MDR 867. Musculoskeletal Oncology. 2 Credit Hours.

Students on the orthopedic oncology service are expected to become familiar with the principles of staging and diagnosing tumors of bone and soft tissue. The student will evaluate patients in the outpatient and inpatient setting and be responsible for the management of these patients pre- and post-operatively with close resident and attending supervision. The student will develop history and physical examination skills, as they pertain to oncologic patients, as well as actively participate in their non-operative and operative management. The student will participate in the regular educational conferences including a bi-weekly didactic orthopaedic oncology case-based conference, a weekly multidisciplinary oncology conference, and a weekly pre-operative planning conference. There are a number of potential research projects, both clinical and laboratory, that are available to interested investigators. Dr. Conway is the Program Director and member of the Orthopedic Residency Selection Committee.

Components: MOD.

Grading: GRD.

MDR 868. Multidisciplinary Hematology and Oncology at Deerfield Beach. 4 Credit Hours.

This elective will focus on a multidisciplinary approach to the diagnosis and treatment of solid and blood cancers, as well as benign hematologic diseases. It will take place in the outpatient hematology oncology clinic at the Sylvester Cancer Center at Deerfield Beach.

Components: MOD.

Grading: GRD.

MDR 870. Orthopedic Spine. 2 Credit Hours.

This rotation provides exposure to traumatic and degenerative affections of the spine. Students will participate in all rounds, clinics, and conferences. Students will be exposed to and participate in the care of patients with traumatic and degenerative disorders of the spine.

Components: MOD.

Grading: GRD.

MDR 871. Otolaryngology. 4 Credit Hours.

Otolaryngology is the surgical sub-specialty of hearing, balance, skull base and cochlear implant surgery, and facial nerve dysfunction. During this rotation, the senior clerk will have the opportunity to participate in the clinical evaluation, auditory and vestibular testing, medical and surgical treatment of disorders of the ear and facial nerve. The rotation will be split into three portions: clinic, operating room, and didactic sessions. Hands on anatomical dissection of the temporal bone and preparation of a clinical Grand Rounds presentation are included.

Components: MOD.

Grading: GRD.

MDR 872. Inpatient and Outpatient Otolaryngology. 2 Credit Hours.

Components: MOD.

Grading: GRD.

MDR 873. Otolaryngology Elective. 2 Credit Hours.

This rotation gives an overview of the scope of activities covered by Otolaryngology. Students are expected to get exposed to both clinical and surgical aspects of Otolaryngology and explore the variety of different subspecialties within this field. Students are encouraged to start if possible with this course before taking MDR875.

Components: MOD.

Grading: GRD.

MDR 874. Outpatient Clinical Otolaryngology. 2-4 Credit Hours.

Components: MOD.

Grading: GRD.

MDR 875. Otolaryngology Sub-I. 4 Credit Hours.

This rotation is a clinical and surgical Otolaryngology clerkship. Students are expected to get involved in both clinical and surgical aspects of Otolaryngology. Students are encouraged to start if possible with MDR873 before taking this course.

Components: MOD.

Grading: GRD.

MDR 876. Subinternship in Otolaryngology. 4 Credit Hours.

This rotation is a clinical and surgical Otolaryngology clerkship. Students are expected to get involved in both clinical and surgical aspects of Otolaryngology. Students are encouraged to start if possible with MDR873 before taking this course.

Components: MOD.

Grading: GRD.

MDR 877. Forensic Pathology. 2-4 Credit Hours.**Components:** MOD.**Grading:** GRD.**MDR 878. Mt. Sinai Pathology. 2-4 Credit Hours.**

The Department of Pathology at Mount Sinai Medical Center offers an elective in either clinical or anatomic pathology. The program will be tailored to the particular interest and level of training of the individual. The student will be supervised by staff pathologists working with the resident staff and participate in inter- and intradepartmental conferences.

Components: MOD.**Grading:** GRD.**MDR 879. Pathology. 2-4 Credit Hours.**

This elective is geared towards students who wish to explore Pathology as a career option or who seek to better understand and utilize clinical and anatomic pathology services in their clinical practice. Students select week long rotations from a list and attend all Pathology Teaching Conferences and Grand Rounds. Anatomic Pathology rotations are at JMH or UMH and Clinical Pathology rotations are at JMH. This elective may be taken as a two or four week rotation.

Components: MOD.**Grading:** GRD.**MDR 880. Adolescent Medicine. 2-4 Credit Hours.**

The goals of this elective clinical rotation are to broaden the student's general knowledge of Adolescent Medicine, with emphasis on learning diagnosis and treatment of the unique physical, developmental, and psychosocial problems of patients ages 10 – 25 years. The student will participate in the multidisciplinary team approach to adolescent health care; gain experience in communicating and interacting with a wide variety of inpatient and outpatient adolescents, and attend all aspects of the Adolescent Medicine teaching program.

Components: MOD.**Grading:** GRD.**MDR 881. Child Protection Team. 2-4 Credit Hours.**

The Child Protection Team elective is designed to familiarize the students to all aspects of child abuse. The students will learn to assess and document physical abuse and neglect, attend court hearings and participate in case staffing. This elective is geared to meet the needs of all medical students (independent of their career goals) and introduce them to the community resources available for children and their families.

Components: MOD.**Grading:** GRD.**MDR 882. Fetal Cardiology. 2 Credit Hours.****Components:** MOD.**Grading:** GRD.**MDR 883. Neonatology. 2-4 Credit Hours.**

This rotation in Neonatology can be taken as a 2 or 4 week elective. The student will be part of the team headed by an attending, and will follow and manage one or two patients together with one of the residents on the team. Teaching rounds will be conducted 5 times a week, work rounds 7 days a week. During the first 2 weeks of the rotation the student will refresh and refine his/her physical examination skills. He/she will become familiar with the nutritional needs of neonates and infants and with how these needs can be met by feedings and parental alimentation. How to prevent and correct imbalances in body water and electrolytes will be stressed. Problems with anemia, hyperbilirubinemia, infection (congenital or acquired after birth), hypoglycemia and hypocalcemia and their management will be explained. During the second two weeks of the rotation the focus of training will change to infants with respiratory and cardiovascular failure. The student will become familiar with the different causes of respiratory failure, how to judge the severity of respiratory failure by interpreting arterial blood gases and acid base status, and how to support the infants with supplement O₂ or mechanical ventilation. Furthermore, the students will be exposed to signs and symptoms of cardiovascular failure, impaired regulation of breathing, and the consequences of hypoxic ischemic brain injury.

Components: MOD.**Grading:** GRD.**MDR 885. Pediatric Cardiology. 2 Credit Hours.**

The student is exposed to the physiology, clinical and laboratory diagnosis, and management of the infant and child with congenital and acquired heart disease. Fundamentals of electrophysiology and pulmonary physiology, as it relates to heart disease, will be discussed in scheduled tutored sessions. Physical diagnosis is emphasized during participation in the out-patient clinics at the University of Miami and Jackson Memorial Hospital. Cardiology ward rounds are conducted daily providing the opportunity to follow hospitalized patients from clinical diagnosis to cardiac catheterization to cardiac surgery. Interpretation of pediatric electrocardiograms and cardiac echocardiograms are included in the individual patient's evaluation.

Components: MOD.**Grading:** GRD.

MDR 886. Pediatric Dermatology. 2-4 Credit Hours.

The understanding of mechanisms of pathophysiology and effective therapy in pediatric dermatological diseases is stressed in this elective. The students will participate in management of in-patient and out-patient dermatological and connective tissue problems. Diagnostic techniques by light microscopy and immunologic techniques and standard dermatologic laboratory techniques will be emphasized.

Components: MOD.

Grading: GRD.

MDR 887. Pediatric Emergency Medicine. 2-4 Credit Hours.

The student will be the primary physician for pediatric patients presenting with acute problems in the emergency facility of Jackson Memorial Hospital. The student will evaluate and treat patients with an extensive variety of acute illnesses under supervision of pediatric faculty and house staff.

Components: MOD.

Grading: GRD.

MDR 888. Pediatric Endocrinology. 4 Credit Hours.

The student will be the primary physician for pediatric patients presenting with acute problems in the emergency facility of Jackson Memorial Hospital. The student will evaluate and treat patients with an extensive variety of acute illnesses under supervision of pediatric faculty and house staff.

Components: MOD.

Grading: GRD.

MDR 889. Pediatric Gastroenterology, Hepatology, and Nutrition. 2-4 Credit Hours.

The student will be able to participate in the care for inpatients and outpatients; to participate in daily rounds on inpatients as well as consults with the attending physician, fellow and pediatric resident team. Opportunities to conduct patient interviews and examinations as well as to observe/participate in GI procedures will be an integral part of the elective. The student will review indications/risks for particular procedures and surgeries as they relate to pediatric gastroenterology. Students will also participate in weekly outpatient clinics. Students will also learn care of gastrostomy tubes. The 4 week rotation will consist of 2 weeks inpatient and 2 weeks outpatient. For the 2 week rotation, the student will choose either the inpatient or outpatient component of the rotation.

Components: MOD.

Grading: GRD.

MDR 890. Genetics and Metabolic Diseases. 2-4 Credit Hours.

This elective exposes students to diagnosis and management of a variety of genetic syndromes, inheritable metabolic diseases, hereditary cancer syndromes, and other heritable disorders. During this elective, patients with genetic syndromes, chromosomal disorders, metabolic disease, and other Mendelian disorders are seen in the Mailman Center Metabolic and Genetics clinic, the Jackson Pediatric Genetics clinic, Specialty Genetics Clinics at UM, and the Jackson Memorial Hospital wards. The specialty clinics include Neurogenetics clinic, Cleft lip and palate clinic, Cancer Genetics clinic, Muscular Dystrophy clinic, Fragile X clinic, Hearing loss clinic, and Prenatal Genetics clinic.

Components: MOD.

Grading: GRD.

MDR 891. Pediatric Infectious Diseases and Immunology. 4 Credit Hours.

The 4-week rotation in Pediatric Immunology and Infectious Disease is designed to give the student a broad experience in the immunological and infectious disease problems of children. The student will participate in both the inpatient and outpatient care of children with such problems by rounding daily with the attending fellow and the clinical pediatric infectious disease faculty. The student will also have the opportunity to assist in the care of children with HIV-1 infection as well as other immunodeficiency diseases.

Components: MOD.

Grading: GRD.

MDR 892. Pediatric Intensive Care Unit Sub-I. 4 Credit Hours.

The primary objective of this rotation is to promote the development and mastery of clinical critical care pediatric competencies. The environment of the PICU affords the student a broad exposure to clinically relevant physiological and pathophysiological principles and multisystem disease (Competencies: Patient Care, Medical Knowledge). The practice of evidence based medicine is promoted by encouraging students to conduct literature search for current guide lines (Practice-based Learning and improvement), with an emphasis on the basic principles of recognition and management of respiratory failure and shock in the pediatric population (infance to 21 years).

Components: MOD.

Grading: GRD.

MDR 893. Pediatric Mobile Clinic. 4 Credit Hours.

Components: MOD.

Grading: GRD.

MDR 894. Pediatric Nephrology. 4 Credit Hours.

This elective consists of exposure to in-patient and outpatient pediatric renal problems, participation in clinical and experimental discussion with House staff and Fellows, and observation of renal physiology experiments. Students will be able to describe diagnostic approaches to pediatric renal problems by radiological, histological, electromicroscopic, and immunological techniques. Current clinical studies include: immunological, metabolic, and physiologic changes in nephrotic syndrome poorly controlled or uncontrolled with steroids; recurrent hematuria; renal function of newborn and infant; calcium, phosphorus, vitamin D, and PTH metabolism in uremia. Chronic Renal Failure; growth; lipids; HIV nephropathy; effect of maternal cocaine on the fetal kidney, low birth weight Nephropathy, dialysis cardiomyopathy; and drug use in hypertension.

Components: MOD.

Grading: GRD.

MDR 895. Pediatric Pulmonary. 2-4 Credit Hours.

The objective of this rotation is to provide the students with the clinical exposure to acute and chronic, acquired and congenital, respiratory diseases from infancy to adolescence in both in-patient and out-patient venues. These conditions include but are not limited to asthma, chronic cough, chronic lung disease of infancy, cystic fibrosis, congenital lung abnormalities, recurrent and complicated pneumonia. The student will participate in the in-patient rounds or activities, ambulatory clinics and didactic conferences.

Components: MOD.

Grading: GRD.

MDR 896. Poison Center Toxicology. 2-4 Credit Hours.

The senior student will be given the opportunity to assist the Poison Information Specialists and Toxicologists at the Florida Poison Information Center with the diagnosis, triage, treatment and follow-up of patients exposed to toxins. The high volume of cases (over 170 patients per day) will allow the student to learn about a wide variety of toxins in both pediatric and adult patients. The clinical experience at the Poison Center will be supplemented with didactic lectures and bedside consultations for both adult and pediatric patients hospitalized at Jackson Memorial Hospital.

Components: MOD.

Grading: GRD.

MDR 897. Pediatrics Sub-I. 4 Credit Hours.

The large pediatric inpatient service offers a unique opportunity to the student to improve the clinical and didactic skills in the diagnosis and management of all the common and most of the uncommon disorders in children. The senior student will be placed in the regular first year resident rotation functioning as part of the ward team under direct supervision of pediatric residents and the attending physicians. There might be two (2) attendings on the team, one full time faculty member in general pediatrics and the other a pediatric specialist or a practicing community pediatrician.

Components: MOD.

Grading: GRD.

MDR 898. Ophthalmology @ Palm Beach Gardens. 2-4 Credit Hours.

The primary goal of this elective is to familiarize the student with general concepts of Ophthalmology, and how to conduct a basic eye examination. Aspects of Ophthalmology that are pertinent to the practice of Internal Medicine, Neurology, Family Practice, and other primary care specialties will also be taught. Emphasis is placed on the ocular exam and findings related to common eye pathology such as cataracts, glaucoma, macular degeneration, diabetic retinopathy, and conjunctivitis. Some exposure to more unusual cases to ophthalmology as a subspecialty will be obtained in clinics. Didactic sessions with attending faculty, patient care with fellows in the clinics and coordinated self teaching make up the majority of the elective. Students will also have the ability to go to the OR to observe ophthalmic surgery. Opportunity to assist faculty in write-up of case reports will also be available for the students considering ophthalmology as a career goal.

Components: MOD.

Grading: GRD.

MDR 899. Pharmacology Research Opportunities. 2-4 Credit Hours.

Components: MOD.

Grading: GRD.

MDR 900. Physical Medicine and Rehabilitation. 2-4 Credit Hours.

This elective is intended for medical students who have completed the neurology core clerkship rotation. During the elective, the medical student will spend time on the Ryder Trauma 4th floor Neurorehab service, shadowing the Rehab attending on daily rounds. Students will also have the opportunity to become familiar with Botulinum toxin injections and participate of Brain Injury Medicine Clinic on the 2nd and 4th Thursday of the month. There is an opportunity to get involved in clinical research activities that are ongoing in the division.

Components: MOD.

Grading: GRD.

MDR 901. Child and Adolescent Psychiatry. 2-4 Credit Hours.

Various clinical services are utilized for undergraduate and post-graduate training in Child & Adolescent Psychiatry: the Children's Inpatient Unit and the Child and Adolescent Outpatient Clinic. Students may be assigned to one or a combination of these services where they will have a supervised experience.

Components: MOD.

Grading: GRD.

MDR 902. Consultation-Liaison Psychiatry. 2-4 Credit Hours.

This service is responsible for consultations to non-psychiatric inpatients and for various liaison activities with other services and units of the general hospital. Students under supervision will respond to consultation requests in evaluating the patient and making recommendations to the referring physician. They will join faculty members in their liaison work and attend regularly scheduled seminars and consultation reviews.

Components: MOD.

Grading: GRD.

MDR 903. Geriatric Psychiatry. 2-4 Credit Hours.

The Department of Psychiatry offers an elective in Geriatric Psychiatry. The elective can be tailored to the student's special needs. Clinical experiences focus on diseases that are more prevalent in the geriatric population such as delirium and dementia.

Components: MOD.

Grading: GRD.

MDR 904. JMH Inpatient Psychiatry. 2-4 Credit Hours.

This elective allows students to diagnose and manage a variety of psychiatric disorders. This includes patients with mood disorders, psychotic disorders and other conditions that require psychiatric hospitalization. Under the supervision of attending physicians students will manage patients with a variety of therapeutic techniques available for their treatment. We have several units available for this elective: 2 Inpatient units for acutely ill adult psychiatric patients - JMH, 1 dual diagnosis unit (treatment of acute substance abuse, detox and psychiatric disorders) – JMH, 1 inpatient unit for Mood Disorders - UMH.

Components: MOD.

Grading: GRD.

MDR 905. Psychiatry Emergency Service. 2 Credit Hours.

This course provides students with the opportunity to be involved in the diagnosis and therapy of selected patients presenting to the Psychiatric Emergency Room. The student will be assigned to the Psychiatric Emergency Room. The student will then be able to observe a wide range of acute psychiatric emergencies and learn to handle these in an appropriate manner. The student will begin to develop concepts of psychiatric diagnosis, nomenclature and treatment applicable to the acute situation. Also, under supervision, the student will see acute psychiatric consultations as requested. Students should consider this elective interested in a career in Emergency Room Medicine or Family Medicine besides those students interested in Psychiatry.

Components: MOD.

Grading: GRD.

MDR 906. Ambulatory Psychiatry. 2 Credit Hours.

This course provides students with the opportunity to be involved in the diagnosis and therapy of selected patients presenting to the outpatient clinics at the Mental Health Center. Individual supervision will be aimed at exposing the student to the range of psychiatric disorders that can be managed in an outpatient basis such as anxiety disorders, depression, etc. The students will be exposed to different therapeutic modalities used to treat these problems including psychopharmacologic treatments, cognitive behavioral therapy, and group therapy.

Components: MOD.

Grading: GRD.

MDR 907. Research Experience. 0 Credit Hours.

Components: MOD.

Grading: NON.

MDR 908. Mt. Sinai Diagnostic Radiology. 2-4 Credit Hours.

The courses consist of daily required didactic conferences and practical film interpretation sessions covering all areas of Radiology. The student will participate in divisional activities including diagnostic and therapeutic nuclear medicine and non-invasive cardiovascular laboratory, under the direct Preceptorship of attending physicians.

Components: MOD.

Grading: GRD.

MDR 909. Radiology Clerkship. 4 Credit Hours.

Radiology I is a required 4 week clerkship available to third and fourth year medical students, and must be successfully completed prior to graduation. It is a structured four week course at Jackson Memorial Medical Center. The aim of the program is to teach the student an approach to diagnostic imaging and how to effectively use our varied radiographic techniques and imaging modalities to diagnose disease. The course consists of daily required didactic conferences and practical film interpretation sessions covering all areas of Radiology. Attendance will be recorded at the end of these sessions. The students will take a pre-course exam on day one of the rotations and will be required to present a case with a proven Radiologic diagnosis half way through the clerkship, and take a final exam at the end of the course. The goal is to achieve a basic knowledge of plain film interpretation as screening tools enabling the medical student to identify emergent and life threatening situations as well as giving the student a basic understanding of the indications and protocols for the more specialized imaging modalities such as sonography, computerized tomography, magnetic resonance imaging, and nuclear medicine.

Components: LEC.

Grading: GRD.

MDR 910. Advanced Radiology. 2 Credit Hours.

Radiology II at Jackson Memorial Medical Center consists of a more extensive exposure to one or two subspecialty areas in clinical Diagnostic Radiology. The student may select to spend one or two weeks in any subspecialty area to gain more in-depth knowledge of that subspecialty. The experience will vary somewhat depending on the area of Diagnostic Radiology which the student selects. They are welcome, but not required, to attend scheduled student lectures. They are encouraged to attend the daily 12:30 p.m. Departmental conference. They are required to attend all subspecialty conferences of the sections they are rotating through.

Components: MOD.

Grading: GRD.

MDR 911. Nuclear Medicine. 2 Credit Hours.

The Nuclear Medicine elective allows the student to interact with the clinical and research activities of Nuclear Medicine as it relates to diagnostic imaging and therapy with this modality. Students are trained under the direct supervision of our faculty members with guidance from our residents. Learning Techniques include: daily work, teaching file and conference attendance. Reading sessions start at 8 a.m. daily. While patients are injected for studies during the morning, the students observe the technical aspect of this procedure prior to interpreting the studies with residents and attendings. An example of such studies is the myocardial perfusion studies - patients are injected early in the morning, residents and students monitor the stress and rest imaging acquisitions. They also interpret the EKGs prior to evaluating the processed images in the reading room. Students will also observe many other nuclear medicine procedures, such as cisternograms, renal scintigraphy, thyroid scintigraphy and PET scans.

Components: MOD.

Grading: GRD.

MDR 913. HCH Cardiology. 2-4 Credit Hours.

This rotation includes consultative diagnosis, electrocardiography, and intensive medical and surgical cardiac care at Holy Cross Hospital and Clinics. Under the direct supervision of the attending cardiologist, students will have the opportunity to evaluate patients presenting with a full spectrum of cardiac complaints. The student will participate in consultation rounds with the attending cardiologists, in both the inpatient and outpatient settings, participate in the evaluation of noninvasive testing, and observe cardiac catheterization and cardiac surgery of their patients.

Components: MOD.

Grading: GRD.

MDR 914. Pediatric Radiology. 2 Credit Hours.

This course is designed for students interested in Pediatrics and consists of intensive exposure to Pediatric Radiology under the direct preceptorship of two-three staff pediatric radiologists. The student will attend the daily neonatal, in-patient and out-patient film reading sessions, observe the performance of fluoroscopy, attend Pediatric Cardiology and Pediatric Tumor Board conferences. There will also be some exposure to cross-sectional imaging including pediatric abdominal, pelvic and head ultrasound, as well as ultrasound of the neonatal hip and any other educational conference that may be assigned during the rotation.

Components: MOD.

Grading: GRD.

MDR 915. Radiation Oncology. 4 Credit Hours.

The objective of the elective on Radiation Oncology is to familiarize the student with the treatment of neoplastic disease in general, and specifically with the role of ionizing radiation in treating cancer and related disorders. The course is tailored to the needs of individual students, with an emphasis on providing a general introduction to Radiation Oncology for students either interested in other medical fields, other oncologic specialties, or considering Radiation Oncology as a field specialization.

Components: MOD.

Grading: GRD.

MDR 916. Research. 8.00 Credit Hours.

Guidelines for obtaining academic credit for research are found on the subsequent pages. This information is also available on the MedEd website under Important Documents for students. MDR 916 "Research" – Used to designate credits student has been awarded. Seniors are required to always have on their scheduled an appropriate number of credits required for graduation. Since Research Credits are frequently granted late in the Senior year, students must schedule Electives late in the year that they may drop if and when Research credit is granted.

Components: MOD.

Grading: GRD.

MDR 917. Burn Unit Sub-I. 4 Credit Hours.

The Burn Service admits over 150 major injuries and 300 total patients per year. Concentration is on acute care but reconstruction is also done. Principles of critical care, infection control, nutritional support, wound care and rehabilitation are stressed. Opportunities for clinical research exist.

Components: MOD.

Grading: GRD.

MDR 918. Burn Unit Elective. 2 Credit Hours.

Components: LEC.

Grading: GRD.

MDR 919. Cardiothoracic Surgery Sub-I. 4 Credit Hours.

This rotation will give the 4th year student a unique opportunity to see complex surgical procedures while learning how to care for critically ill patients. The attending and resident staff will supervise the care of patients undergoing operations for coronary artery disease, congenital and acquired valvular heart disease, complex congenital heart defects, a variety of lung and esophageal diseases, trauma to the chest, and heart and lung transplants. Patients will range from premature infants to elderly adults at JMH and VA Hospitals.

Components: MOD.

Grading: GRD.

MDR 920. General Surgery EI Sub-I. 4 Credit Hours.

This 4-week rotation will expose the 4th year student to a wide array of cancer problems and teach an integrated interdisciplinary approach to their management. Esophageal, hepatic, breast, and gastric carcinomas will be seen and treated in addition to melanomas and soft tissue sarcomas.

Components: MOD.

Grading: GRD.

MDR 921. General Surgery EII Sub-I. 4 Credit Hours.

This elective surgery service predominantly sees hepatobiliary, pancreatic problems, surgical endocrine and adrenal disease. It deals with patients with portal hypertension and biliary tract disease, and both benign and malignant conditions will be seen and treated. In addition, endocrine surgery patients will be seen, and the full spectrum of thyroid and parathyroid disease will be learned. Advanced laparoscopic skills can also be seen treating a whole spectrum of surgical problems. Students have the opportunity to join evening rounds, present patients, discuss current problems and generate treatment options. Students will present didactic discussion of patient subjects to staff and colleagues weekly.

Components: MOD.

Grading: GRD.

MDR 922. General Surgery EIII Sub-I. 4 Credit Hours.

This elective service deals primarily with diseases of the colon, rectum, and anus. Benign disease, such as hemorrhoids, anal fistulae, anal fissures, and inflammatory bowel disease will be seen and thoroughly discussed and learned. In addition, the entire spectrum of colon and rectal cancer will be seen and treated.

Components: MOD.

Grading: GRD.

MDR 924. Introduction to Neurosurgery. 2 Credit Hours.

This 2 week elective is intended to give the third year medical student an initial acquaintance to neurosurgery including the pathophysiology, evaluation, and management of the spectrum of disorders that confront the modern neurosurgeon. The UM neurosurgery service covers virtually the entire gamut of neurosurgical practice. The clinical service is divided into teams that focus primarily on specific subspecialty areas. The spine team cares for patients with tumors, trauma, degenerative disease, and other disorders. The general cranial team deals with cerebrovascular disease, tumors, epilepsy, movement disorders, and other pathology. A separate team cares for patients with head injuries. The pediatric division cares for patients at both Jackson Memorial Hospital and Miami Children's Hospital. A separate team cares for a busy neurosurgical service at University of Miami Hospital that includes both cranial and spinal patients.

Components: MOD.

Grading: GRD.

MDR 926. Oral and Maxillofacial Surgery. 2-4 Credit Hours.

The Department of Surgery's Division of Oral and Maxillofacial Surgery offers the student an intense experience in Head and Neck Reconstructive Surgery, Oral and Maxillofacial Pathology, Facial Trauma and Head and Neck Anatomy. The attending and resident staff is committed to providing the student with a valuable educational experience. This is the only exposure the medical student receives regarding the problems related to the oral cavity and to oral and maxillofacial surgery, which may confront him/her at a later date in his/her career. This is an advantageous rotation for those interested in ENT, Plastic Surgery, and Ophthalmology.

Components: MOD.

Grading: GRD.

MDR 927. Pediatric Surgery Sub-I. 4 Credit Hours.

This very busy surgical service will allow the 4th year student the opportunity to care for common and uncommon, yet very interesting, surgical problems in the pediatric population. The experience includes abdominal surgery, hernia surgery, and thoracic procedures. There is close supervision by the pediatric surgery attendings with daily rounds and a chance to follow patients closely. Outpatient clinics also provide for close patient follow up.

Components: MOD.

Grading: GRD.

MDR 928. Plastic Surgery. 2 Credit Hours.

This rotation provides comprehensive exposure to all facets of aesthetic plastic and reconstructive surgery at UM affiliated clinical institutions and educational venues. Students participate in the pre-operative planning, operative management, and post-operative care of plastic and reconstructive surgery patients, on the wards and in the clinics; learn plastic techniques in the operating and emergency rooms; and also participate in the on-call schedule with the residents. Students are also welcome to actively participate in all of educational programs of the division including Grand Rounds, Journal Clubs & Didactic Sessions. Medical students will be encouraged to participate in any ongoing research projects.

Components: MOD.

Grading: GRD.

MDR 929. Surgical Intensive Care Unit. 4 Credit Hours.

This rotation is offered to give 4th year students an introduction to the environment of the ICU and the unique subject matter that pertains to it. It also gives you the opportunity to see what happens after surgical emergencies, surgical complications, and transplants. Education is provided by morning rounds, student and housestaff presentations, reading, and by paying attention and asking questions!

Components: MOD.

Grading: GRD.

MDR 930. Transplant Surgery. 4 Credit Hours.

The student will have responsibilities similar to a junior house officer, under strict supervision of the Transplant Team because of the critical care of these patients. The student will be present at the operation for vascular access surgery, general surgery on transplantation patients and chronic renal failure patients, which would include bilateral native nephrectomies (usually for difficult to control hypertension), kidney, liver, pancreas, and pancreatic islet transplants, and related surgery. In addition, issues related to native organ disease ? kidney, pancreas, liver, leading to need for transplantation ? will be covered. There will be weekly conferences and seminars in research and clinical problems in kidney, liver, and pancreas transplantation and participation in weekly immunobiology transplant conferences.

Components: MOD.

Grading: GRD.

MDR 931. Trauma Surgery. 4 Credit Hours.

The trauma teams treat all patients requiring surgery who are admitted through the emergency room. In addition, the trauma teams are responsible for management of all major trauma victims brought to the Ryder Trauma Center, a Level-I Center. This rotation will allow the student to care for major trauma victims and patients with non-trauma surgical emergencies.

Components: MOD.

Grading: GRD.

MDR 932. Trauma Intensive Care Unit. 4 Credit Hours.

The students will gain an initial understanding of critical care and complex postoperative care of the critically ill trauma and surgical patient. Education is provided by morning rounds, student and housestaff presentations, reading, and by paying attention and asking questions!

Components: MOD.

Grading: GRD.

MDR 933. HCH General Surgery. 2-4 Credit Hours.

This elective in General Surgery will focus on Open and Laparoscopic General Surgery, Surgical Oncology, Colorectal Surgery and Vascular Surgery. The cases include cholecystectomies, colon resections, hepatobiliary and pancreatic surgery, complex hernia repairs, distal bypasses, aortic aneurysms and vascular stenting. In addition, appendectomies, hernias, hemorrhoid operations, as well as other outpatient procedures will be part of the surgery experience.

Components: MOD.

Grading: GRD.

MDR 934. Female Urology. 2-4 Credit Hours.

Female urology/voiding dysfunction is a surgical subspecialty within Urology dealing with problems with urination. During this elective, the senior clerk will have the opportunity to participate in the evaluation and the medical and surgical treatment of female and male voiding dysfunction.

Components: MOD.

Grading: GRD.

MDR 935. Out-Patient Urology. 2-4 Credit Hours.

This elective is offered to those students who are particularly interested in Urology as a career choice. It is designed so that the student will participate as a team member on each service he/she rotates on and will accept responsibilities and perform duties commensurate with his/her ability.

Components: MOD.

Grading: GRD.

MDR 936. Research in Urology. 4 Credit Hours.

Components: MOD.

Grading: GRD.

MDR 937. Urology Sub-I. 4 Credit Hours.

This elective is offered to those students who are particularly interested in Urology as a career choice. It is designed so that the student will participate as a team member on each service he/she rotates on and will accept responsibilities and perform duties commensurate with his/her ability.

Components: MOD.

Grading: GRD.

MDR 938. Urology Elective. 2-4 Credit Hours.

As much as 30% of all visits of elderly men to the primary care physician can relate to symptoms and disorder of the genitourinary tract. Physician should at least be conversant on these common ailments (i.e., BPH, Prostate cancer, Incontinence, Impotence, Stones or Hematuria).

Components: MOD.

Grading: GRD.

MDR 939. Professional Development for Medical Student Leaders. 2 Credit Hours.

1. Students must hold a leadership position within the Academic Societies (as a society director, assistant director, a member of the society executive staff, or training director), DOCS, or Executive Student Government staff. 2. The course will span the senior year, from July through March. 3. During the month of July, assigned readings, didactic sessions, and group exercises will be offered during evenings and weekends; students will need to be available to attend ALL of these sessions in July in order to receive the 2 weeks of academic credit. 4. These activities are designed to teach the fundamental aspects of teamwork, leadership, teaching and learning, and mentoring. 5. Throughout the year, students will be responsible for fulfilling the obligations of their specific position within the student organization. 6. Students in Academic Society positions will attend their society training and student report sessions to apply the information learned in the didactic sessions and will complete exercises to evaluate and improve their skills in these areas. Student Evaluation and Grading: By completing a combination of assigned exercises, attending all scheduled seminar sessions, and fulfilling student leadership responsibilities, each student will receive 2 weeks of elective credit. **For credit, attendance is REQUIRED for ALL summer sessions in JULY.

Components: MOD.

Grading: GRD.

MDR 940. Introduction to Research. 2-4 Credit Hours.

Components: MOD.

Grading: GRD.

MDR 941. HCH Cardiothoracic Surgery Sub-I. 4 Credit Hours.

Overview: This unique surgery sub-internship will allow the student to learn in a preceptor-based model about the surgical management of cardiovascular and thoracic diseases. The students will be exposed to a wide variety of surgical experiences, including open and minimally-invasive surgical approaches. The student will also engage in preoperative and postoperative assessment and treatment of patients. The students will have primary responsibility for the care and management of their patients.

Components: MOD.

Grading: GRD.

MDR 942. Business Skills for Healthcare Providers. 4 Credit Hours.

Components: MOD.

Grading: GRD.

MDR 943. General Surgery E IV Sub-I. 4 Credit Hours.

This 4-week rotation will expose the 4th year student to several unique, yet related, surgical disciplines: laparoscopic surgery, surgical endoscopy, and the surgical management of morbid obesity.

Components: MOD.

Grading: GRD.

MDR 944. MIA VAMC General Surgery Sub-I. 4 Credit Hours.

The surgical program at the VA Medical Center is a truly General Surgical Service which focuses on Open and Laparoscopic General Surgery, Surgical Oncology, Colorectal Surgery and Vascular surgery. The cases include cholecystectomies, colon resections, hepatobiliary and pancreatic surgery, complex hernia repairs, distal bypasses, aortic aneurysms and vascular stenting. In addition, appendectomies, hernias, hemorrhoid operations and an increasing number of outpatient surgeries compose our experience.

Components: MOD.

Grading: GRD.

MDR 945. Taylor Breast Health Center. 2-4 Credit Hours.

This elective will consist of a 2 week or a 4 week block at the Taylor Breast Health Center. During this time, the student will have the opportunity to participate in the diagnosis and follow-up of patients with the full spectrum of breast diseases, most importantly breast cancer.

Components: MOD.

Grading: GRD.

MDR 947. Research Review by Research Committee. 8.00 Credit Hours.

Components: MOD.

Grading: GRD.

MDR 948. JFK Surgery Sub-I. 4 Credit Hours.

This surgery sub-internship will allow the student to learn in a team model about the surgical management of common gastrointestinal and endocrine disorders. The student will be exposed to both open and laparoscopic operations, treating a broad spectrum of surgical entities. The student will also engage in preoperative and postoperative assessment and treatment of patients, with an emphasis on continuity of care.

Components: MOD.

Grading: GRD.

MDR 949. Caring for the Community: Free Clinics Elective. 2 Credit Hours.

Provides students with an opportunity of clinical care at student-run free clinics while advancing their knowledge of the social determinants of health and the barriers that uninsured patients encounter in obtaining primary medical care and specialty care when needed. The student-run free clinic elective will provide medical students with an engaging clinical experience that will prepare them to more effectively advocate and care for uninsured patients. This elective provides an opportunity for third and fourth year medical students to provide clinical care at student-run free clinics while advancing their knowledge of the social determinants of health and the barriers that uninsured patients encounter in obtaining primary medical care and specialty care when needed. The student-run free clinic elective will provide medical students with an engaging clinical experience that will prepare them to more effectively advocate and care for uninsured patients. In addition to their clinical roles, students will be actively involved as both teachers and learners. Working under the direct supervision of faculty physicians, students will participate in training and educating volunteer underclass students by leading clinical care teams and conducting wrap-up sessions at the end of each clinic session. To prepare them for their educator roles, students will receive didactic training outside of clinic on various topics pertaining to teaching skills and the social determinants of health. This longitudinal experience provides students the opportunity to receive two weeks of elective credit by completing the required didactic sessions and at least 18 clinical experiences that may be scheduled over the course of 21 months during years 3 and 4. The Free Clinic elective is available to all students; however it will be required of all third and fourth year students in the social medicine pathway.

Components: MOD.

Grading: GRD.

MDR 950. The Mark Dogoli Community Care Elective. 4-8 Credit Hours.

The Mark Dogoli Community Care elective (MDCCE) rotation provides 4 to 8 weeks of primary care continuity experience. This rotation includes three components : Private practice, nursing home and The Mark Dogoli, MD Medical Center, a free clinic in an under-served community. Students will gain exposure to cross- cultural, linguistic, behavioral, and community medicine principles and be part of sustaining a community-based health initiative.

Components: MOD.

Grading: GRD.

MDR 951. Cardiology Teaching Lab - Harvey (2 wks). 2 Credit Hours.

This rotation consists of a focused review of cardiology for the clinician. A clinician must be able to evaluate and treat cardiology patients, as they represent the largest subset of patients they see with significant disease. Each student is trained to develop the knowledge and skills needed to conduct a complete cardiovascular history and bedside examination, and interpret ECG's and arrhythmias. The rotation includes the integration of the bedside evaluation with the current indications for non-invasive and invasive diagnostic testing. The diagnosis and management of valvular disease, coronary disease, hypertensive heart disease, heart failure and congenital lesions are covered by group and individual sessions with Harvey, the Cardiopulmonary Patient Simulator. The UMedic multimedia computer curriculum is incorporated into the elective to further interactive self-learning. Didactic ECG and Arrhythmia lectures are given daily. Each student will also read, interpret and review electrocardiograms and arrhythmias with clinical faculty. Students will use our web-based programs, Essential ECG and Essential Arrhythmia, to facilitate their learning.

Components: MOD.

Grading: GRD.

MDR 952. Reproductive Endocrinology and Infertility. 2 Credit Hours.

This rotation will provide you with the unique opportunity to learn about the subspecialty of reproductive endocrinology and infertility. During this rotation student will learn the basics of menstrual cycle, hormonal regulation and different causes of infertility. Students will be exposed to a wide variety of endocrinological disorders such as amenorrhea, polycystic ovarian syndromes, thyroid dysfunction, and hyperprolactinemia. Opportunity will be given to attend and observe the different techniques of advanced reproductive technology, including in vitro fertilization, intracytoplasmic sperm injection, intrauterine insemination. You will also be able to scrub-in and observe a wide variety of endoscopic surgeries.

Components: MOD.

Grading: GRD.

MDR 953. Cardiac Anesthesiology / CVICU. 4 Credit Hours.

During this rotation, the student will be exposed to the principles and the practice of cardiothoracic anesthesia, applied cardiovascular physiology and pharmacology, and the management of the cardiothoracic surgical patient in the post-surgical ICU setting. The course will provide the student exposure to and experience performing the preoperative assessment, intraoperative management, and postoperative intensive care management of cardiothoracic surgical patients from the perspective of the cardiac anesthesiologist and critical care specialist. The student will work with faculty, fellows, and residents delivering anesthetic care to adult patients undergoing cardiothoracic and vascular procedures and under the supervision of the ICU attendings and fellows, and share in the responsibility for direct day-to-day ICU patient care.

Components: MOD.

Grading: GRD.

MDR 954. Pediatric Anesthesiology. 2 Credit Hours.

This elective will introduce the subspecialty of Pediatric Anesthesiology to medical students interested in careers in Anesthesiology, Pediatrics and related specialties. The rotation will consist of a 2-week consecutive period that will expose the medical student to the basic knowledge and skills inherent to the practice of pediatric anesthesia. Techniques of basic procedural skills will be reviewed along with discussions on topics integral to pediatric peri-operative care. The course will provide the student exposure to and experience performing the preoperative assessment, intra- and post-operative management of pediatric surgical patients from the perspective of the pediatric anesthesiologist.

Components: MOD.

Grading: GRD.

MDR 955. UroGynecology Sub-I. 4 Credit Hours.

The objective of this sub-internship is to improve the students' knowledge and skills in evaluating and managing women with pelvic organ prolapse (POP) and urinary incontinence. The student will develop an understanding of pelvic anatomy, become familiar with surgical principles and develop proficiency in evaluating and recognizing the various types of POP, urinary incontinence and voiding disorders. Student participating in the sub-internship will also become familiar with the surgical management of POP and urinary incontinence, and have greater exposure to other common types of pelvic floor dysfunction such as; fecal incontinence, constipation, urinary tract infections, bladder and pelvic pain, urethral diverticulum, and sexual dysfunction.

Components: MOD.

Grading: GRD.

MDR 956. Procedure Team Medical Student Elective. 2-4 Credit Hours.

The performance of an invasive bedside procedure carries with it inherent risks and potential complications. Incorrect accomplishment of such may adversely affect patient safety, increase hospital length of stay, necessitate the use of additional resources, and propagate incorrect procedural methods for the next generation of physicians. To this end a formal course in procedural instruction serves as model for the other institutions and as a standard within our own. The days of "see one, do one, teach one" are extinct. Students will undergo formal procedural instruction using task trainers/models. They will become familiar with relevant anatomy, and perfect the technical skills needed to successfully perform invasive bedside procedures, from pre-procedural assessment to post-procedure documentation and follow-up

Components: MOD.

Grading: GRD.

MDR 957. Geriatrics and Palliative Medicine Clerkship. 4 Credit Hours.

The medical student will spend four weeks at the VA Medical Center and assume responsibility for the care of older patients under the supervision of board-certified geriatricians and palliative medicine physicians, geriatric and palliative medicine fellows, and members of the interdisciplinary care team. Our mission is to teach, model and assess the knowledge, skills, and attitudes needed by medical students to complete comprehensive geriatric and palliative care assessments. Clinical activities will mainly take place in multiple chronic care venues at the VA including the Intermediate Care Unit, the Hospice Unit, the Community Living Center, and the Geriatric Primary Care Clinic. Students may have an opportunity to rotate at the Miami Jewish Health System or participate in clinical services at the University of Miami Hospital and the Cancer Center.

Components: LEC.

Grading: GRD.

MDR 958. UMH Medicine Sub-I. 4 Credit Hours.

The primary objective of this rotation is to emphasize mastery of clinical core internal medicine competencies, to develop skills in inpatient management of common medical illnesses, and to prepare fourth year medical students for internship. This rotation will promote the expansion of the clinical knowledge base and emphasize the practice of evidence based internal medicine.

Components: MOD.

Grading: GRD.

MDR 959. JFK Medicine Sub-I. 4 Credit Hours.

The objective of this rotation is to provide students with hands on clinical experiences that are specifically designed to mirror their upcoming roles as interns in postgraduate training. The medical Sub-intern will master specific core competencies and basic principles of inpatient medical care. The sub-intern will be a member of a medical ward team that consists of an attending, one resident, two interns and two third year clerks. The sub-intern will work specifically with one resident on the team who will directly oversee the sub-intern and the care of his/her patients. They will focus on delivery of inpatient care to general medical patients as well as collaborate with medical and surgical subspecialties. They will attend daily morning report and attending rounds as well as participate in daily sign out/hand off rounds. Sub-Interns will attend daily noon conferences, weekly grand rounds, and twice weekly sessions with sub-internship coordinators to review key inpatient topics.

Components: MOD.

Grading: GRD.

MDR 960. Vascular Surgery. 4 Credit Hours.

This rotation is a busy service treating the complete spectrum of vascular diseases including aneurysms of the aorta, cerebrovascular disease, mesenteric vascular disease, renovascular disease and peripheral vascular disease. In addition, endovascular procedures will be observed. This rotation will allow the student to care for patients both pre-operatively and post-operatively. There will also be some experience interpreting non-invasive diagnostic tests to tailor the operation for specific vascular problems. Conferences with the attendings are held on a weekly basis. Students will learn how to recognize, diagnose and treat the most common vascular diseases. All students will be evaluated by the attending in charge on their professionalism, clinical skills, and participation. Attendance is mandatory for all assigned conferences, rounds and/or presentations and will be taken into consideration. Students are required to stay until 10 PM when on night call.

Components: MOD.

Grading: GRD.

MDR 961. MIA VAMC Medicine Sub-I. 4 Credit Hours.

The objective of this rotation is to provide students with hands on clinical experiences that are specifically designed to mirror their upcoming roles as interns in postgraduate training. The medical Sub-intern will master specific core competencies and basic principles of inpatient medical care. With the guidance and oversight of the supervising attending and resident, the sub-I will be seen as the primary care giver by the patient and the hospital staff,

Components: MOD.

Grading: GRD.

MDR 962. JFK Intensive Care Unit. 4 Credit Hours.

The objective of this rotation is to provide M4 students with hands on clinical experiences in an ICU setting that will expose them to the pathophysiology, and management of patients in a intensive care setting. The M4 will act as an integral member of the ICU team.

Components: MOD.

Grading: GRD.

MDR 963. Ambulatory Obstetrics and Gynecology. 4 Credit Hours.

The objective is for the student to gain experience in the diagnostic and therapeutic approaches for general obstetric and gynecologic conditions by participating in direct patient care and resident didactic activities. Students will enhance interpersonal skills and professional conduct in the female patient encounter setting. Students will learn the basic ambulatory management of medium and high risk obstetrical patients, the management of ambulatory gynecologic conditions, and prevention and screening in women's reproductive health. This rotation is ideal for the student considering a career in obstetrics and gynecology as he or she will be exposed to multiple aspects of the field. The rotation will also provide a strong foundation in outpatient women's reproductive health for those going into internal medicine, family medicine, pediatrics and psychiatry.

Components: MOD.

Grading: GRD.

MDR 965. Addiction Psychiatry @ Wellington Retreat. 4 Credit Hours.

Medical students get hands on experience regarding the evaluation and treatment of addiction and other psychiatric illnesses. From day one, they are taught to recognize symptoms and gain interview techniques. They perform initial evaluations directly supervised by Dr. Moran who is triple board certified in general psychiatry, addiction psychiatry, and addiction medicine. Students attend community meetings every week day as well as adolescent community meetings and several groups (which usually takes all morning 8:30-12:00). They are shown the proper way to write notes on patients with psychiatric diseases and all notes are written by the students and reviewed by the doctor. Students are assigned a caseload of patients. The students are expected to assess them daily to witness and understand the gradual changes in the psychopathology. Every day, everyone involved in the care of patients (Doctors, Therapists, Clinical Director, Coordinators Director, Residents P.A. students and the medical students) meet during lunch (12:30-13:30) to discuss the individual treatment of each patient; students are encouraged to participate since their contact with the patients provides helpful additional observations. Our treatment is based on cutting edge research and the students will learn about psychopharmacology as well as evidence-based psychosocial interventions.

Components: MOD.

Grading: GRD.

MDR 966. Medical-Legal Partnership. 2-4 Credit Hours.

Medical-Legal Partnership clinic presents issues of health in the broader social context of people's lives, providing knowledge and skills from both disciplines to the advancement of health through joint medical-legal advocacy and interdisciplinary solutions to complex problems. During the course, students from medicine will be partnered with various mentors to focus on basic legal issues in the context of medical care. They will have the opportunity to work in unique clinical experiences which focus not only on medical care of actual patients but also on broader policy issues that affect public health. They will have an opportunity to work with the Child protection Team, Justice Outreach with the Veterans courts, Human Trafficking and Asylum clinics and Mental Health In- Hospital program to learn how medical expertise works with hospital regulations and laws to impact on health outcomes of the public. They will also participate in the medical-legal clinics with law students as medical "experts" to work together to advocate for patients by the elimination of social determinants that adversely affect patient health such as income and employment, housing, education, legal status, and personal safety. The Medical-Legal clinic at the Miami Veterans Administration Medical Center (inter disciplinary with Medical and Psychiatric attendings), will allow students to use their clinical skills and learn about the complex intersection of health and law. There they will develop insight into how the law may be used as a tool to improve health, and how health care providers and lawyers can work together to invoke more effective and preventive remedies for patients and clients.

Components: MOD.

Grading: GRD.

MDR 967. JFK Cardiology Consult. 2-4 Credit Hours.

This is an inpatient consult rotation is at JFK Medical Center, a tertiary care center in Palm Beach County. It is a very active cardiac center with invasive cardiology services, cardiac surgery, and electrophysiology services. Patients encountered reflect the rich, diverse nature of pathology present in the area with equal exposure to men and women of multiple ethnicities and socioeconomic backgrounds.

Components: MOD.

Grading: GRD.

MDR 968. Psychiatry @ South County Mental Health. 2-4 Credit Hours.

This elective provides students with the opportunity to build upon their Psychiatry Core Clerkship experience by assuming increased responsibility for the diagnosis, treatment and management of psychiatric inpatients. Under the supervision of attending physicians, students will gain experience in the diagnosis and treatment of patients presenting with a wide range of psychopathology, including Mood Disorders, Psychotic Disorders and Substance Use Disorders. Students will gain experience in performing psychiatric evaluations, psychopharmacology and psychosocial interventions.

Components: MOD.

Grading: GRD.

MDR 969. Interventional Radiology. 4 Credit Hours.

The course is an introduction to Vascular/Interventional Radiology and consists of intensive exposure to Vascular and Interventional Radiology procedures under the direct supervision of interventional radiologists. Students will learn and participate in (a) the use of radiological imaging to guide procedures in different organ systems, (b) the evaluation and management of patients requiring interventional radiology procedures, and (c) performance of interventional procedures, including arterial and venous angiography, angioplasty, stenting, embolization of tumors and vascular malformations, and other vascular and interventional procedures. They will also be instructed in the placement of different venous access devices. Students will also be exposed to non-vascular procedures such as percutaneous biliary drainage and tumor ablation.

Components: MOD.

Grading: GRD.

MDR 970. Ophthalmology for the Non-Ophthalmologist. 2 Credit Hours.

The two week clinical elective in ophthalmology is geared toward medical students with a particular interest in obtaining an in depth understanding of fundamental ophthalmology (geared for every student regardless of specialty interest). Aspects of ophthalmology that are pertinent to the practice of internal medicine, neurology, pediatrics, family practice and other primary care specialties will also be taught. Students will rotate through the emergency room, operating room, and various subspecialty clinics at the Bascom Palmer Eye Institute where they will shadow attendings and housestaff. A comprehensive didactic course will be conducted concurrently during this two week block which includes interactive case based presentations. A final examination will be administered at the conclusion of the course. Students are also welcome to attend weekly grand rounds and fluorescein conferences as well as daily resident lectures during the rotation. An additional two weeks is offered for students considering ophthalmology as a career. All students wishing to be part of the four week course must have approval of the course coordinator. These additional two weeks are set up as a preceptorship and may be arranged independently with a faculty ophthalmologist.

Components: MOD.

Grading: GRD.

MDR 971. Ophthalmic Pathology. 4 Credit Hours.

The two week clinical elective in ophthalmology is geared toward medical students with a particular interest in obtaining an in depth understanding of fundamental ophthalmology (geared for every student regardless of specialty interest). Aspects of ophthalmology that are pertinent to the practice of internal medicine, neurology, pediatrics, family practice and other primary care specialties will also be taught. Students will rotate through the emergency room, operating room, and various subspecialty clinics at the Bascom Palmer Eye Institute where they will shadow attendings and housestaff. A comprehensive didactic course will be conducted concurrently during this two week block which includes interactive case based presentations. A final examination will be administered at the conclusion of the course. Students are also welcome to attend weekly grand rounds and fluorescein conferences as well as daily resident lectures during the rotation. An additional two weeks is offered for students considering ophthalmology as a career. All students wishing to be part of the four week course must have approval of the course coordinator. These additional two weeks are set up as a preceptorship and may be arranged independently with a faculty ophthalmologist.

Components: MOD.

Grading: GRD.

MDR 972. Emergency Medicine consortium agreement. 4 Credit Hours.

Components: MOD.

Grading: GRD.

MDR 973. Pediatric Allergy and Immunology. 2-4 Credit Hours.

The pediatric allergy and immunology elective is designed to give senior medical students exposure to the spectrum of diseases seen in the field of Allergy and Immunology. The student will predominantly rotate through the outpatient clinic and inpatient consults, and see patients and procedures based on the emphasis of that location.

Components: MOD.

Grading: GRD.

MDR 977. Neurology Consortium Agreement. 4 Credit Hours.

Components: MOD.

Grading: GRD.

MDR 978. OB/GYN Consortium Agreement. 6 Credit Hours.

Components: MOD.

Grading: GRD.

MDR 979. Radiology Consortium Agreement. 4 Credit Hours.

Components: MOD.

Grading: GRD.

MDR 980. Geriatrics Consortium Agreement. 4 Credit Hours.**Components:** LEC.**Grading:** GRD.**MDR 986. Geriatrics Consortium Agreement. 4 Credit Hours.****Components:** MOD.**Grading:** GRD.**MDR 990. HCH Emergency Medicine Clerkship. 4 Credit Hours.**

The purpose of the RMC Emergency Medicine clerkship at Holy Cross is to provide students with an opportunity to acquire a foundation of knowledge and skills to care for patients with emergency medical conditions. Every physician should possess adequate assessment and management skills to rapidly identify life-threatening conditions, to initiate care, and to know whom and when to call for assistance. The Emergency Department is also one of the few practice sites where students play an integral role in the initial evaluation of an "undifferentiated" patient – where the diagnosis is completely unknown on initial contact, and the clinician must "start from scratch" to formulate a differential diagnosis, plan of evaluation, and plan of management. Experience in a wide range of procedural skills are also readily available including airway management, suturing, and central venous line placement. Students will participate in an EMS ride along, simulation cases, and didactic sessions. Students are evaluated through clinical evaluations and a written examination.

Components: LEC.**Grading:** GRD.**MDR 992. RMC Radiation Oncology. 2-4 Credit Hours.**

This is a 2 or 4-week elective intended to expose the senior medical student to spectrum of experiences in radiation-oncology. It's anticipated that the student will rotate through 2-3 outpatient clinic settings and be exposed to various radiation-oncology treatment modalities/technologies.

Components: MOD.**Grading:** GRD.**MDR 993. RMC Urology. 2-4 Credit Hours.**

This course will expose the student to general urology in a busy office setting, at the hospital for daily rounds, and in the operating suite, where the student will scrub in surgical cases as a first or second assistant. The student will work closely with Dr. Gold and with the other physicians and staff at the Urology Center of South Florida. The student will be evaluating patients in the office and hospital, presenting findings and discussing the treatment plan with attending staff, and participating in a wide variety of minor office procedures as well as surgical procedures in the OR.

Components: MOD.**Grading:** GRD.**MDR 994. Adult Allergy and Immunology. 2-4 Credit Hours.**

The adult Allergy and Immunology elective is designed to give senior medical students exposure to the spectrum of diseases seen in the field of Allergy/ Immunology. The student will predominantly rotate through the outpatient clinic and see patients and procedures based on the emphasis of that location.

Components: MOD.**Grading:** GRD.**MDR 995. WPB VAMC Physical Medicine and Rehabilitation. 2-4 Credit Hours.**

The purpose of this rotation is to provide the medical student with an introduction to the field of PM&R with emphasis on basic assessment and management options for common musculoskeletal disorders and neurological conditions affecting physical function. The rotation takes place mostly in the outpatient clinic setting with opportunities to also learn in other settings such as a nursing home or acute general hospital. There is also exposure to electrodiagnostic medicine and pain management.

Components: MOD.**Grading:** GRD.**MDR 996. International Study Abroad. 8.00 Credit Hours.**

All students going abroad on international programs (ie, medical mission trips and others), regardless if UM or non-UM sponsored/related, must obtain proper approval from the Office of Student Affairs. Required forms can be found on the MedEd website under Important Documents for Students – "Administrative Requirements for International Study". MDR 996 "International Study Abroad" – Senior medical students may obtain academic credit for selected international clinical experiences. Only senior students are allowed to receive credit for such experiences. Credit is counted towards their Elective requirements. The above mentioned forms must be filled out. Additional information is also required, including written goals/objectives for the rotation, expectations, student responsibilities, location/institution for the clinical experience, how the student will be evaluated, and the name/contact of physician who will complete the evaluation form. This information needs to be presented in advance to the Senior Associate Dean for Undergraduate Medical Education for approval prior to the trip, preferably far in advance.

Components: MOD.**Grading:** GRD.**MDR 997. Research Md/Phd Program. 8.00 Credit Hours.**

Students must have defended their thesis for Graduate School and also finished their 3rd year MD clerkships student will be granted 8 credits.

Components: MOD.**Grading:** GRD.

MDR 998. Medical Students from MD Program on Research. 0 Credit Hours.

Requires approval from the Senior Associate Dean for Undergraduate Medical Education

Components: MOD.

Grading: GRD.

MDR 999. Medical Students on MD program on LOA. 0 Credit Hours.

Requires approval from the Senior Associate Dean for Undergraduate Medical Education

Components: LEC.

Grading: GRD.

MDR 000. Elective. 1-30 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

Microbiology and Immunology (MIC)

MIC 100. Microbiology as it Relates to Humans (EXP). 3 Credit Hours.

An introductory microbiology course for the summer scholars program. Microorganisms are in every facet of our lives and make up a microscopic world. Right now, your body is inhabited by over 40 trillion bacteria. Due to the evolution of our immune systems, we have been able to coexist with this world. It is when our immune systems weaken or when our otherwise healthy immune system encounters a particularly nasty pathogen that we become vulnerable. This course will cover the topics of how our immune system works, how microbial pathogens cause disease, how beneficial microbes protect us from disease, and some of the other activities perform that impact our world. The laboratory will provide you with invaluable experience in growing, staining, viewing and identifying microorganisms through the use of practical techniques and procedures. An in lab presentation of your "unknown organism" will culminate what you have learned.

Components: LAB.

Grading: GRD.

Typically Offered: Summer.

MIC 201. Modern Plagues and Society. 3 Credit Hours.

An examination of three infectious diseases (AIDS, tuberculosis, and malaria) that currently impact a significant fraction of the human population, describing the infectious microbes themselves, efforts of researchers to contain these diseases, and how politics, infrastructure, and geographical factors determine public health outcomes.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MIC 280. UMiami Scientifica Magazine - Writer. 0 Credit Hours.

UMiami Scientifica is a premier scientific publication at the University of Miami. The magazine, focuses on the STEM fields and publishes quarterly. Students who write for the magazine will learn to write clearly, concisely and in a manner that can be understood by the layperson. Successfully completing an article does not mean that an article will be published.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MIC 301. Introduction to Microbes and the Immune System. 3 Credit Hours.

Basic principles of microbiology and immunology; the microbiology component will include basic properties of bacteria, viruses, and parasites and how microbes interact with multicellular organisms in both disease and non-disease settings. The Immunology component presents the players and basic concepts of immune responses as they apply to combat infectious pathogens, autoimmunity, allergy and transplantation. Course is required for microbiology and immunology majors; recommended for biology, chemistry and biochemistry majors and those considering the health sciences

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MIC 304. Introduction to Microbes and the Immune System (Lab). 2 Credit Hours.

Basic laboratory principles of microbiology and immunology. Students are instructed on how to handle, culture, and identify microorganisms.

Microscope care/use, various staining techniques, ELISA, blood typing, bacterial transformation, and more. This laboratory is required of all microbiology and immunology majors.

Corequisite: MIC 301.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

MIC 319. Innate Immunity. 3 Credit Hours.

The innate immune system provides the first line of defense against infectious microorganisms and is a very important disease-preventing mechanism. In this course the students will learn the molecular and cellular processes mediating innate immune responses to microbial pathogens, including intra- and extra- cellular bacteria and viruses.

Prerequisite: MIC 301 OR 303 OR 304.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MIC 320. Introduction to Microbes and the Immune System for Nurses. 3 Credit Hours.

Course covers the basic principles of microbiology and immunology. Course cannot be used for MIC major or minor credit.

Requisite: School of Nursing Health Studies.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MIC 321. Immunobiology. 3 Credit Hours.

Mechanisms underlying the cooperation between T-cells, B-cells, and antigens leading to humoral and cell mediated responses. The significance of immune cells and their products pertaining to autoimmunity, transplantation, and the surveillance of neoplastic cells is covered.

Prerequisite: MIC 301 or MIC 303.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MIC 322. Medical Parasitology. 3 Credit Hours.

Course discusses the biochemistry, physiology, pathogenicity, immunology, and mechanism of drug action and resistance of medically important parasitic protozoa, trematodes, nematodes, and cestodes.

Prerequisite: MIC 301 or MIC 303.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MIC 323. Microbial Pathogenesis and Physiology. 3 Credit Hours.

Fundamental properties of microbes as well as host-microbe relationships at the molecular and cellular levels.

Prerequisite: MIC 301. Or MIC 303.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MIC 436. Fundamental and Medical Virology. 3 Credit Hours.

The study of viruses as biological entities and etiological agents of disease. Virus-cell and virus-host interactions are also discussed.

Prerequisite: MIC 301 or MIC 303.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MIC 441. Microbiology and Immunology Colloquium. 1 Credit Hour.

External and internal faculty presentations as well as graduate presentations of recent advances in research. Course meets on hour per week.

Prerequisite: MIC 301. Or MIC 303.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

MIC 451. Special Projects in Immunobiology. 2-6 Credit Hours.

Wet bench laboratory research with faculty in the Microbiology and Immunology (M&I) Department at the Miller School of Medicine. Students will be actively participating in all aspects of hypothesis-driven scientific research ranging from familiarity with the literature to conducting and analyzing experiments.

Requisite: at least 17 credits in MIC and MIN GPA 3.0.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

MIC 452. Special Projects in Parasitology. 2-6 Credit Hours.

Wet bench laboratory research with faculty in the Microbiology and Immunology (M&I) Department at the Miller School of Medicine. Students will be actively participating in all aspects of hypothesis-driven scientific research ranging from familiarity with the literature to conducting and analyzing experiments.

Requisite: at least 17 credits in MIC and MIN GPA 3.0.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

MIC 453. Special Projects in Pathogenic Bacteriology. 2-6 Credit Hours.

Wet bench laboratory research with faculty in the Microbiology and Immunology (M&I) Department at the Miller School of Medicine. Students will be actively participating in all aspects of hypothesis-driven scientific research ranging from familiarity with the literature to conducting and analyzing experiments.

Requisite: at least 17 credits in MIC and MIN GPA 3.0.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

MIC 454. Special Projects in Microbial Genetics. 2-6 Credit Hours.

Wet bench laboratory research with faculty in the Microbiology and Immunology (M&I) Department at the Miller School of Medicine. Students will be actively participating in all aspects of hypothesis-driven scientific research ranging from familiarity with the literature to conducting and analyzing experiments.

Requisite: at least 17 credits in MIC and MIN GPA 3.0.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

MIC 455. Special Projects in Immunogenetics. 2-6 Credit Hours.

Wet bench laboratory research with faculty in the Microbiology and Immunology (M&I) Department at the Miller School of Medicine. Students will be actively participating in all aspects of hypothesis-driven scientific research ranging from familiarity with the literature to conducting and analyzing experiments.

Requisite: at least 17 credits in MIC and MIN GPA 3.0.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

MIC 456. Special Projects in Virology. 2-6 Credit Hours.

Wet bench laboratory research with faculty in the Microbiology and Immunology (M&I) Department at the Miller School of Medicine. Students will be actively participating in all aspects of hypothesis-driven scientific research ranging from familiarity with the literature to conducting and analyzing experiments.

Requisite: at least 17 credits in MIC and MIN GPA 3.0.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

MIC 460. Advanced Topics in Microbiology and Immunology. 3 Credit Hours.

An extensive and detailed examination of a number of topics covered in the core courses of the major. The goal is for upper-division undergraduate students to take the knowledge base they acquired in their major core courses into 'cutting edge' research areas. Each topic (of a total of 4 to 8) will be presented by a Faculty member with expertise in the area. Topics may include HIV Infection and the Immune System, immunology of Pregnancy, and Mitochondrial-based diseases. Emphasis will be placed on gaining a familiarity with the primary scientific literature.

Requisite: MIC 301 OR MIC 303 OR MIC 304 AND MIC 319 AND MIC 321.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MIC 601. Medical Microbiology. 5 Credit Hours.

Course discusses the nature of microbial agents of infectious disease as well as relationship of virulence to host resistance and fundamental immunologic concepts. Microbial physiology and genetics, the structure, design, and mechanism of action on antimicrobials.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MIC 623. Mechanisms of Microbial Virulence. 2 Credit Hours.

This course will focus on the mechanisms employed by bacterial and viral pathogens to produce disease in animals and humans. The course is divided into two, three-week modules. The first module will cover bacterial pathogens with an emphasis on the bacteria-host cell interaction. Specific topics will include: bacterial attachment and invasion of eukaryotic cells, virulence gene regulation, secretion of virulence factors, bacterial toxins and obligate intracellular bacterial pathogens. The second module will cover viruses and human viral diseases with an emphasis on viral replication, gene expression, virus-host cell interactions and viral oncology. Classes will consist of a mixture of lectures and discussions of recent or classic papers.

There will be two exams.

Prerequisites: MIC 775 and MIC 755.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MIC 705. Faculty Research and Discussions. 1 Credit Hour.

Forum for the discussion of the current research projects and interests of the faculty. This course provides students with the opportunity to exchange ideas about important scientific questions and the technologies being applied to experimentally address the hypotheses being tested.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MIC 711. Accelerated Basic Science Medical Curriculum. 1-18 Credit Hours.

Beginning in the latter part of June each year, extending to the middle of February of the ensuing year, the following accelerated and intensive complete basic science medical curriculum is offered: Embryology, Gross Anatomy, Histology, Biochemistry, Neuroanatomy, Biophysics and Neurophysiology, Systemic Physiology, Pathology, Medical Microbiology, and Pharmacology. single grade will be entered on the graduate transcript for this course.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MIC 716. Advanced Molecular Biology. 3 Credit Hours.

The molecular basis of cellular function and regulation in both procaryotic and eucaryotic systems. The molecular genetics and biochemistry of the genetic material and its utilization during replication, transcription, translation, cellular growth, division, and differentiation. Recombinant DNA technology and molecular genetics are discussed. This course is designed for graduate students in biological sciences. A good background in biology or biochemistry is recommended.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MIC 726. Laboratory Experimentation. 4 Credit Hours.

One or two laboratory training sessions of 6-12 weeks each. Each student rotates through faculty research laboratories in the areas of immunology, molecular biology, and microbiology, (bacteriology, virology, parasitology) where they receive "hands on" experience by participating in ongoing research projects.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MIC 727. Laboratory Experimentation. 6 Credit Hours.

Two or three laboratory training sessions of 6-12 weeks each. Each student rotates through faculty research laboratories in the areas of immunology, molecular biology and microbiology, (bacteriology, virology, parasitology) where they receive "hands on" experience by participating in ongoing research projects.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MIC 728. Principles of Immunology. 3 Credit Hours.

This team-taught course will present immunological concepts and reasoning in immunological research. The course is divided into 7 weekly modules. Each module has a common theme and consists of 3 lectures on immunological concepts and one session where students present and discuss a research paper related to the theme of each module. The paper discussion session will include use of disease models as a portal to understand the function of immune system in health and disease. The module topics are (a) lymphoid cell development, (b) antigen recognition, (3) initiation of immune responses, (4) T lymphocyte effector development and function, (5) T cell immunity versus tolerance, (6) B cell immunity, and (7) innate immunity. There will be one exam following the first 4 modules and the second exam after the remaining 3 modules.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MIC 731. Special Work. 1-5 Credit Hours.

Special work, lecture, laboratory or a combination of these, as determined by advisor in accord with student's individual interest. Course is offered only on demand.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MIC 751. Advance Topics in Microbiology and Virology. 3.00 Credit Hours.

This course is intended to explore, at an advanced level, the dynamic equilibrium that exists between microbial pathogens and host immune systems with emphasis on factors that influence progression to disease or sterilizing immunity. Mechanisms employed by the host and pathogen to shift that equilibrium in their favor will be discussed taking into account interactions at systems, cellular and sub-cellular levels.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MIC 755. Micro and Immunol Research: Career Skills and Proficiencies. 1-6 Credit Hours.

This is a longitudinal training course delivered throughout all the years. Students start taking it when entering the program upon choice of Lab and mentor. Full credit will be given at time of PhD defense depending on attendance and participation to all modules. This include writing assignments and attendance/participation in seminars, journal clubs, research forums, and classes when applicable.

Components: MOD.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

MIC 761. Advanced Topics in Molecular Biology of Animal Viruses. 2 Credit Hours.

This course is organized around four major themes of virological studies: (i) viral genome transcription, replication, and virus assembly; (ii) viral pathogenesis; (iii) virus cell interactions; and (iv) antiviral strategies. Most recent research developments in these areas are covered through lectures by participating faculty members as well as paper presentations by students.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MIC 775. Advanced Microbiology and Immunology. 3 Credit Hours.

This course will explore in depth the current and advanced concepts and topics in selected areas of Microbiology and Immunology. The classes will consist of a mixture of lectures and discussions of recent papers. Besides covering recent advances and cutting edge experimental approaches in cellular and molecular immunology and microbiology, this course will also expose students to breakthrough concepts and themes that link the disciplines of immunology, microbiology and virology.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MIC 780. Research Ethics. 1 Credit Hour.

The NIH Guide for Grants and Contracts stipulates that Institutions receiving support for National Research Service Award Training Grants are required to develop a program in the principles of Scientific Integrity. This program should be an integral part of the proposed training effort. The University of Miami School of Medicine has chosen to respond to this requirement with this course. This course must be taken during the first semester in the Department or Program. This is a six-hour course and is given in two sessions of three hours each.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MIC 799. Advanced Topics. 1-3 Credit Hours.

Subject matter offerings based upon student demand and availability of faculty. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title "Advanced Topics".

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MIC 810. Master's Thesis. 1-6 Credit Hours.

The student working on his/her master's thesis enrolls for credit, in most departments not to exceed six, as determined by his/her advisor. Credit is not awarded until the thesis has been accepted.

Components: THI.

Grading: SUS.

Typically Offered: Offered by Announcement Only.

MIC 820. Research in Residence. 1 Credit Hour.

Used to establish research in residence for the thesis for the master's degree after the student has enrolled for the permissible cumulative total in MIC 710 (usually six credits). Credit not granted. May be regarded as full time residence.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MIC 830. Doctoral Dissertation. 1-12 Credit Hours.

Required of all candidates for the Ph.D. The student will enroll for credit as determined by his/her advisor but not for less than a total of 24. Not more than 12 hours of MIC 730 may be taken in a regular semester, nor more than six in a summer session. Where a student has passed his/her (a) qualifying examinations, and (b) is engaged in an assistantship, he/she may still take the maximum allowable credit stated above.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

MIC 840. Doctoral Dissertation - Post Candidacy. 1-12 Credit Hours.

Required for all PhD candidates. The student will enroll for credits as determined by their advisor/ Office of Graduate and Postdoctoral Studies but not less than a total of 24. No more than 12 hours of research may be taken in a regular semester, and no more than six in a summer session.

Components: THI.

Grading: SUS.

Typically Offered: Fall.

MIC 850. Research in Residence. 1 Credit Hour.

Used to establish research in residence for the Ph.D., after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Credit not granted. May be regarded as full-time residence as determined by the Dean of the Graduate School.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

Military Science (MSL)

MSL 101. Basic Military Science. 2.00 Credit Hours.

Introduction to Army organizations, military customs and courtesies, basic stationary and marching drills, basic map reading, land navigation, drown-proofing, rappelling, river crossing techniques, physical fitness training, and practical exercises in field discipline. Requires outdoor leadership laboratory and at least one weekend field training exercise.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MSL 102. Basic Military Science. 2.00 Credit Hours.

Introduction to basic leadership principles and traits, army command and staff officer duties, awards, decorations, individual military tactics, field discipline, patrolling techniques, radio telephone procedures, rappelling and river crossing. Requires outdoor leadership laboratory and at least one weekend field training exercise.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MSL 201. Basic Military Science. 2.00 Credit Hours.

Instruction to squad and platoon marching drills, development of physical fitness training programs, conduct on military training and inspections, leadership techniques, advanced map reading, rappelling and river crossing techniques. Requires outdoor leadership laboratory and at least one weekend field training exercise.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MSL 202. Basic Military Science. 2.00 Credit Hours.

Continued instruction in drill and ceremonies, radio/telephone procedures, nuclear, biological, and chemical warfare, practical land navigation, orienteering, and introduction to combat troop leading procedures. Requires outdoor leadership laboratory and at least one weekend field training exercise.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MSL 301. Basic Military Science. 3.00 Credit Hours.

Classroom and field experience in leading squads and platoons in both garrison and combat environments. Practical exercises in combat troop leading procedures. Advanced physical fitness training to include endurance runs and tactical road marches. Requires outdoor leadership laboratory and at least one weekend field training exercise.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MSL 302. Advanced Military Science. 3.00 Credit Hours.

Classroom instruction and field experience in combat troop leading procedures for offensive, defensive and patrolling missions. Advanced written and practical land navigation exercises. Company level drill and ceremonies to include manual of arms. Classroom and practical exercises on requests for artillery and mortar fires. Practical experience with training underclassmen in first aid and individual tactics.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MSL 401. Advanced Military Science. 3.00 Credit Hours.

Instruction instills an uncompromising commitment to the Army Ethic, enhances thought processes and decision-making skills, and relates officer behavior to cadet leadership roles. Students are primarily responsible for the command and control of the cadet battalion for training purposes.

Student's role is principally one of officer leader at the platoon (30 or more under classmen) and higher levels and cadet instructor/evaluator. Rifle qualification. Company level drill and ceremonies to include manual of arms.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MSL 402. Advanced Military Science. 3.00 Credit Hours.

Capstone course in the preparation for a commission as a second lieutenant. The training is intended to solidify the commitment to officership, reinforce individual competencies, and afford maximum practical officer leader experiences through responsible leadership positions within the cadet battalion command and staff.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MSL 440. Studies in Military History. 1-3 Credit Hours.

Supervised readings and independent study in military history.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MSL 499. Independent Studies in U.S. Military History. 3 Credit Hours.

Supervised readings and independent study in United States Military History. Writing requirements.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

Military Studies (MIS)

MIS 100T. Transfer Credit Elective. 1-10 Credit Hours.

Components: LEC.

Grading: TRN.

Modern Languages and Literature (MLL)

MLL 195. Transfer Credit. 1-3 Credit Hours.

Transfer credit at the 100 level for courses in languages not offered by the Department of Modern Languages and Literature.

Components: UNG.

Grading: GRD.

Typically Offered: Fall.

MLL 295. Transfer Credit. 1-3 Credit Hours.

Transfer credit at the 200 level for courses in languages not offered by the Department of Modern Languages and Literature.

Components: LEC.

Grading: GRD.

MLL 321. Topics in Comparative Literary Studies. 3 Credit Hours.

Comparative and/or interdisciplinary topics in the study of literature. Specific topics vary; may be repeated for credit if topics differ. Taught in English
Prerequisite: ENG 106 or ENG 107.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MLL 322. Topics in Comparative Cultural Studies. 3 Credit Hours.

Cultural phenomena in various societies. Interdisciplinary analysis of the political dynamics of contemporary culture and its historical foundations with a focus on ideology, social class, nationality, ethnicity, sexuality and/or gender. Specific topics vary; may be repeated for credit if topics differ. Taught in English.

Prerequisite: ENG 106 or ENG 107.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MLL 325. World Cinema. 3 Credit Hours.

World cinema in a comparative perspective - national or international film movements and directors - based upon narrative film analysis. May be repeated for credit if topics vary.

Prerequisite: ENG 106 or ENG 107.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MLL 330. Comparative Topics in Gender and Sexuality. 3 Credit Hours.

Topics in gender and sexuality in a comparative perspective. May be repeated if topics vary. Taught in English.

Prerequisite: ENG 106 or ENG 107.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MLL 340. Migration Studies. 3 Credit Hours.

Topics within the literary and/or cultural dimensions of migration in a comparative framework.

Prerequisite: ENG 106 or ENG 107.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MLL 345. Franco-Maghreb Studies. 3 Credit Hours.

Major historical, social, cultural and literary issues related to the Franco-Maghrebian interface, in a comparative perspective. May be repeated if topics vary.

Prerequisite: ENG 106 or ENG 107.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MLL 360. The Caribbean through Literary and Cultural Studies. 3 Credit Hours.

Literary and cultural readings on the Caribbean in comparative perspective. May be repeated if topics vary.

Prerequisite: ENG 106 or ENG 107.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MLL 370. Studies in Literature, Culture, and Science. 3 Credit Hours.

An analysis, in a comparative or historical perspective, of the literary works that expose the deep interaction and mutual influence between literary or visual cultures and the sciences. Topics might include: Leonardo's genius; technology at the turn of the 20th-century; 20th-century wars, the science behind them and their representations; Vesalius's anatomical work and the philosophy and representation of the body in 16th-century Europe.

Prerequisite: ENG 106 or ENG 107.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MLL 395. Transfer Credit. 1-3 Credit Hours.

Transfer credit at the 300 level for courses in languages not offered by the Department of Modern Languages and Literature.

Components: LEC.

Grading: GRD.

MLL 404. Language in Society. 3 Credit Hours.

Overview of ideological, social, political, economic, and cultural issues of language in society, and the principle linguistic concepts and methodologies that guide research on those issues. Language variation, social dialectology, multilingualism, interaction and interpersonal communication, gender, language and power, language policy and planning, and globalization are highlighted. The main focus of the course (at least 80%) will be on non-English languages in particular, those taught in MLL.

Components: SEM.

Grading: GRD.

Typically Offered: Fall.

MLL 495. Transfer Credit. 1-3 Credit Hours.

Transfer credit at the 400 level for courses in languages not offered by the Department of Modern Languages and Literature.

Components: LEC.

Grading: GRD.

MLL 701. Intro to Second Language Teaching: Theory and Practice. 3 Credit Hours.

Introduction to the teaching of second languages in university settings. Overview of major theoretical approaches: sociocultural, communicative, and task-based. Practice with teaching techniques: Lesson planning, task design, use of the target language, grammar teaching, use of authentic oral and written materials in the classroom

Requisite: Graduate Standing.

Components: SEM.

Grading: GRD.

Typically Offered: Fall.

MLL 702. Bilingualism. 3 Credit Hours.

Social, psychological, linguistic, and pedagogical dimensions of language contact situations. Emphasis on Spanish and French.

Requisite: Graduate Standing.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MLL 703. Topics in Critical Studies of Language. 3 Credit Hours.

Special topics in the critical analysis of language.

Requisite: Graduate Standing.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MLL 704. Sociocultural Theory and Second Language Development. 3 Credit Hours.

Key principles of sociocultural theory of mind applied to second language acquisition and pedagogy. The seminar will explore the theoretical, methodological, and pedagogical implications of the theory, emphasizing concept-based teaching and dynamic assessment.

Requisite: Graduate Standing.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MLL 711. Introduction to Critical Theory. 3 Credit Hours.

An introduction to the major concepts, issues, and debates that inform contemporary literary criticism.

Components: SEM.

Grading: GRD.

Typically Offered: Fall.

MLL 712. Topics in Early Modern Comparative Literature. 3 Credit Hours.

Specific genres, works, authors and movements in comparative perspective in the early modern period (1300-1750). Topics may include: Trans-Atlantic Baroque; Grottesque Literature; Petrarchan Poetry in Italy, France, and England The Emergence of Professional Theater in Western Europe.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MLL 714. Readings in Critical Theory. 3 Credit Hours.

Representative works of critical theory as related to philosophy, sociology of culture, psychoanalysis, hermeneutics, deconstruction, etc. May be repeated for credit if topics are different.

Components: SEM.

Grading: GRD.

Typically Offered: Spring.

MLL 721. Special Topics in Literature. 3 Credit Hours.

May be repeated for credit, if topics are different.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MLL 726. Topics in Comparative Literature. 3 Credit Hours.

May be repeated for credit, if topics are different.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MLL 771. Introduction to Digital Humanities. 3 Credit Hours.

An introduction to the theory and practice of the digital humanities from a literary and cultural studies perspective. It introduces major types of digital humanities work and central debates and concerns in the field. The course is taught in English and is open to graduate students from all humanities departments. No experience in the digital humanities or with digital tools or methods is required.

Components: SEM.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MLL 772. Topics in Digital Humanities and Media Studies. 3 Credit Hours.

A survey of Media Studies. Students will approach a broad range of texts in the field, and outline both its historical development and present state, with a particular focus on emerging theories and practices within Media Studies and Digital Humanities in the academy. The course is taught in English and is open to graduate students from all humanities departments.

Components: SEM.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MLL 773. Digital Medieval Studies. 3 Credit Hours.

An overview on the history and theoretical trends regarding digital resources and tools applied to medieval disciplines. This course is taught in English and is open to graduate students from all humanities departments, especially those interested in historical studies and digital methods.

Components: SEM.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MLL 774. Practicum in Digital Humanities. 3 Credit Hours.

Offers students the possibility to apply their learning in the field of Digital Humanities and move forward on their personal Digital Humanities research project. Students will carry out many practical exercises with programming languages and digital tools, and work towards a final digital project. This course is taught in English and is open to graduate students from all humanities departments.

Components: SEM.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MLL 792. Directed Readings. 1-3 Credit Hours.

Directed readings.

Components: IND.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MLL 793. Teaching Practicum. 3 Credit Hours.

Teaching Practicum.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MLL 797. Readings for the Ph.D. Examinations. 3 Credit Hours.

For Ph.D. students who are preparing for exams.

Components: IND.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MLL 798. Internship. 1 Credit Hour.

Students work in a community or business setting on issues related to language, culture, and/or teaching.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MLL 799. Dissertation and Professional Writing Seminar. 1-3 Credit Hours.

This course will be taken during the seventh semester of graduate study, concurrently with the final preparation/defense of dissertation prospectus during the first month of the semester. The course provides a structure and a time frame for completing the first chapter of the dissertation over the course of that semester so that students have their projects well underway at the beginning of their eighth semester of graduate study. Students will present their thesis work-in-progress to the course instructor and each other while receiving broader counsel on dissertation completion strategies and various areas of professional writing, including conceptualizing arguments for various audiences, submitting grant proposals, and publishing across a variety of venues. Course is required in the fourth year of graduate study and may be repeated optionally in subsequent years by students in advanced stages of dissertation writing.

Prerequisite: SPA 830 or FRE 830.

Components: SEM.

Grading: GRD.

Typically Offered: Fall.

Molecular and Cellular Pharmacology (MCP)

MCP 701. Seminar. 2 Credit Hours.

Review of related literature, discussion of special topics, student presentations and attendance of faculty/department seminars. Course may be repeated for a total of eight credits.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

MCP 704. Mechanisms of Drug Action. 3 Credit Hours.

This course consists of a combination of lectures, problem sessions and student presentations. Students will be given in-depth exposure to the fundamental principles of Pharmacology. The mechanism of action of some specific drug classes will be examined in detail.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MCP 731. Special Topics. 1-6 Credit Hours.

Directed readings on subjects not ordinarily treated in depth in specific courses. Course may also consist of special laboratory problems.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MCP 732. Cardiovascular Pharmacology. 2-3 Credit Hours.

The course covers cardiovascular pharmacology, necessary cardiovascular physiology and anatomy and the function and pharmacology of the autonomic nervous system. The students learn about the function and energetics of the heart and how it is changed in cardiac disease.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MCP 743. Introductory Python Programming for Bioscientists. 3 Credit Hours.

The course is designed to teach the basic of the Python programming language. Students will learn to use code to solve problems related to biological datasets such as genomes, proteomes, and molecular structures.

Components: DIS.

Grading: SUS.

Typically Offered: Spring.

MCP 752. Systems Biology and Approaches in Pharmacology. 3 Credit Hours.

In this course students will discuss the biochemical structure and function of signaling pathways that are most frequently targeted by the pharmaceutical industry. Students will be exposed to novel concepts and findings, in particular with regards to innovative therapeutic applications. Each week will address a different pathway or signaling network, its biological targets and functions, and specific drugs that target it. Each week includes one lecture and one class where students and instructor convene to discuss articles, technical approaches or fundamental questions in the field.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MCP 753. Computational Pharmacology and Fundamentals of Drug Design. 3 Credit Hours.

Like physics and chemistry in the 20th century, computers are transforming biology and medicine at a rapid pace. In pharmacology, the importance of computation and bio- and chemo-informatics cannot be overestimated. This course is collectively taught by the MCP faculty and addresses the following four distinct areas. (1). Computer-based analysis of drug-receptor interactions. Students learn principles and specific software packages for in silico docking of drugs to proteins, predict structure-activity relationships and become familiar with programming tools required for such tasks. (2). Using on-line databases to study biological activity, therapeutic indexes, toxicity and other characteristics of drugs and other chemicals. Similarly, they learn to analyze the vast information available for drug targets such as receptor proteins and enzymes. (3). Students learn about pharmacogenomics, an area essential for personalized medicine. Here, they learn, for example, how to predict the reaction of certain populations to particular treatments. (4). Students learn about the drug development pipeline, starting with the design, through screening chemical libraries and to the basics of FDA approval. In addition to lectures, they visit a UM robotic drug screening facility and UM pharmacy. Overall, this course emphasizes a hands-on approach with students performing computation tasks on their laptops. Laptops and gaining access to certain on-line resources are required.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MCP 768. Neuropharmacology. 2-3 Credit Hours.

An intensive course covering the regulation of neural processes by drugs that target neurotransmitter signaling at the level of GPCRs, G proteins, second-messengers and ion channels.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MCP 810. Master's Thesis. 1-6 Credit Hours.

The student working on his/her master's thesis enrolls for credit, in most departments not to exceed six, as determined by his/her advisor. Credit is not awarded until the thesis has been accepted.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

MCP 820. Research in Residence. 1 Credit Hour.

Used to establish research in residence for the thesis for the master's degree after the student has enrolled for the permissible cumulative total in MCP 710 (usually six credits). Credit not granted. May be regarded as full time residence.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MCP 830. Dissertation Research-Pre-Candidacy. 1-12 Credit Hours.

Required for all PhD candidates. The student will enroll for credits as determined by their advisor/Office of Graduate and Postdoctoral Studies. No more than 12 hours of research may be taken in a regular semester, and no more than six in a summer session.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

MCP 840. Doctoral Dissertation- Post Candidacy. 1-12 Credit Hours.

Required for all PhD candidates. The student will enroll for credits as determined by their advisor/ Office of Graduate and Postdoctoral Studies but not less than a total of 24. No more than 12 hours of research may be taken in a regular semester, and no more than six in a summer session.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

MCP 850. Research in Residence. 1 Credit Hour.

Student must be registered in the semester they plan to defend. Used to establish research in residence for the PhD after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Student may be regarded as full-time residence as determined by the Dean of the Graduate School.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

Molecular, Cellular and Developmental Biology (MDB)

MDB 701. Seminar. 1-2 Credit Hours.

Students are required to present their research findings as well as attend Department Faculty seminars.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MDB 710. Readings in Cell Biology. 1-6 Credit Hours.

Current and classical research papers in cell, developmental, and molecular biology. Critical evaluation of papers and the methodologies used is included.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MDB 713. Topics in Cell Biology. 1-6 Credit Hours.

Formal seminar course in which each student presents a lecture relating to a specific theme. Topic areas include cell, developmental, and molecular biology with the subject changing each term.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MDB 751. Advanced Cell Biology Approaches to Molecular Medicine. 2-3 Credit Hours.

Structure, function, and biogenesis of cellular organelles and the cytoskeleton, including their regulation and dynamic interactions. The course is taught in seminars, followed by student-led discussion of recent relevant papers in the literature. The goal of the course is to lead the students to in-depth conceptual and methodological analysis of selected topics up the understanding of current leading-edge research in specific topics in Cell Biology. The course is designed to cover knowledge beyond the text books and to enable the students to design and criticize experimental approaches in Cell Biology acceptable for current peer-review criteria.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MDB 752. Current Topics in Mammalian Development. 2-3 Credit Hours.

The course will cover central emerging topics in mammalian development today including embryonic stem cells, micro RNA gene regulation, and organogenesis. The class will have an interactive format, starting with basic lecture in mammalian development; subsequent sessions will include an overview of the selected topic by faculty, followed by round table discussions of current paper(s) in the field.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MDB 753. Histology. 1 Credit Hour.

This course will offer the student a virtual slide collection of histology with interactive lectures to support image-based learning. The course covers basic tissues, organs, and systems (vascular; heart; pancreas; eyes; brain; spinal cord; liver; lung; mouse embryo; GI track). The course will meet once a week for one hour.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MDB 763. Stem Cell Biology and Genetic Engineering for Regenerative Medicine. 3 Credit Hours.

This course is designed to provide a current overview on the cell and molecular biology of stem cells, their identification and analysis, and the current status of their use for the repair and regeneration of a variety of tissues including heart, lung, muscle, pancreatic, neuronal and others.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MDB 765. Tumor Biology. 3 Credit Hours.

This course, comprised of lectures and student-led literature discussion, is intended to provide broad-based instruction on the modern molecular and cellular aspects of cancer biology, basic and translational research. The course highlights multiple areas including cell cycle, apoptosis, epidemiology, angiogenesis, and meets two times weekly.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MDB 810. Master's Thesis. 1-6 Credit Hours.

Current and classical research papers in cell, developmental, and molecular biology. Critical evaluation of papers and the methodologies used is included.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MDB 820. Research in Residence. 1-6 Credit Hours.

Direct laboratory experience as determined by the Departmental Graduate Committee.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MDB 830. Doctoral Dissertation. 1-12 Credit Hours.

Required of all candidates for the Ph.D. The student will enroll for credit as determined by his/her advisor but not for less than a total of 24. Not more than 12 hours of MDB 730 may be taken in a regular semester, nor more than six in a summer session. Where a student has passed his/her (a) qualifying examinations, and (b) is engaged in an assistantship, he/she may still take the maximum allowable credit stated above.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

MDB 840. Doctoral Dissertation- Post Candidacy. 1-12 Credit Hours.

Required for all PhD candidates. The student will enroll for credits as determined by their advisor/ Office of Graduate and Postdoctoral Studies but not less than a total of 24. No more than 12 hours of research may be taken in a regular semester, and no more than six in a summer session.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

MDB 850. Research in Residence. 1 Credit Hour.

Student must be registered in the semester they plan to defend. Used to establish research in residence for the PhD after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Student may be regarded as full-time residence as determined by the Dean of the Graduate School.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

Music Education and Therapy (MED)

MED 10. Mus Therapy Forum. 0 Credit Hours.

The course provides a weekly forum for sharing information about issues, current developments, and other matters related to music therapy as a field of study and as a profession.

Components: FOR.

Grading: CNC.

Typically Offered: Fall & Spring.

MED 149. Functional Techniques in Music Therapy I. 2 Credit Hours.

Students acquire functional guitar and piano skills while learning repertoire and techniques for leading and accompanying music therapy experiences.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MED 15. Mus Edu Forum. 0 Credit Hours.

The course provides a weekly forum for sharing information about issues, current developments, and other matters related to music education as a field of study and as a profession. The course is required for all undergraduate MED majors during each semester, except during the semester of the internship. Components: FOR.

Components: FOR.

Grading: CNC.

Typically Offered: Fall & Spring.

MED 159. Introduction to Music Therapy. 2 Credit Hours.

An overview of the field of music therapy, including history, theory and clinical practice. Includes field observations.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MED 240. Woodwind Techniques. 1 Credit Hour.

Course provides group instruction in woodwind instruments with emphasis on basic skills of performance as well as the appropriate teaching techniques, methods, and materials necessary for public school pedagogy.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

MED 241. Brass Techniques. 1 Credit Hour.

Group instruction in brass instruments with emphasis upon basic skills of performance as well as the appropriate teaching techniques, methods, and materials necessary for public school pedagogy.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

MED 242. Percussion Techniques. 1 Credit Hour.

Group instruction in percussion (snare drum, mallet-keyboard percussion, timpani, drum set, and small accessory instruments) with emphasis upon basic skills of performance as well as the appropriate teaching techniques, methods, and materials necessary for public school pedagogy.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

MED 243. String Techniques. 1 Credit Hour.

Group instruction in percussion (snare drum, mallet-keyboard percussion, timpani, drum set, and small accessory instruments) with emphasis upon basic skills of performance as well as the appropriate teaching techniques, methods, and materials necessary for public school pedagogy.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

MED 244. Vocal Techniques. 1 Credit Hour.

Class instruction in fundamentals of singing, breath control, tone production, and solo singing for music majors.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

MED 245. Folk and Modern Instrumental Techniques. 1 Credit Hour.

Group instruction in folk and modern instruments, including but not limited to guitar, ukulele, recorder, and drums, with emphasis on basic skills of performance and classroom uses, as well as the appropriate teaching techniques, methods, and materials.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

MED 249. Functional Techniques in Music Therapy II. 2 Credit Hours.

Students acquire functional piano skills while learning repertoire and techniques for leading and accompanying music therapy experiences. Vocal skills are also emphasized.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

MED 259. Music Therapy Pre-Practicum. 2 Credit Hours.

Students will learn a treatment-planning model for clinical practice. Topics include: assessment, goal setting, intervention design and data collection.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MED 340. Marching Band Fundamentals. 1 Credit Hour.

A study of all types of marching band activities and methods of presentation.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MED 359. Music Therapy Practicum 1A. 1 Credit Hour.

Structured clinical experience in music therapy under supervision of a music therapist in varying health-related settings. Focus of the 1A practicum is to observe and assist the on-site music therapist and to engage in limited co-leading.

Prerequisite: MED 259.

Components: PRA.

Grading: GRD.

Typically Offered: Fall & Spring.

MED 360. Music therapy Practicum 1B. 1 Credit Hour.

Structured clinical experience in music therapy under supervision of a music therapist in varying health-related settings. Focus of the 1B practicum is to observe and assist the on-site music therapist and to co-lead for half of all sessions.

Components: PRA.

Grading: GRD.

Typically Offered: Fall & Spring.

MED 361. Music Therapy Practicum 2A. 1 Credit Hour.

Structured clinical experience in music therapy under supervision of a music therapist in varying health-related settings. Focus of the 2A practicum is to observe and assist the on-site music therapist and to co-lead for 60% of all sessions.

Components: PRA.

Grading: GRD.

Typically Offered: Fall & Spring.

MED 362. Music Therapy Practicum 2B. 1 Credit Hour.

Structured clinical experience in music therapy under supervision of a music therapist in varying health-related settings. Focus of the 2B practicum is to observe and assist the on-site music therapist and to co-lead for 75% of all sessions.

Components: PRA.

Grading: GRD.

Typically Offered: Fall & Spring.

MED 363. Music Therapy Practicum 3A. 1 Credit Hour.

Structured clinical experience in music therapy under supervision of a music therapist in varying health-related settings. Focus of the 3A practicum is to observe and assist the on-site music therapist and to co-lead all sessions following one initial observation.

Components: PRA.

Grading: GRD.

Typically Offered: Fall & Spring.

MED 364. Music Therapy Practicum 3B. 1 Credit Hour.

Structured clinical experience in music therapy under supervision of a music therapist in varying health-related settings. Focus of the 3B practicum is to independently design and lead all sessions.

Components: PRA.

Grading: GRD.

Typically Offered: Fall & Spring.

MED 430. Teaching Jazz/Popular Music in Secondary Schools. 2 Credit Hours.

A survey of materials, methods, and techniques for instructing jazz and popular music in secondary schools. Review of standard literature, program organization, and in-class performance is emphasized. Designed specifically for music education majors.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MED 433. Seminar for Teaching Associates.. 1 Credit Hour.

Discussion of teaching, rehearsal techniques, and the organization and presentation of music materials related to the internship experiences. Course is required of all Music Education majors. To be taken in conjunction with Internship, MED 471.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MED 471. Internship in Music Education (Elementary School). 6 Credit Hours.

A comprehensive program in observation and supervised teaching in an elementary school music setting for a full semester under the guidance of school and university personnel.

Components: PRA.

Grading: GRD.

Typically Offered: Fall & Spring.

MED 473. Internship in Music Education (Secondary School). 6 Credit Hours.

A comprehensive program in observation and supervised teaching in an elementary school music setting for a full semester under the guidance of school and university personnel.

Components: PRA.

Grading: GRD.

Typically Offered: Fall & Spring.

MED 475. Internship in Music Education. 12 Credit Hours.

A comprehensive program in observation and supervised teaching in elementary, middle, or secondary school music settings for a full semester under the guidance of school and university personnel.

Components: PRA.

Grading: GRD.

Typically Offered: Fall & Spring.

MED 493. Special Projects in Music Education and music therapy. 1-3 Credit Hours.

Advanced individual instruction pertaining to faculty member's area of expertise and student's area of interest. This course includes a culminating project.

Components: IND.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MED 494. Special Topics in Music Education and Music Therapy. 1-3 Credit Hours.

Advanced group/classroom instruction pertaining to faculty member's expertise and students' areas of interest.

Components: SEM.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MED 542. Teaching General Music (K-5). 3 Credit Hours.

Curriculum, methods, and materials designed for elementary music, K-6. Observation, planning, and teaching experience are emphasized.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MED 543. Teaching Instrumental Music. 3 Credit Hours.

A study of elementary and secondary instrumental music instruction including program organization, teaching techniques, materials, and field experiences of music instruction in schools.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MED 544. Teaching Modern Music (7-12). 3 Credit Hours.

This course will provide students with fundamentals of teaching vocal music at the secondary (middle and high school) level. Focus will be placed on presenting effective and ethical instruction to all learners; developing a foundation of appropriate pedagogy and practice; building strategies for classroom management; and working in diverse populations. Students will be guided through activities and materials necessary for a successful student teaching experience in vocal music.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MED 545. Music in Rehabilitation. 3 Credit Hours.

Review of development and functioning for neurologically-based sensorimotor behavior. Survey of disabilities and diseases that typically result in sensorimotor deficits is included. Demonstration and practice of therapeutic techniques for sensorimotor deficits are also covered.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MED 546. Music in Psychotherapy. 3 Credit Hours.

Survey and practical application of music as therapy in the treatment of psychiatric disorders and in promoting mental health.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MED 548. Music for Special Learners. 3 Credit Hours.

This course is designed for music educators who will be working in schools with children and youth who have various disabilities. The purpose of this course is to acquaint students with the characteristics of children and youth with disabilities, and introduce adaptive strategies in music education, K-12, for instructing children and youth with disabilities.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MED 549. Teaching Vocal Music. 3 Credit Hours.

This course will provide students with fundamentals of teaching general music at the secondary (middle and high school) level. Focus will be placed on developing 21st Century musical curricula across a variety of musical disciplines; engaging students through several instructional paradigms; and for presenting instruction using conventional educational strategies.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MED 551. Music Therapy Research Methods. 3 Credit Hours.

This course is designed to help music therapy students: 1) integrate research findings into their clinical and/or educational practice, 2) implement research techniques into their work (e.g., through data collection or scholarly writing), and 3) become familiar with research procedures.

Components: LEC.

Grading: GRD.

MED 559. Internship in Music Therapy. 3 Credit Hours.

Course provides students with a six month opportunity as a music therapy intern in an approved training facility.

Components: PRA.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

MED 560. Internship in Music Therapy II. 0 Credit Hours.

Components: PRA.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

MED 562. Psychology of Music I. 3 Credit Hours.

Psychological foundations of music with an emphasis on problems of perception, experimental esthetics, functional music, and measurement and diagnosis of musical ability and achievement. Related literature of experimental investigation is reviewed.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MED 575. Preschool Music Workshop. 1-3 Credit Hours.

Workshop is designed to prepare class members to initiate, administer, and teach music programs for preschool children. Materials which address the teacher, the child, and the parent are used. The daily schedule includes demonstration classes with children, lectures, and active participation of and discussion with class members. Emphasis is placed on working with a planning guide for teachers which offers articles on the major areas of the curriculum and clear, succinct statements focusing on the central issues of each lesson.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MED 576. Music and Development. 3 Credit Hours.

Review of development in cognitive, communication, and musical domains. Survey of developmental disabilities most commonly found in child populations is included as well as demonstration and practice of therapeutic techniques for cognitive and communication deficits.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MED 581. Teaching Classroom Guitar I. 2 Credit Hours.

This class is designed for students and teachers, guitarist or non-guitarist, who wish to initiate, enhance, and teach guitar in a multi-level classroom setting. The course includes demonstration classes with elementary and secondary students. Topics include organization and teaching performance materials in a hands-on setting.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

MED 593. Special Projects in Music Education and Music Therapy. 1-3 Credit Hours.

Advanced individual instruction pertaining to faculty member's area of expertise and student's area of interest. This course includes a culminating project.

Components: IND.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MED 594. Special Topics in Music Education and Music Therapy. 1-3 Credit Hours.

Advanced group/classroom instruction pertaining to faculty member's expertise and students' areas of interest.

Components: SEM.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MED 615. Music Education Certification Forum. 0 Credit Hours.

A weekly forum for sharing information about issues, current developments, and other matters related to music education. Required for all graduate music education certification students.

Components: FOR.

Grading: SUS.

Typically Offered: Fall & Spring.

MED 642. Teaching General Music. 3 Credit Hours.

Curriculum, methods, and materials designed for elementary music, K-6. Observation, planning, and teaching experience are emphasized

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MED 643. Teaching Instrumental Music. 3 Credit Hours.

A study of elementary and secondary instrumental music instruction including program organization, teaching techniques, materials, and field experiences of music instruction in schools.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MED 644. Teaching Modern Music. 3 Credit Hours.

This course will provide students with fundamentals of teaching general music at the secondary (middle and high school) level. Focus will be placed on developing 21st century musical curricula across a variety of musical disciplines; engaging students through several instructional paradigms; and for presenting instruction using conventional educational strategies.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MED 645. Music in Rehabilitation. 3 Credit Hours.

Review of development and functioning for neurologically-based sensorimotor behavior. Survey of disabilities and diseases that typically result in sensorimotor deficits is included. Demonstration and practice of therapeutic techniques for sensorimotor deficits are also covered.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MED 646. Music in Psychotherapy. 3 Credit Hours.

Survey and practical application of music as therapy in the treatment of psychiatric disorders and in promoting mental health.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MED 648. Music for Special Learners. 3 Credit Hours.

This course is designed for music educators who will be working in schools with children and youth who have various disabilities. The purpose of this course is to acquaint students with the characteristics of children and youth with disabilities, and introduce adaptive strategies in music education, K-12, for instructing children and youth with disabilities.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MED 649. Teaching Vocal Music. 3 Credit Hours.

Course covers curriculum, vocal/rehearsal techniques, and literature. Teaching music in secondary schools through the medium of choral performance.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MED 651. Music Therapy Research Methods. 3 Credit Hours.

This course is designed to help music therapy students: 1) integrate research findings into their clinical and/or educational practice, 2) implement research techniques into their work (e.g., through data collection or scholarly writing), and 3) become familiar with research procedures.

Components: LEC.

Grading: GRD.

MED 655. Elementary Music Workshop. 3 Credit Hours.

Course is designed for in-service elementary school classroom teachers and music supervisors. Survey and experience with contemporary methodology and materials in elementary school music education is emphasized.

Components: SEM.

Grading: GRD.

Typically Offered: Summer.

MED 656. Secondary General Music Workshop. 3 Credit Hours.

Course is designed for teachers of general music classes in middle, junior high, and senior high schools. Practical experience with methods and materials designed for non-performance music classes, grades 7-12 is emphasized.

Components: SEM.

Grading: GRD.

Typically Offered: Summer.

MED 662. Psychology of Music I. 3 Credit Hours.

Psychological foundations of music with an emphasis on problems of perception, experimental esthetics, functional music, and measurement and diagnosis of musical ability and achievement. Related literature of experimental investigation is reviewed.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MED 675. Preschool Music Workshop. 1-3 Credit Hours.

Workshop is designed to prepare class members to initiate, administer, and teach music programs for preschool children. Materials which address the teacher, the child, and the parent are used. The daily schedule includes demonstration classes with children, lectures, and active participation of and discussion with class members. Emphasis is placed on working with a planning guide for teachers which offers articles on the major areas of the curriculum and clear, succinct statements focusing on the central issues of each lesson.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MED 676. Music and Development. 3 Credit Hours.

Review of development in cognitive, communication, and musical domains. Survey of developmental disabilities most commonly found in child populations is included as well as demonstration and practice of therapeutic techniques for cognitive and communication deficits.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MED 681. Teaching Classroom Guitar I. 2 Credit Hours.

This class is designed for students and teachers, guitarist or non-guitarist, who wish to initiate, enhance, and teach guitar in a multi-level classroom setting. The course includes demonstration classes with elementary and secondary students. Topics include organization and teaching performance materials in a hands-on setting.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

MED 693. Special Projects in Music Education and Music Therapy. 1-3 Credit Hours.

Advanced individual instruction pertaining to faculty member's area of expertise and student's area of interest. This course includes a culminating project.

Components: IND.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MED 694. Special Topics in Music Education and Music Therapy. 1-3 Credit Hours.

Advanced group/classroom instruction pertaining to faculty member's expertise and students' areas of interest.

Components: SEM.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MED 700. Psychoacoustical Foundations of Music. 2 Credit Hours.

Production, transmission, and reception of simple and complex tones. Examination of physical properties and psychoacoustical response to tonal stimuli is also included.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MED 701. Recital Paper Preparation. 1 Credit Hour.

Supervised preparation of the recital paper required for the Master of Music degree in classical performance.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MED 702. DMA Essay Proposal. 1 Credit Hour.

Supervised preparation of the DMA proposal for the Doctor of Musical Arts in Performance, Conducting, or Accompanying and Chamber Music.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MED 710. Graduate Forum in Music Therapy. 0 Credit Hours.

Forum for graduate students to discuss topics relevant to advanced music therapy practice, engage in experiential therapeutic techniques, and to share student efforts of scholarship in the field.

Components: FOR.

Grading: SUS.

Typically Offered: Fall & Spring.

MED 715. Graduate Forum. 0 Credit Hours.

Forum for masters and doctoral students to discuss various topics of relevance to music education practice and to share efforts of scholarship in the field.

Components: FOR.

Grading: SUS.

Typically Offered: Fall & Spring.

MED 720. International Music Education. 3 Credit Hours.

Students study music instruction systems in other countries, including public and private school, community music programs, private music instruction, music conservatory instruction, informal instructional systems, and university work in music. Students compare music instruction systems in the United States and other countries through readings and presentations by native informants. An optional on-site field experience examining music education in another country may be arranged to coincide with this course.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MED 725. Cultural Diversity in Music Education. 3 Credit Hours.

Examination of major issues and central concepts in cultural diversity, multiculturalism, and social justice in music education.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MED 729. Advanced Music Therapy Practice I. 3 Credit Hours.

Review of research literature in clinical topic areas, such as music and cognition, or music and affective processing. Presentation of research findings through writing and discussion is emphasized as well as the application of research findings through practice and demonstration of therapeutic techniques.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MED 730. Advanced Music Therapy Practice II. 3 Credit Hours.

Review of research literature in clinical topic areas, such as music and sensorimotor processing or music in biofeedback. Presentation of research findings through writing and discussion is emphasized as well as the application of research findings through practice and demonstration of therapeutic techniques.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

MED 732. Vocal Methods and Materials in Music Education. 2 Credit Hours.

Survey of latest vocal methods and publications for use in public schools.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MED 733. Seminar for Teaching Associates. 1 Credit Hour.

Discussion of teaching, rehearsal techniques, and the organization of music materials related to the internship experience. To be taken in conjunction with internship, MED 771.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

MED 735. Social Issues Music Learn. 3 Credit Hours.

Survey of major issues in the social psychology and sociology of music related to music learning and music teaching.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MED 740. Woodwind Techniques. 1 Credit Hour.

Group instruction in woodwind instruments with emphasis on basic skills of performance as well as the appropriate teaching techniques, methods, and materials necessary for public school pedagogy.

Requisite; MED GRAD STUDENTS ONLY.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

MED 741. Brass Techniques. 1 Credit Hour.

Group instruction in brass instruments with emphasis on basic skills of performance as well as the appropriate teaching techniques, methods, and materials necessary for public school pedagogy.

Requisite; MED GRAD STUDENTS ONLY.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

MED 742. Percussion Techniques. 1 Credit Hour.

Group instruction in percussion (snare drum, mallet-keyboard percussion, timpani, drumset, and small accessory instruments) with emphasis upon basic skills of performance as well as the appropriate teaching techniques, methods, and materials necessary for public school pedagogy.

Prerequisite: MEDU majors only.

Components: LAB.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MED 743. String Techniques. 1 Credit Hour.

The study of stringed instruments (violin, viola, cello, bass) in a heterogeneous class with emphasis on general principles of string playing and teaching methods for use in beginning and intermediate instruction in the schools.

Requisite; MED GRAD STUDENTS ONLY.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

MED 744. Vocal Techniques. 1 Credit Hour.

Class instruction in fundamentals of singing, breath control, tone production, and solo singing for music majors.

Requisite; MED GRAD STUDENTS ONLY.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

MED 745. Folk and Modern Instrumental Techniques. 1 Credit Hour.

Group instruction in folk and modern instruments, including but not limited to guitar, ukulele, recorder, and drums, with emphasis on basic skills of performance and classroom uses, as well as the appropriate teaching techniques, methods, and materials.

Requisite; MED GRAD STUDENTS ONLY.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

MED 747. Seminar in Instrumental Music Education. 2 Credit Hours.

Practical study of the development of school band programs with special consideration given to the selection of training and concert materials, rehearsal techniques and administrative procedures.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MED 750. Community Music Programs. 3 Credit Hours.

A seminar designed to generate ideas about contemporary theory and practice in community music. Students engage in readings and discussion. The course is open to all graduate music majors, but is intended for music education doctoral students.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MED 755. The Teaching Artist. 3 Credit Hours.

Course presents fundamental issues of music teaching and learning. Through projects, readings, and discussions, students will learn how to create effective music learning across a variety of situations.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MED 757. Music Therapy Graduate Practicum 1. 2 Credit Hours.

In a clinical setting, gain skill in observation and co-leading under the supervision of a music therapist.

Components: PRA.

Grading: GRD.

Typically Offered: Fall & Spring.

MED 758. Music Therapy Graduate Practicum 2. 2 Credit Hours.

Components: PRA.

Grading: GRD.

Typically Offered: Fall & Spring.

MED 759. Music Therapy Graduate Practicum 3. 2 Credit Hours.

In a clinical setting, independently design and apply therapeutic techniques based on scientific evidence.

Components: PRA.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MED 760. Philosophy of Music Education. 3 Credit Hours.

The history of Western music education beginning with the ancient Greeks is surveyed to the present. Incorporated in the survey is the evolution of philosophical thought about music and its role in educational practice. From this grounding, current philosophical views of music education are presented.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MED 762. Music Learning and Curriculum. 3 Credit Hours.

Survey of theories of music learning and their application to music instruction, curriculum development, and instructional design in music.

Components: LEC.

Grading: GRD.

MED 763. Music Research Methods. 3 Credit Hours.

An introduction to descriptive, experimental, philosophical, qualitative, and historical research in music education and music therapy, with particular reference to data collection, research design, and effective research procedures. Students prepare critiques of research material and are guided in designing original research projects related to their own area of interest.

Components: LEC.

Grading: GRD.

MED 764. Music Assessment. 3 Credit Hours.

Presentation of methods for assessing musical behavior in studios, classrooms, and concert halls. Strategies for the objectification of performance quality, musical learning, capacity, and potential uses of contemporary measurement techniques are provided.

Components: LEC.

Grading: GRD.

MED 765. Seminar in Music Education. 2 Credit Hours.

Survey of literature, bibliography, and contemporary trends in music education. Course may be repeated for credit by doctoral students with consent of instructor.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MED 773. Seminar on Music in Childhood. 2 Credit Hours.

Seminar addresses music in the lives of children by examining the musical cultures of childhood, music transmission processes, and formal through informal learning. Implication from music teaching will be considered.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MED 774. Seminar in General Music. 2 Credit Hours.

Course provides curriculum, methods, and materials designed for instruction for the general music student, grades K-12.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MED 775. Practicum in Music Education. 7 Credit Hours.

Students enrolled in the Master of Music with Certification Option Degree may complete the required internship with this course.

Components: PRA.

Grading: GRD.

Typically Offered: Fall & Spring.

MED 776. Practicum in Teaching College Students. 1-3 Credit Hours.

Supervised practicum for teaching music education courses at the college level.

Components: PRA.

Grading: GRD.

Typically Offered: Fall & Spring.

MED 780. Doctoral Seminar. 1 Credit Hour.

A seminar designed to generate ideas about contemporary theory and practice in music. Students engage in discussion of general research topics, but from the perspective of their particular discipline. Enrollment is intended for those doctoral students who have satisfactorily completed the qualifying examinations through and until receiving approval of the doctoral paper proposal. The course is open to all majors, but is required of all music education doctoral students.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MED 781. Seminar in Qualitative Research in Music. 2 Credit Hours.

Examination of various approaches to qualitative research in the field of music education. Hands-on experiences designing research, collecting data, and presenting findings.

Components: LSN.

Grading: GRD.

Typically Offered: Spring.

MED 782. Seminar in Quantitative Research in Music. 2 Credit Hours.

Examination of advanced topics in quantitative music research, including statistical analysis techniques, results reporting, computer-based analysis, scholarly critiquing, and peer review of research. Dissertation development will also be addressed.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MED 784. Music Therapy Seminar. 1 Credit Hour.

Doctoral seminar in music therapy to address practical and professional issues pertaining to teaching and research in music therapy. Possible topics include: Teaching and Clinical Supervision, Philosophical Research, and Historical Research.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

MED 790. Teaching Music in College. 1 Credit Hour.

An overview of college music curriculum, patterns of administrative organization, traditional and innovative content, styles and resources used in teaching at the college level, evaluation and grading techniques used in classes, lessons, and ensembles.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MED 793. Special Projects in Music Education and Music Therapy. 1-3 Credit Hours.

Advanced individual instruction pertaining to faculty member's area of expertise and student's area of interest. This course includes a culminating project.

Components: IND.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MED 794. Special Topics in Music Education and Music Therapy. 1-3 Credit Hours.

Advanced group/classroom instruction pertaining to faculty member's expertise and students' areas of interest.

Components: SEM.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MED 795. Doctoral Research Project. 1 Credit Hour.

Small scale research project in music education or music therapy, suitable for publication. This project could serve as pilot work for the dissertation.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

MED 796. Doctoral Research Project. 1 Credit Hour.

Small scale research project in music education or music therapy, suitable for publication. This project could serve as pilot work for the dissertation.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

MED 802. Internship in Music Therapy. 1-3 Credit Hours.

Course provides students with a six month opportunity as a music therapy intern in an approved training facility.

Components: PRA.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

MED 805. Master's Project. 1-3 Credit Hours.

Culminating project for Master of Music in music education students not completing a thesis or recital.

Components: THI.

Grading: SUS.

Typically Offered: Fall.

MED 810. Master's Thesis. 1-6 Credit Hours.

The student working on his/her master's thesis enrolls for credit, in most departments not to exceed six, as determined by his/her advisor. Credit is not awarded until the thesis has been accepted.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

MED 820. Research in Residence. 1 Credit Hour.

Used to establish research in residence and maintain full-time enrollment for the master's degree after the student has completed the required hours of thesis or project credit.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

MED 830. Doctoral Dissertation. 1-12 Credit Hours.

Required of all candidates for the Ph.D. The student will enroll for credit as determined by his/her advisor but not for less than a total of 24. Not more than 12 hours of MED 730 may be taken in a regular semester, nor more than six in a summer session. Where a student has passed his/her (a) qualifying examinations, and (b) is engaged in an assistantship, he/she may still take the maximum allowable credit stated above.

Components: THI.

Grading: SUS.

Typically Offered: Fall & Spring.

MED 850. Research in Residence. 1 Credit Hour.

Used to establish research in residence and maintain full-time enrollment for the Ph.D. in Music Education after the student has completed the required hours of dissertation credit.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

Music, Media and Industry (MMI)

MMI 102. Record Company Practicum. 1 Credit Hour.

The course focuses on practical techniques and procedures employed by record companies.

Requisite: Frost School of Music.

Components: PRA.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI 107. Skills Lab I. 1 Credit Hour.

A Contemporary Performance musical skills ensemble focusing on ear training, transcription, notation, and interactive musicianship for songwriters.

Co-Requisite: MMI 140 must pass with a 2.0.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

MMI 108. Skills Lab II. 1 Credit Hour.

A Contemporary Performance musical skills ensemble focusing on ear training, transcription, notation, and interactive musicianship for songwriters.

Prerequisite: MMI 141.

Components: LAB.

Grading: GRD.

Typically Offered: Spring.

MMI 13. Music Engineering Forum. 0 Credit Hours.

A weekly forum for all Music Engineering Technology and Audio Engineering majors, both undergraduate and graduate. Presentations include faculty lectures, guest lectures by industry professionals, as well as dissemination of information pertaining to audio studios and laboratories.

Requisite: Plan of Music Engineering.

Components: FOR.

Grading: CNC.

Typically Offered: Fall & Spring.

MMI 139. Small Contemporary Ensemble. 1 Credit Hour.

A performing ensemble of student-generated contemporary musical repertoire.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI 14. Music Industry Forum. 0 Credit Hours.

A weekly forum for all Music Industry majors, both graduate and undergraduate, for the purpose of updating current teaching material with the latest developments, presentations of guest speakers from the industry, lectures, and reports from faculty on current employment opportunities.

Requisite: Plan of Music Business & Entertainment Industry.

Components: FOR.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI 140. Experiential Musicianship I. 3 Credit Hours.

The first of a two-course sequence in music theory, with an overall focus on musicianship for the Contemporary Music student. The course emphasizes theoretical and analytical skills, as well as the connection between analysis and other musical experiences in listening and performance. The student will display a written understanding of the basic building blocks of music, through its more advanced constructions and functions.

Corequisite: MMI 107.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MMI 141. Experiential Musicianship II. 3 Credit Hours.

MMI 141 is the second in a two-course sequence in music theory and musicianship for the Contemporary Music Student. As with MMI 140, the course emphasizes analytical skills and the connections between analysis and other musical experiences in listening and performance.

Pre-requisite: MMI 140 And Co-requisite: MMI 108 must pass with 2.0.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MMI 15. Made Forum. 0 Credit Hours.

Requisite: Must have a Plan of MADE.

Components: FOR.

Grading: CNC.

Typically Offered: Fall & Spring.

MMI 151. Desktop Audio Production. 3 Credit Hours.

Introduction to MIDI technology and computer based tools for music production.

Requisite: Plan of MUE or MEC.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MMI 160. Ensemble Recording Workshop I. 3 Credit Hours.

Assisting recording and sound reinforcement engineers in the assigned performance ensemble in both rehearsal and performance. Students also perform in a studio ensemble where they act as both recording engineer and musician.

Requisite: Plan of MUE or MEC.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI 161. Ensemble Recording Workshop II. 3 Credit Hours.

Students are responsible for the audio needs of an assigned ensemble in both rehearsal and performance. Lectures address audio equipment and practices. Students also perform in a studio ensemble where they act as the recording engineer and musician. Open to MUE majors only.

Prerequisite: MMI 160. Requisite: Plan of MUE or MEC.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI 171. Music Engineering Laboratory. 1 Credit Hour.

Requisite: MBEI Or MBEC Majors Or MBEI Minors only.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

MMI 172. Audio Design Workshop III. 1 Credit Hour.

Digital audio system design and architecture including analog-digital conversion, digital I/O hardware specifications, audio effects processors and digital audio recorder alignment techniques. Students design and troubleshoot audio projects including A/D converters, S/PDIF I/O, and DAT recorders. Open to MUE and EAN Majors only.

Requisite: Frost School of Music.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MMI 173. Introduction to the Music Business. 3 Credit Hours.

This course provides students with an overview of the music business and related entrepreneurial fundamentals. Music business topics explored include copyright, publishing, the record business, licensing, the live music industry, and arts administration. Entrepreneurial topics explored include starting a business, accounting and marketing basics, and securing funding.

Requisite: MBEI Or MBEC Majors Or MBEI Minors only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI 178. Entertainment Industry Survey. 3 Credit Hours.

An overview of the entertainment industry. Concentration on the legal, marketing and financial aspects of different areas of the industry including film, television, music, broadcasting, cable, publishing, video games, sports, performing arts, and theme parks.

Requisite: MBEI Or MBEC Majors Or MBEI Minors only.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MMI 201. Introduction to Music Recording. 3 Credit Hours.

An overview study of the theory and practice of music recording, with emphasis on modern recording studio practices. Topics include physics of sound, psychoacoustics, studio design, microphones, loudspeakers, consoles, signal processing, digital audio, MIDI, and synchronization.

Requisite: Must have a plan of MUE or MEC or EAN.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MMI 207. Skills Lab III: American Song Traditions. 1 Credit Hour.

A learning ensemble focusing on the various Anglo-American song traditions from English and Irish folk ballads, through Hymnodies, Old-Time, Bluegrass, Western Swing and Newgrass.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

MMI 208. Skills Lab IV: American Song Traditions. 1 Credit Hour.

A learning ensemble focusing on the various African-American song traditions from early plantation songs, shouts, hollers, and spirituals, to the development of blues traditions, to gospel.

Components: LAB.

Grading: GRD.

Typically Offered: Spring.

MMI 240. Experiential Musicianship III. 3 Credit Hours.

The study of melodic, harmonic and rhythmic language in jazz and contemporary music using analysis and aural dictation. MMI 207 Skills Lab III, keyboard lab accompanies this course.

Corequisite: MMI 207 SKILLS LAB III.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MMI 241. Experiential Musicianship IV. 3 Credit Hours.

The continuation of MSJ 140/MMI 240 focused on the study of the diminished chord, extensions, modes and upper structure triads. A keyboard lab accompanies this course.

Corequisite: MMI 208 SKILLS LAB IV.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MMI 250. Essential Technologies for Musicians. 3 Credit Hours.

Basic MIDI and digital audio principles from set-up to final mix, recording of live Instruments using basic microphone techniques, MIDI sequencing, software synthesizers, basic editing, and audio looping.

Requisite: Frost School of Music.

Components: DIL.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI 273. Artist Development and the Live Entertainment Industry. 3 Credit Hours.

Views of the live entertainment industry from the perspective of the performing artist, artist manager, talent agent, attorney, and concert promoter. Consideration is given to the interpersonal, business, and contractual relationships and their impact on the performing artist's career. Strategies for career development are addressed and the ground rules of publicity, public relations, and promotion explored and applied in practical situations through special individual and team projects.

Prerequisites: MMI 173 or MMI 178 or MMI 310. Requisite: MBEI and MBEC majors and MBEI minors only.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MMI 274. Introduction to Music Copyright Law. 3 Credit Hours.

This course provides a study of the current U.S. copyright law as it applies to musical compositions and sound recordings. This course includes analysis of the modern practices of music licensing for both digital and physical uses as well as copyright acquisition. Students will study the various rights of the copyright owner, what can be protected by copyright, and the duration of copyright. They will learn the formalities of music copyright including registration and notice. Current music copyright infringement cases are reviewed along with defenses to infringement and remedies for infringement. The course also covers international copyright protection and music copyright as it applies to digital technologies and distribution.

Requisite: MBEI Or MBEC Majors Or MBEI Minors only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI 307. Skills Lab V: American Pop. 1 Credit Hour.

A learning ensemble focusing on American Popular Music from the late-1950s to the late-1970s. Students will develop a portfolio of original songs in modern American styles.

Components: ENS.

Grading: GRD.

Typically Offered: Fall.

MMI 308. Skills Lab VI: American Pop. 1 Credit Hour.

A learning ensemble focusing on American Popular Music from the 1980s to the present. Students will develop a portfolio of original songs in modern American styles.

Components: ENS.

Grading: GRD.

Typically Offered: Spring.

MMI 310. Music Business and Entrepreneurship for Musicians. 3 Credit Hours.

This course provides students with an overview of the music business and related entrepreneurial fundamentals. Music business topics explored include copyright, publishing, the record business, licensing, the live music industry, and arts administration. Entrepreneurial topics explored include starting a business, accounting and marketing basics, and securing funding.

Requisite: Frost School of Music.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI 315. Contemporary Songwriting I. 3 Credit Hours.

Explores modern songwriting techniques, song lyric theory, song form, melodic development, pop harmony and rhythm & grooves. Students will analyze a variety of recordings by top modern songwriters. Students will compose and record a number of original songs for the course.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MMI 320. Contemporary Lyric Writing. 3 Credit Hours.

This course explores modern lyric writing techniques, song lyric theory, and song form. Students will analyze a variety of lyrics by top modern songwriters, focusing on their use of literary devices, imagery and metaphors. Students will compose a number of original lyrics for the course.

Requisite: Frost School of Music.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MMI 361. Acoustics. 3 Credit Hours.

A study of the theoretical principles of acoustics. Principle topics include basic properties, acoustical phenomena, superposition, Fourier Theorem, symmetry, vibrating strings and columns, and musical instruments; a study of architectural acoustics such as growth and decay, absorption coefficients, normal modes, diffusion, isolation, and mass law; design applications such as structural techniques and materials, live end-dead end, room geometry, tuning, TDS and other measurement techniques.

Prerequisites: MTH 112, PHY 102 or PHY 205. Requisite: Plan of MUE and MEC.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MMI 378. Music Business Agreements. 3 Credit Hours.

This course explores the legal agreements between different parties in the music business, such as record companies, recording artists, music producers, and licensees. Emphasis is placed on the different ways of contractually addressing intellectual property ownership and usage, compensation, and exclusive services.

Prerequisite: MMI 173 or MMI 178 or MMI 310 and MMI 274. Requisite: MBEI and MBEC Majors and MBEI Minors only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI 401. Audio Electronics. 3 Credit Hours.

An introductory course in audio electronics theory and professional audio applications such as recording studio equipment and audio effects design. Coursework includes basic electronic components and theories, passive filtering, transformers, operational amplifiers, vacuum tubes, non-linear elements including diodes and JFETs, graphic, parametric and shelving equalizers, compressors, limiters, gates, microphone preamps, analog effects including reverb, flanging, and chorusing. Students will design custom audio circuits and use computer simulations to understand theory of operation.

Requisite: Frost School of Music.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MMI 410. Music Engineering Capstone Project. 3 Credit Hours.

Students in MMI 410 propose and execute a project that represents the Culmination of their learning experiences in the Music Engineering Program. Students meet as a group with a faculty member of record each week to Discuss project topics and assess progress. The course concludes with a public Presentation of the final project.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI 436. Audio Postproduction. 3 Credit Hours.

Basic audio for video and film postproduction, including the study of time code, synchronization, electronic editing, video and film transports, dolby stereo, equipment interfacing, and future developments.

Prerequisite: MMI 201 and Requisite: MUE and EAN Majors.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MMI 445. Senior Project/Portfolio. 1 Credit Hour.

This course is the capstone of the Creative American Music Program. Students will develop a portfolio of recordings of original songs. Students will also be required a public performance of their original songs.

Requisite: must have a major Plan of MBEI with Creative American Music & Business or a minor Plan of Creative American Music.

Components: THI.

Grading: GRD.

Typically Offered: Spring.

MMI 454. Entertainment Industry Practicum. 1 Credit Hour.

Practical experience in an entertainment industry organization.

Requisite: Frost School of Music.

Components: PRA.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI 455. Music Business Internship. 2 Credit Hours.

Practical experience in different areas of the music business under the supervision of professional firms and the university.

Requisite: MBEI or MBEC or MADE Majors.

Components: PRA.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI 456. Internship in Entertainment Industries II. 0 Credit Hours.

Continuation of MMI 455.

Requisite: Frost School of Music.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MMI 460. Recital Recording and Sound Reinforcement (Recording Services). 1 Credit Hour.

Practical experience in live concert recording, editing and mastering, and sound reinforcement, under supervision of professional on-campus engineers.

Requisite: Frost School of Music.

Components: PRA.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI 465. Internship in Music Engineering. 1-3 Credit Hours.

Practical experience in the music engineering industry such as work in a recording studio, broadcast company, hardware or software manufacturer, under professional supervision.

Requisite: Plan of MUE or MEC.

Components: PRA.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MMI 493. Special Projects in Music Media and Industry. 1-3 Credit Hours.

Advanced individual instruction pertaining to faculty member's area expertise and student's area of interest. This course includes a culminating project.

Requisite: Frost School of Music.

Components: IND.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MMI 494. Special Topics in Music Media and Industry. 1-3 Credit Hours.

Advanced group/classroom instruction pertaining to faculty to faculty member's expertise and students' areas of interest.

Components: SEM.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MMI 501. Transducer Theory. 3 Credit Hours.

Course covers the fundamentals of electromagnetism and audio transducer theory including loudspeaker and microphone systems. Classical electro-acoustical analysis of transducers including acoustic suspension, bass-reflex, transmission line, electrostatic and horn loudspeakers, dynamic, ribbon and condenser pressure, and pressure-gradient microphones. Students use computer-aided design programs and Thiele-Small parameterization to model loudspeakers and measure loudspeaker responses. Open to MUE and EAN Majors only.

Prerequisite: MMI 501. Requisite: Plan of MUE and EAN.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MMI 502. Audio Signal Processing I. 3 Credit Hours.

A study of the theory and practice of digital audio topics including discrete time sampling, quantization, dithering, PCM, A/D and D/A conversion, digital filtering, oversampling, modulation codes, timebase, error correction codes, magnetic storage, DAT, and optical storage.

Requisite: MUE and EAN majors only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MMI 503. Audio Signal Processing II. 3 Credit Hours.

A study of the theory and practice of digital audio topics including fiber optics and networks, compact disc, interconnection, psychoacoustics, low bit-rate perceptual coding, MPEG, digital audio broadcasting, sigma-delta conversion, noise shaping, digital video, and emerging technologies. Open to MUE and EAN Majors only.

Prerequisite: MMI 502. Requisite: Plan of MUE and EAN.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MMI 504. Audio Signal Processing III. 3 Credit Hours.

Theory, design, and development of computer audio synthesizers and analyzers. Students implement software synthesizers including analog and physical modeling, wave-table, wave-shaping, and FM designs. Classical and modern theories of timbre and time-frequency analysis are included.

Requisite: Frost School of Music.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MMI 505. Current Trends in Music Engineering I. 3 Credit Hours.

Theory, design and development of audio signal processing techniques. Topics include DSP architectures, systems design, algorithm development, and applications. DSP development tools used to write, debug, and test programs including time-domain based effects such as reverb, chorus, flanging, and digital delay as well as frequency-domain projects such as FIR, IIR, and FFT filters and vocoders.

Prerequisite: MMI 504. Requisite: Plan of MAU and EAN.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MMI 506. Current Trends in Music Engineering II. 3 Credit Hours.

MMI 506 addresses current technologies, skills, and techniques employed in a specific aspect of the audio technology and/or music technology fields.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MMI 508. Current Trends in Music Engineering III. 3 Credit Hours.

MMI 508 addresses current technologies, skills, and techniques employed in a specific aspect of the audio technology and/or music technology fields.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MMI 510. Computational Psychoacoustics. 3 Credit Hours.

This course deals with the fundamentals of audition in human biological systems, including auditory sensory transduction, cochlear processes, neural pathways, cortical organization, and auditory illusions, with specific applications to perceptual data reduction techniques and auditory displays.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MMI 511. Current Trends in Music Engineering IV. 3 Credit Hours.

MMI 511 addresses current technologies, skills, and techniques employed in a specific aspect of the audio technology and/or music technology fields.

Requisite: Frost School of Music.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MMI 520. Audio Technology for Musicians. 3.00 Credit Hours.

Introduction and overview of audio technology with emphasis on music recording, production equipment, and techniques. Topics include microphones, loudspeakers, mixing consoles, interconnection, amplifiers, digital processing, time code, and surround sound. Open to non-MUE majors.

Requisite: Frost School of Music.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MMI 521. Timbral Ear Training. 3 Credit Hours.

Students in this course will accomplish four primary goals: 1) instantaneous discernment of ISO frequency regions and critical bands; 2) aural identification of audio-processing techniques, artifacts, and problems; 3) development of critical thinking skills and competence in current audio listening test methodologies; and 4) successful completion of a comprehensive bank of critical listening "golden ears" tests

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MMI 530. Entrepreneurship for Musicians. 3 Credit Hours.

Course explores a wide range of options for musicians who want to pursue music business careers in their regional music markets. Students examine opportunities in performance, recording, composition, education, and more. Emphasis is placed on the packaging of musical skills in the marketplace and on the financial management of a small proprietary music business. As a result, the student musician will be prepared to make career decisions with foresight and planning.

Requisite: Frost School of Music.

Components: DIL.

Grading: GRD.

Typically Offered: Spring.

MMI 531. Recording Engineering Seminar. 3 Credit Hours.

Students in MMI 531 will accomplish three primary goals: 1) understanding historical trends in the audio recording industry, particularly those involving key technological advances; 2) understanding and appreciating recent advances in sound recording technologies and methods; and 3) development of critical thinking, research, writing, and presentation skills.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MMI 532. Arts Leadership. 3 Credit Hours.

Course explores critical concepts of leadership, decision-making, and teamwork in wide-ranging arts presentation settings. Through experiential learning, students practice and acquire the knowledge and skills vital for effective navigation through the dynamic arts industry.

Requisite: MBEI or MBEC or MADE Majors.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI 537. Recorded Music Operations. 3 Credit Hours.

This course provides a study of the activities involved in commercially exploiting recorded music. The course includes an analysis of activities involved in the production, manufacturing, distribution, and marketing of a recorded music product; as well as related royalty accounting, mechanical licensing and master-use licensing activities.

Prerequisite: MMI 173 or MMI 310 and MMI 274 and Requisite: MBEI or MBEC or MADE Majors.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI 543. Music Marketing. 3 Credit Hours.

Students learn how to fulfill demand and influence consumer behavior through effective marketing techniques. The course provides the students with information on the latest technologies being employed to reach and communicate with target consumers.

Requisite: MBEI or MBEC or MADE Majors.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI 545. Music Placement and Exploitation. 3 Credit Hours.

This course provides an in-depth study of the creative and business aspects involved with the discovery, placement and exploitation of music in the current entertainment business. Students explore the processes of how music is placed in television, film, commercials, video games, with new media and recording artists. This course covers the roles of the various players in the music placement business and studies creative approaches, negotiation techniques and licensing practices. The DIY music creator, both the songwriter and recording artist, and their music representative will learn how to prepare, package, present, place and exploit their music as well as how to build a fan base. Students will learn how to locate resources for licensable music, offer creative options, select and license appropriate music, combine music with a variety of media, negotiate with a variety of rights holders, and generate license requests, agreements, and cue sheets.

Prerequisite: MMI 173 or MMI 310 and MMI 274 and MMI 573 or Requisite: MBEI or MBEC or MADE Majors.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MMI 573. Music Publishing. 3 Credit Hours.

This course provides an in-depth study of the creative and business aspects, concepts and practices of the music publishing industry. The course covers the acquisition, exploitation, administration and protection of songs in the contemporary music publishing business. Students will also study the income sources, royalty rates and payment procedures currently used in the music industry as they apply to musical compositions. Music publishing agreements currently used for the acquisition and administration of songs are reviewed in-depth. Foreign music publishing issues are explored and reviewed as related to domestic music publishing.

Prerequisite: MMI 173 or MMI 310 and MMI 274 and Requisite: MBEI or MBEC or MADE Majors.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MMI 580. Advanced Analysis of Current Topics in the Music Business. 3 Credit Hours.

This course provides students with in-depth study of advanced topics in the music business, including recent developments in the areas of music licensing, copyright, international markets, live music, artist development, data management, and others. Particular focus is placed on ways to meet the current challenges facing the industry.

Requisite: MBEI Or MBEC Or MADE Majors Or MBEI Minor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MMI 593. Special Projects in Music Media and Industry. 1-3 Credit Hours.

Advanced individual instruction pertaining to faculty member's area expertise and student's area of interest. This course includes a culminating project.

Requisite: Frost School of Music.

Components: IND.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MMI 594. Special Topics in Music Media and Industry. 1-3 Credit Hours.

Advanced group/classroom instruction pertaining to faculty to faculty member's expertise and students' areas of interest.

Components: SEM.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MMI 601. Transducer Theory. 3 Credit Hours.

Course covers the fundamentals of electromagnetism and audio transducer theory including loudspeaker and microphone systems. Classical electroacoustical analysis of transducers including acoustic suspension, bass-reflex, transmission line, electrostatic and horn loudspeakers, dynamic, ribbon and condenser pressure, and pressure-gradient microphones. Students use computer-aided design programs and Thiele-Small parameterization to model loudspeakers and measure loudspeaker responses. Open to MUE and EAN Majors only.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MMI 602. Audio Signal Processing I. 3 Credit Hours.

A study of the theory and practice of digital audio topics including discrete time sampling, quantization, dithering, PCM, A/D and D/A conversion, digital filtering, oversampling, modulation codes, timebase, error correction codes, magnetic storage, DAT, and optical storage.

Requisite: Frost School of Music.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MMI 603. Audio Signal Processing II. 3 Credit Hours.

A study of the theory and practice of digital audio topics including fiber optics and networks, compact disc, interconnection, psychoacoustics, low bit-rate perceptual coding, MPEG, digital audio broadcasting, sigma-delta conversion, noise shaping, digital video, and emerging technologies. Open to MUE and EAN Majors only.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MMI 604. Audio Signal Processing III. 3 Credit Hours.

Theory, design, and development of computer audio synthesizers and analyzers. Students implement software synthesizers including analog and physical modeling, wave-table, wave-shaping, and FM designs. Classical and modern theories of timbre and time-frequency analysis are included.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MMI 606. Current Trends in Music Engineering II. 3 Credit Hours.

MMI 506 addresses current technologies, skills, and techniques employed in a specific aspect of the audio technology and/or music technology fields.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MMI 608. Current Trends in Music Engineering III. 3 Credit Hours.

MMI 508 addresses current technologies, skills, and techniques employed in a specific aspect of the audio technology and/or music technology fields.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MMI 610. Computational Psychoacoustics. 3 Credit Hours.

This course deals with the fundamentals of audition in human biological systems, including auditory sensory transduction, cochlear processes, neural pathways, cortical organization, and auditory illusions, with specific applications to perceptual data reduction techniques and auditory displays.

Requisite: Frost School of Music.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MMI 611. Current Trends in Music Engineering IV. 3 Credit Hours.

MMI 511 addresses current technologies, skills, and techniques employed in a specific aspect of the audio technology and/or music technology fields.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MMI 620. Audio Technology for Musicians. 2-3 Credit Hours.

Introduction and overview of audio technology with emphasis on music recording, production equipment, and techniques. Topics include microphones, loudspeakers, mixing consoles, interconnection, amplifiers, digital processing, time code, and surround sound. Open to non-MUE majors.

Components: LEC.

Grading: GRD.

MMI 621. Timbral Ear Training. 3 Credit Hours.

Students in this course will accomplish four primary goals: 1) instantaneous discernment of ISO frequency regions and critical bands; 2) aural identification of audio-processing techniques, artifacts, and problems; 3) development of critical thinking skills and competence in current audio listening test methodologies; and 4) successful completion of a comprehensive bank of critical listening "golden ears" tests

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MMI 630. Entrepreneurship for Musicians. 3 Credit Hours.

Course explores a wide range of options for musicians who want to pursue music business careers in their regional music markets. Students examine opportunities in performance, recording, composition, education, and more. Emphasis is placed on the packaging of musical skills in the marketplace and on the financial management of a small proprietary music business. As a result, the student musician will be prepared to make career decisions with foresight and planning.

Requisites: Graduate Music Students Only.

Components: DIL.

Grading: GRD.

Typically Offered: Spring.

MMI 631. Recording Engineering Seminar. 3 Credit Hours.

Students in MMI 631 will accomplish three primary goals: 1) understanding historical trends in the audio recording industry, particularly those involving key technological advances; 2) understanding and appreciating recent advances in sound recording technologies and methods; and 3) development of critical thinking, research, writing, and presentation skills.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MMI 632. Arts Leadership. 3 Credit Hours.

Course explores critical concepts of leadership, decision-making, and teamwork in wide-ranging arts presentation setting. Through experiential learning, students practice and acquire the knowledge and skills vital for effective navigation through the dynamic arts industry.

Requisite: MBEI Or MPRS Or JDMM Or JDMA.

Components: DIL.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI 637. Recorded Music Operations. 3 Credit Hours.

This course provides a study of the activities involved in commercially exploiting recorded music. The course includes an analysis of activities involved in the production, manufacturing, distribution, and marketing of a recorded music product; as well as related royalty accounting, mechanical licensing and master-use licensing activities.

Components: DIL.

Grading: GRD.

Typically Offered: Spring.

MMI 641. Tour Management and Production. 3 Credit Hours.

Students will become familiar with the responsibilities of a tour planner. Individual tour planning projects are assigned which will give the students insight into the management and production of a tour.

Requisite: Frost School of Music.

Components: DIL.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI 643. Marketing in the Arts and Entertainment. 3 Credit Hours.

Students learn how to fulfill demand and influence consumer behavior through effective marketing techniques. The course provides the students with information on the latest technologies being employed to reach and communicate with target consumers.

Components: DIL.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI 645. Music Placement and Exploitation. 3 Credit Hours.

This course provides an in-depth study of the creative and business aspects involved with the discovery, placement and exploitation of music in the current entertainment business. Students explore the processes of how music is placed in television, film, commercials, video games, with new media and recording artists. This course covers the roles of the various players in the music placement business and studies creative approaches, negotiation techniques and licensing practices. The DIY music creator, both the songwriter and recording artist, and their music representative will learn how to prepare, package, present, place and exploit their music as well as how to build a fan base. Students will learn how to locate resources for licensable music, offer creative options, select and license appropriate music, combine music with a variety of media, negotiate with a variety of rights holders, and generate license requests, agreements, and cue sheets.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MMI 673. Music Publishing. 3 Credit Hours.

This course provides an in-depth study of the creative and business aspects, concepts and practices of the music publishing industry. The course covers the acquisition, exploitation, administration and protection of songs in the contemporary music publishing business. Students will also study the income sources, royalty rates and payment procedures currently used in the music industry as they apply to musical compositions. Music publishing agreements currently used for the acquisition and administration of songs are reviewed in-depth. Foreign music publishing issues are explored as related to domestic music publishing. Students will also learn how to create and operate their own music publishing company.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MMI 693. Special Projects in Music Media and Industry. 1-3 Credit Hours.

Advanced individual instruction pertaining to faculty member's area of expertise and student's area of interest. This course includes a culminating project.

Components: DIS.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MMI 694. Special Topics in Music Media and Industry. 1-3 Credit Hours.

Advanced group/classroom instruction pertaining to faculty member's expertise and students' areas of interest.

Components: SEM.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MMI 701. Advanced Digital Audio Electronics. 3 Credit Hours.

Topics in digital audio including discrete time signals, digital filters, error digital audio processors, FFT, CIRC, and digital recorders are discussed. Requisite: Frost School of Music.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MMI 705. Current Trends in Music Engineering I. 3 Credit Hours.

Theory, design and development of audio signal processing techniques. Topics include DSP architectures, systems design, algorithm development, and applications. DSP development tools used to write, debug, and test programs including time-domain based effects such as reverb, chorus, flanging, and digital delay as well as frequency-domain projects such as FIR, IIR, and FFT filters and vocoders.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MMI 706. Current Topics in Audio Analysis and Signal Processing. 3 Credit Hours.

MMI 606 surveys recent topics related to audio analysis, synthesis, and signal processing with an emphasis in software programming and practical applications. Course material is drawn from several topics: current audio APIs and plug-in architectures, computational theories of musical timbre, machine listening, spatial audio, digital audio effects, new digital audio synthesis techniques, and machine-musician interaction modalities.

Requisite: Frost School of Music.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MMI 715. Contemporary Songwriting I. 3 Credit Hours.

Explores modern songwriting techniques, song lyric theory, song form, melodic development, pop harmony and rhythm and grooves. Students will analyze a variety of recordings by top modern songwriters. Students will compose and record a number of original songs for the course.

Requisite: Must be in the School of Graduate Music.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MMI 726. Performing Arts Center and Facility Management. 3 Credit Hours.

Students learn the many aspects of managing a live entertainment and performing arts center facility. Logistics, management, budgeting, marketing and programming within a live entertainment and performing arts facility are addressed.

Requisite: Graduate Plan of MBEI or MPR or JDMM or JDML.

Components: DIL.

Grading: GRD.

Typically Offered: Fall.

MMI 735. World of the Working Musician. 3 Credit Hours.

Building a career in the twenty-first century and beyond creates challenges both exciting and daunting. The purpose of this course is to provide grounding, critical information, as well as planning and vision for shaping the key components of launching and sustaining a career in the arts.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MMI 736. Sponsorship, Development, and Financial Management in the Live Entertainment Industry. 3 Credit Hours.

Students learn how to write and present a line-item budget for an arts presentation event, arts presenting organization, and an arts facility. Specific techniques and methods that are used to reduce event risk and safety are discussed.

Requisite: Graduate Plan of MBEI or MPR or JDMM or JDML.

Components: DIL.

Grading: GRD.

Typically Offered: Fall.

MMI 738. Legal Aspects of the Live Entertainment Industry. 3 Credit Hours.

Students become familiar with various Artist, Client, Production, Vendor and Facility Contracts and Agreements commonly used in the industry.

Requisite: Graduate Plan of MBEI or MPR or JDMM or JDML.

Components: DIL.

Grading: GRD.

Typically Offered: Fall.

MMI 739. Small Contemporary Ensemble. 1 Credit Hour.

A performing ensemble of student-generated contemporary musical repertoire.

Requisite: Must be in the School of Graduate Music.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI 740. Arts Presenting Project. 3 Credit Hours.

Students develop and produce an Arts Presenting event. Students will be responsible for all aspects of budgeting, marketing, promotion and production of the event. This will be a semester long project requiring the knowledge and skills learned throughout the Arts Presenting Program.

Requisite: Frost School of Music.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MMI 750. Music Business Agreements. 3 Credit Hours.

This course explores the legal agreements between different parties in the music business, such as record companies, recording artists, music producers, and licensees. Emphasis is placed on the different ways of contractually addressing intellectual property ownership and usage, compensation, and exclusive services.

Requisite: Graduate Plan of MBEI or MPR or JDMM or JDML.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MMI 751. Recording Studio Workshop. 1 Credit Hour.

Introduction to the multi track recording studio environment. Hands-on lectures and labs including tracking, overdub and mixdown session management, techniques, and philosophies are included. Topics also include audio routing, equalization, effects, and microphone technique.

Requisite: Frost School of Music.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MMI 752. Music Licensing. 3 Credit Hours.

This course provides an in-depth exploration of an extensive variety of music licenses and international licensing concepts. Students acquire practical experience utilizing licensing parameters. Students will also be able to identify, explain, and apply music licensing terms and procedures. The licensing of music in print, sound recordings, the Internet, commercial productions, electrical transcriptions, synchronization for theatrical films and television programs, public performances and theatrical music productions are among the areas covered in this course. Students will also be able to identify and explain the various revenue streams and collection procedures of the international music business.

Requisite: Frost School of Music.

Components: DIL.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI 753. Transducer Workshop. 1 Credit Hour.

Fundamentals of electromagnetism and audio transducer theory including loudspeaker and microphone systems. Classical electro-acoustical analysis of transducers including acoustic suspensions, bass-reflex, transmission line, electrostatic and horn loudspeakers, dynamic, ribbon and condenser pressure, and pressure-gradient microphones. Students use computer-aided design programs and Thiele-Small parameterization to model loudspeakers and measure loudspeaker responses.

Requisite: Frost School of Music.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MMI 756. Entertainment Industry Practices. 3 Credit Hours.

An overview of entertainment industry practices. Concentration on the legal, marketing and financial aspects of different areas of the industry focusing primarily on film, television, and book publishing, while also broadly exploring additional areas such as video games, sports, and performing arts.

Requisite: Graduate Plan of MBEI or MPR or JDMM or JDML.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MMI 774. Music Copyright Law. 3 Credit Hours.

This course provides an in-depth study of the essential provisions of the U.S. copyright law as they are related to music.

Requisite: Graduate Plan of MBEI or MPR or JDMM or JDML.

Components: DIL.

Grading: GRD.

Typically Offered: Fall.

MMI 780. Advanced Analysis of Current Topics in the Music Business. 3 Credit Hours.

This course provides students with in-depth study of advanced topics in the music business, including recent developments in the areas of music licensing, copyright, international markets, live music, artist development, data management, and others. Particular focus is placed on ways to meet the current challenges facing the industry.

Requisite: Graduate Plan of MBEI or MPR or JDMM or JDML.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MMI 793. Special Projects in Music Media and Industry. 1-3 Credit Hours.

Advanced individual instruction pertaining to faculty member's area of expertise and student's area of interest. This course includes a culminating project.

Components: IND.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MMI 794. Special Topics in Music Media and Industry. 1-3 Credit Hours.

Advanced group/classroom instruction pertaining to faculty member's expertise and students' areas of interest.

Components: SEM.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MMI 802. Music Business Internship. 3 Credit Hours.

Practical experience in different areas of the music business under the supervision of professional firms and the university.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

MMI 804. Internship in Arts Presenting. 3 Credit Hours.

Practical experience in different areas of arts presenting under the supervision of professional firms and the university.

Components: PRA.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

MMI 813. Master's Research Project. 1-3 Credit Hours.

The student working on his/her master's research project enrolls for credit as determined by his/her advisor. Credit is not awarded until the project paper is accepted.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

MMI 820. Research in Residence. 1 Credit Hour.

Used to establish research in residence and maintain full-time enrollment for the master's degree after the student has completed the required hours of thesis or project credit.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

MMI CB1. Contemporary Bass. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits; 1/2 hour lesson for students enrolled for 1 credit. Technical Requirements: Basic grooves and bassline construction. Analysis of different styles of rock, pop, rhythm & blues, and funk music. Introduction to acoustic, six-string electric, and fretless electric basses. Knowledge of beginning functional harmony and sight-reading skills will also be addressed.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI CB3. Contemporary Bass. 1-2 Credit Hours.

One hour lesson for students enrolled for 2 credits, 1/2 hour less for students enrolled for 1 credit. Technical requirements: Analysis of classic rhythm sections recorded throughout the last 50 years, including concentration on important and influential drummers in different styles of rock, pop, R&B, funk, latin, and jazz idioms. Live performance skills and studio techniques. Studies in jazz and modal harmony. Introduction to improvisation.

Prerequisite: MMI CBD.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI CBB. Contemporary Bass. 1-2 Credit Hours.

One hour lesson for students enrolled for 2 credits, 1/2 hour less for students enrolled for 1 credit. Technical requirements: Basic grooves and bassline construction. Analysis of different styles of rock, pop, rhythm & blues, and funk music. Introduction to acoustic, six-string electric and fretless electric basses. Knowledge of beginning functional harmony and sight-reading skills will also be addressed.

Prerequisite: MMI CBA.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI CBC. Contemporary Bass. 1-2 Credit Hours.

One hour lesson for students enrolled for 2 credits, 1/2 hour less for students enrolled for 1 credit. Technical requirements: Analysis of important bass players and styles, including Carol Kaye, James Jamerson, Larry Graham, Jack Bruce and others. Studies in intermediate harmony and introduction to standard American popular repertoire. Sight-reading, chart reading, and basic rhythm section arranging.

Prerequisite: MMI CBB.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI CBD. Contemporary Bass. 1-2 Credit Hours.

One hour lesson for students enrolled for 2 credits, 1/2 hour less for students enrolled for 1 credit. Technical requirements: Analysis of important bass players and styles, including Carol Kaye, James Jamerson, Larry Graham, Jack Bruce and others. Studies in intermediate harmony and introduction to standard American popular repertoire. Sight-reading, chart reading, and basic rhythm section arranging.

Prerequisite: MMI CBC.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI CBF. Contemporary Bass. 1-2 Credit Hours.

One hour lesson for students enrolled for 2 credits, 1/2 hour less for students enrolled for 1 credit. Technical requirements: Analysis of classic rhythm sections recorded throughout the last 50 years, including concentration on important and influential drummers in different styles of rock, pop, R&B, funk, latin, and jazz idioms. Live performance skills and studio techniques. Studies in jazz and modal harmony. Introduction to improvisation.

Prerequisite: MMI CBE.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI CBG. Contemporary Bass. 1-2 Credit Hours.

One hour lesson for students enrolled for 2 credits, 1/2 hour less for students enrolled for 1 credit. Technical requirements: Advanced jazz harmony and improvisation. World music and odd meter studies, including non-traditional styles and grooves. Advanced concepts of recording and performance, including starting and working within the context of an original band project. Elements of professionalism in the music business.

Prerequisite: MMI CBF.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI CBH. Contemporary Bass. 1-2 Credit Hours.

One hour lesson for students enrolled for 2 credits, 1/2 hour less for students enrolled for 1 credit. Technical requirements: Advanced jazz harmony and improvisation. World music and odd meter studies, including non-traditional styles and grooves. Advanced concepts of recording and performance, including starting and working within the context of an original band project. Elements of professionalism in the music business.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI CD1. Contemporary Drumset. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits, 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Sticking techniques, basic hand/foot patterns. Analysis of rock, pop, rhythm and blues, Latin and jazz styles. Basic chart reading.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI CD3. Contemporary Drumset. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits, 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Tools to enhance soloing and executing grooves. Transcription/analysis of important drumset artists in major styles. Basic studio performance techniques, and relationship to singer/songwriter. Basic jazz performance elements. Basic world music rhythms.

Prerequisite: MMI CDD.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI CDB. Contemporary Drumset. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits, 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Sticking techniques, basic hand/foot patterns. Analysis of rock, pop, rhythm and blues, Latin and jazz styles. Basic chart reading.

Prerequisite: MMI CDA.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI CDC. Contemporary Drumset. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits, 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Advanced sticking techniques, advanced hand/foot patterns. Transcription/analysis of important drumset artists in major styles. Advanced chart reading.

Prerequisite: MMI CDB.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI CDD. Contemporary Drumset. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits, 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Advanced sticking techniques, advanced hand/foot patterns. Transcription/analysis of important drumset artists in major styles. Advanced chart reading.

Prerequisite: MMI CDC.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI CDF. Contemporary Drumset. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits, 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Tools to enhance soloing and executing grooves. Transcription/analysis of important drumset artists in major styles. Basic studio performance techniques, and relationship to singer/songwriter. Basic jazz performance elements. Basic world music rhythms.

Prerequisite: MMI CDE.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI CDG. Contemporary Drumset. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits, 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Tools to enhance soloing and executing grooves. Transcription/analysis of important drumset artists in major styles. Basic studio performance techniques, and relationship to singer/songwriter. Basic jazz performance elements. Basic world music rhythms.

Prerequisite: MMI CDF.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI CDH. Contemporary Drumset. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits, 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Advanced soloing techniques, odd groupings, displacement. Advanced studio performance techniques, and relationship to singer/songwriter. Advanced jazz performance elements, Advanced world rhythms. Development of individual voice in music.

Prerequisite: MMI CDG.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI CG1. Contemporary Guitar. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits, 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Beginning pop harmony. Beginning accompanying. Rock/pop Improvisation. Analysis of rock, pop, rhythm and blues, Latin and jazz styles. Basic chart reading. Basic acoustic and electric guitar techniques.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI CG3. Contemporary Guitar. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits, 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Advanced Rock/pop improvisation. Beginning functional jazz harmony. Basic jazz performance elements. Transcription/analysis of important guitar artists in major styles. Basic studio performance techniques and relationship to singer/songwriter. Advanced acoustic guitar techniques. Guitar equipment, maintenance.

Prerequisite: MMI CGD.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI CGB. Contemporary Guitar. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits, 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Beginning pop harmony. Beginning accompanying. Rock/pop Improvisation. Analysis of rock, pop, rhythm and blues, Latin and jazz styles. Basic chart reading. Basic acoustic and electric guitar techniques.

Prerequisite: MMI CGA.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI CGC. Contemporary Guitar. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits, 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Advanced harmony. Advanced accompanying. Transcription/analysis of important guitar artists in major styles. Advanced chart reading and capoing techniques. Beginning alternate tunings.

Prerequisite: MMI CGB.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI CGD. Contemporary Guitar. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits, 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Advanced harmony. Advanced accompanying. Transcription/analysis of important guitar artists in major styles. Advanced chart reading and capoing techniques. Beginning alternate tunings. Successful completion of Level D to move to Level E.

Prerequisite: MMI CGC.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI CGF. Contemporary Guitar. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits, 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Advanced Rock/pop improvisation. Beginning functional jazz harmony. Basic jazz performance elements. Transcription/analysis of important guitar artists in major styles. Basic studio performance techniques and relationship to singer/songwriter. Advanced acoustic guitar techniques. Guitar equipment, maintenance.

Prerequisite: MMI CGE.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI CGG. Contemporary Guitar. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits, 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Advanced improvisational concepts. Advanced jazz harmony. Advanced jazz performance elements. Advanced studio performance techniques and relationship to the singer/songwriter. Advanced world music rhythms. Development of individual voice in music. Advanced alternate tunings. Guitar equipment, maintenance.

Prerequisite: MMI CGF.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI CGH. Contemporary Guitar. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits, 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Advanced improvisational concepts. Advanced jazz harmony. Advanced jazz performance elements. Advanced studio performance techniques and relationship to the singer/songwriter. Advanced world music rhythms. Development of individual voice in music. Advanced alternate tunings. Guitar equipment, maintenance.

Prerequisite: MMI CGG.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI CK1. Contemporary Keyboard. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits, 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Beginning Gospel harmony (triads in all inversions), basic add-nine pop harmony. Beginning accompanying. Analysis of rock, pop, rhythm and blues, Latin, and jazz styles. Basic chart reading.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI CK3. Contemporary Keyboard. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits, 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Beginning pop improv. Beginning functional jazz harmony (thirds and sevenths). Basic jazz performance elements. Transcription/analysis of important keyboard artists in major styles. Basic studio performance techniques and relationship to singer/songwriter. Keyboard equipment, maintenance, patch libraries and sound editors.

Prerequisite: MMI CKD.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI CKB. Contemporary Keyboard. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits, 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Beginning Gospel harmony (triads in all inversions), basic add-nine pop harmony. Beginning accompanying. Analysis of rock, pop, rhythm and blues, Latin, and jazz styles. Basic chart reading.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI CKC. Contemporary Keyboard. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits, 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Advanced Gospel harmony. Advanced accompanying. Transcription/analysis of important keyboard artists in major styles. Advanced chart reading.

Prerequisite: MMI CKB.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI CKD. Contemporary Keyboard. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits, 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Advanced Gospel harmony. Advanced accompanying. Transcription/analysis of important keyboard artists in major styles. Advanced chart reading.

Prerequisite: MMI CKC.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI CKF. Contemporary Keyboard. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits, 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Beginning pop improv. Beginning functional jazz harmony (thirds and sevenths). Basic jazz performance elements. Transcription/analysis of important keyboard artists in major styles. Basic studio performance techniques and relationship to singer/songwriter. Keyboard equipment, maintenance, patch libraries and sound editors.

Prerequisite: MMI CKE.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI CKG. Contemporary Keyboard. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits, 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Advanced improvisational concepts. Advanced jazz harmony. advanced jazz performance elements. Advanced studio performance techniques and relationship to singer/songwriter. Advanced world music rhythms. Development of individual voice in music. Keyboard equipment, maintenance, patch libraries and sound editors.

Prerequisite: MMI CKF.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI CKH. Contemporary Keyboard. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits, 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Advanced improvisational concepts. Advanced jazz harmony. advanced jazz performance elements. Advanced studio performance techniques and relationship to singer/songwriter. Advanced world music rhythms. Development of individual voice in music. Keyboard equipment, maintenance, patch libraries and sound editors.

Prerequisite: MMI CKG.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI CM3. Contemporary Media. 1-2 Credit Hours.

Prerequisite: MMI CMD.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI CMB. Contemporary Media. 1-2 Credit Hours.

Prerequisite: MMI CMA.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI CMC. Contemporary Media. 1-2 Credit Hours.

Prerequisite: MMI CMB.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI CMD. Contemporary Media. 1-2 Credit Hours.

Prerequisite: MMI CMC.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI CMF. Contemporary Media. 1-2 Credit Hours.

Prerequisite: MMI CME.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI CMG. Contemporary Media. 1-2 Credit Hours.

Prerequisite: MMI CMF.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI CMH. Contemporary Media. 1-2 Credit Hours.

Prerequisite: MMI CMG.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI CV1. Contemporary Voice. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits, 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Warm-ups, Cool downs and introductory exercises for breath management. Attack in phonation, registration, resonance, articulation, coordination, microphone technique, key selection and vocal hygiene and maintenance. Beginning chart writing. Repertoire of original and contemporary songs in various styles as prescribed by the voice teacher.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI CV3. Contemporary Voice. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits, 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Demonstrate evidence of upper range extension with fully supported sound and appropriate modification of resonators, ability to self-prepare a song, advance knowledge of music styles and historical periods of contemporary music, effective communication of original songs. Advanced chart writing. Intermediate improvisation and ornamentation. Repertoire of original and contemporary songs in various styles as prescribed by the voice teacher.

Prerequisite: MMI CVD.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI CVB. Contemporary Voice. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits, 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Warm-ups, Cool downs and introductory exercises for breath management. Attack in phonation, registration, resonance, articulation, coordination, microphone technique, key selection and vocal hygiene and maintenance. Beginning chart writing. Repertoire of original and contemporary songs in various styles as prescribed by the voice teacher.

Prerequisite: MMI CVA.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI CVC. Contemporary Voice. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits, 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Basic knowledge of musical styles and historical periods of contemporary music, effective communication of songs in a variety of contemporary styles. Intermediate chart writing. Beginning improvisation and ornamentation. Repertoire of original and contemporary songs in various styles as prescribed by the voice teacher.

Prerequisite: MMI CVB.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI CVD. Contemporary Voice. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits, 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Basic knowledge of musical styles and historical periods of contemporary music, effective communication of songs in a variety of contemporary styles. Intermediate chart writing. Beginning improvisation and ornamentation. Repertoire of original and contemporary songs in various styles as prescribed by the voice teacher.

Prerequisite: MMI CVC.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI CVF. Contemporary Voice. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits, 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Demonstrate evidence of upper range extension with fully supported sound and appropriate modification of resonators, ability to self-prepare a song, advance knowledge of music styles and historical periods of contemporary music, effective communication of original songs. Advanced chart writing. Intermediate improvisation and ornamentation. Repertoire of original and contemporary songs in various styles as prescribed by the voice teacher.

Prerequisite: MMI CVE.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI CVG. Contemporary Voice. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits, 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Demonstrate perfect facility in required contemporary styles, ability to evaluate performances critically and coherently, facility with register changes in upper range, polished and artistic performance with accuracy in pitch, rhythm, good posture, breath management, phonation, resonance, and microphone technique. Advanced chart writing and studio vocal arranging techniques. Advanced improvisation and ornamentation. Repertoire of original and contemporary songs in various styles as prescribed by the voice teacher.

Prerequisite: MMI CVF.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI CVH. Contemporary Voice. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits, 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Demonstrate perfect facility in required contemporary styles, ability to evaluate performances critically and coherently, facility with register changes in upper range, polished and artistic performance with accuracy in pitch, rhythm, good posture, breath management, phonation, resonance, and microphone technique. Advanced chart writing and studio vocal arranging techniques. Advanced improvisation and ornamentation. Repertoire of original and contemporary songs in various styles as prescribed by the voice teacher.

Prerequisite: MMI CVG.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI CX1. Contemporary Performance Instruction. 2 Credit Hours.

1-Hour Lesson for students enrolled for 2 credits, ½ hour lesson for students enrolled for 1 credit. Applied instrument/ voice instruction in contemporary, popular music performance. Freshman/Sophomore level.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI CX3. Contemporary Performance Instruction. 2 Credit Hours.

1-Hour Lesson for students enrolled for 2 credits, ½ hour lesson for students enrolled for 1 credit. Applied advanced instrument/ voice instruction in contemporary, popular music performance. Junior/Senior level.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI CXS. Secondary Contemporary Performance Instruction. 1-2 Credit Hours.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

Musicology (MCY)

MCY 101. The World of Music. 1-3 Credit Hours.

For all new music majors, a novel introduction to music now and then, here and there; its ideas, its relations to other arts, and its role in human life.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MCY 124. The Evolution of Jazz. 3 Credit Hours.

A study of the origin, development, and styles of jazz music and its exponents. This course is not for music majors. Music majors should enroll in MSJ 113 and MSJ 213.

Requisite: Must not be in School of Music.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MCY 127. Evolution of Rock. 3 Credit Hours.

Rock music from its sources to the present. Aural recognition of rock styles and selected performing artists are included. This course is not for music majors. Music majors should enroll in MCY 311.

Requisite: Must not be in School of Music.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MCY 131. Understanding Music. 3 Credit Hours.

A general introduction to the musical elements and the history of music from antiquity to the present. Primarily focuses on classical music, but also includes exposure to pop, jazz, and music traditions. This course is not for music majors. Music majors should enroll in MCY 140 and MCY 141.

Requisite: Must not be in School of Music.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MCY 140. Experiencing Music. 3 Credit Hours.

A broad introduction to musical elements, genres, periods, styles, and composers in the jazz, folk, popular, and world music traditions.

Requisite: Frost School of Music.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MCY 141. Musical Traditions. 3 Credit Hours.

A broad introduction to musical elements, genres, periods, styles, and composers in the classical music tradition.

Requisite: Frost School of Music.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MCY 221. Anglo-American Song Traditions. 3 Credit Hours.

A study of the origins, development, and styles of Anglo-American song traditions from English and Irish folk ballads, to shape-note and Sacred Harp hymnody, to early folk, country and bluegrass. Areas to be explored include the development of an American cultural identity and the political and socio-economic influences on the content and musical styles.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MCY 222. African-American Song Traditions. 3 Credit Hours.

A study of the origins, development, and styles of African American song traditions from early plantation songs, shouts, hollers, and spirituals, to the development of blues traditions, to gospel. Areas to be explored include the development of an African American cultural consciousness and the political and socio-economic influences on the content and musical styles.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MCY 311. Modern American Pop Music. 3 Credit Hours.

A study of the development and styles of American popular music during the twentieth century from Tin Pan Alley to the present. Areas to be explored include influential songwriters and performers, and stylistic development in their political and socio-economic context.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MCY 313. Music of Latin America. 3 Credit Hours.

An introduction to the music of Latin America, with special emphasis on Mexico, Brazil, Argentina, the Andes, and the Caribbean. Covers folk, popular, and classical music traditions. Open to non-music majors.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MCY 324. Music in Hebrew Culture. 3 Credit Hours.

A study of the folk, traditional, liturgical, and art music of the Jews. Particular attention is given to music on Jewish subjects, music employing traditional Jewish resources, and music by contemporary Jewish and Israeli composers.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MCY 333. Introduction to Cuban Music. 3 Credit Hours.

A survey of Cuban Music from the early European settlement to the present. Course addresses African and Caribbean influences and the amalgamation into new national styles, as well as current musical activity on the island and in expatriate communities.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MCY 341. Music of the Mediaeval, Renaissance, and Baroque Periods. 3 Credit Hours.

A comprehensive, in-depth study of the musical styles and genres of the Mediaeval, Renaissance, and Baroque Eras., Important musical figures of these periods and analytical studies of important pieces of music from these periods are addressed.

Prerequisites: MTC 140 + 141 + 240 + 241 or Equivalents.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Summer.

MCY 342. Music of the Classical, Romantic, and Modern Periods. 3 Credit Hours.

A comprehensive, in-depth study of the musical styles and genres of the Classical, Romantic, and Modern Eras of important musical figures of these periods, and analytical studies of important pieces of music from these periods.

Prerequisites: MTC 140 + 141 + 240 + 241 or Equivalents.

Components: LEC.

Grading: GRD.

Typically Offered: Spring & Summer.

MCY 493. Special Projects in Musicology. 1-3 Credit Hours.

Advanced individual instruction pertaining to faculty member's area of expertise and student's area of interest. This course includes a culminating project.

Components: IND.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MCY 494. Special Topics in Musicology. 1-3 Credit Hours.

Advanced group/classroom instruction pertaining to faculty member's expertise and students' areas of interest.

Components: SEM.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MCY 520. History and Literature of the Wind Band. 3 Credit Hours.

An historical survey of wind band literature, the evolution of the military band, the wind band, and the wind orchestra.

Requisite: Music Majors, Upperclass Status or Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MCY 521. Symphonic Literature. 3 Credit Hours.

A survey of orchestral music from the end of the seventeenth century to the present.

Requisite: Music Majors, Upperclass Status or Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MCY 522. Operatic Literature. 3 Credit Hours.

The history and literature of opera from the end of the sixteenth century to the present.

Requisite: Music Majors, Upperclass Status or Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MCY 524. Contemporary Music. 3 Credit Hours.

Music of the 20th century, with emphasis on developments since 1945.

Requisite: Music Majors, Upperclass Status or Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MCY 525. Art Song Literature. 3 Credit Hours.

A survey of the solo vocal literature from the 16th century to the present, with particular emphasis on the 19th-century French and German repertoire.

Requisite: Music Majors, Upperclass Status or Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MCY 526. Keyboard Literature I. 3 Credit Hours.

A survey of keyboard literature from its beginning to approximately 1750 emphasizing changes in styles of writing and expression, development of techniques suited to the primary instruments in use (including the early organ, clavichord, harpsichord and fortepiano), ornamentation both specified and improvised, forms, and ideas for interpretation based on historical sources.

Requisite: Music Majors, Upperclass Status or Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MCY 527. Keyboard Literature II. 3 Credit Hours.

A survey of solo keyboard literature from approximately 1750 to the present emphasizing changes in styles of writing and expression, development of technique suited to the primary instruments in use (including the clavichord, harpsichord, fortepiano and modern piano), embellishment both specified and improvised, forms, and ideas for interpretation based on historical sources (including facsimiles, printed scores, written records and sound recordings, particularly those by the composers themselves).

Requisite: Music Majors, Upperclass Status or Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MCY 529. Music of the Baroque Period. 3 Credit Hours.

Literature and history of music from the end of the sixteenth to the middle of the eighteenth centuries.

Requisite: Music Majors, Upperclass Status or Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MCY 530. Music of the Classical Period. 3 Credit Hours.

The musical styles which developed between the mid-eighteenth century and the nineteenth century.

Requisite: Music Majors, Upperclass Status or Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MCY 532. History of Chamber Music. 3 Credit Hours.

Styles and forms in chamber music literature from the seventeenth century to the present.

Requisite: Music Majors Only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MCY 533. Music of the Romantic Period. 3 Credit Hours.

The musical styles which developed during the nineteenth century.

Requisite: Music Majors, Upperclass Status or Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MCY 537. Music in the United States. 3 Credit Hours.

A survey of music in the United States from colonial times to the present, with emphasis on the social, economic, and political conditions which affected it. Art music (sacred and secular), popular music in all idioms, the music industry as it evolved in the U.S., and the influence of American music on the music of other countries.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MCY 538. Music, Gender, and Sexuality. 3 Credit Hours.

An exploration of music from around the world from the perspective of women. We will examine the roles women have played, and still play, as creators and performers in art music and popular music traditions. Representations of women and gender ideologies will also be discussed.

Requisite: Upperclass Status or Permission from Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MCY 540. Music and Religion. 3 Credit Hours.

Music and Religion are fundamental aspects of human existence, evidence of which goes back some 30,000 years. This seminar course will explore musical and religious experiences in human history and the use of music within major religious traditions. It will include specific study of some of the major monuments of sacred music of the western classical tradition.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MCY 553. Miami's Musical Heritage. 3 Credit Hours.

A study of the musical traditions and practices of the various cultures that are part of Miami's unique multi-ethnic society.

Components: LEC.

Grading: GRD.

Typically Offered: Spring & Summer.

MCY 554. Music Cultures of the World. 3 Credit Hours.

A study of music culture of the region including the music of folk societies, popular artists, and classical musicians. Open to non-majors.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MCY 562. Music of Argentina and Brazil. 3 Credit Hours.

An in-depth study of Argentine and Brazilian musical cultures covering folk, popular, and classical traditions. Open to non-majors.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MCY 564. Seminar in Latin American Music Collections. 3 Credit Hours.

Examines Latin American music materials at the Cuban Heritage Collection and Special Collections at the Richter Library. Focuses on interpreting original documents and acquiring archival techniques.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MCY 583. History of the American Musical Theatre. 3 Credit Hours.

An examination of the development of musical theatre from its European opera and operetta background to an indigenous American art form. The areas to be explored include the rise and fall of various genre of musical shows, integration of story, song and dance, important producers, directors, lyricists, composers, and new fields such as director-choreographer. The development of an American cultural consciousness and political and socio-economic trends of various decades that greatly influenced the content and form of musical shows is also examined.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MCY 593. Special Projects in Musicology. 1-3 Credit Hours.

Advanced individual instruction pertaining to faculty member's area of expertise and student's area of interest. This course includes a culminating project.

Components: IND.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MCY 594. Special Topics in Musicology. 1-3 Credit Hours.

Advanced group/classroom instruction pertaining to faculty member's expertise and students' areas of interest.

Components: SEM.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MCY 620. History and Literature of the Wind Band. 3 Credit Hours.

An historical survey of wind band literature, the evolution of the military band, the wind band, and the wind orchestra.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MCY 621. Symphonic Literature. 3 Credit Hours.

A survey of orchestral music from the end of the seventeenth century to the present.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MCY 622. Operatic Literature. 3 Credit Hours.

The history and literature of opera from the end of the sixteenth century to the present.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MCY 624. Contemporary Music. 3 Credit Hours.

Music of the 20th century, with emphasis on developments since 1945.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MCY 625. Art Song Literature. 3 Credit Hours.

A survey of the solo vocal literature from the 16th century to the present, with particular emphasis on the 19th-century French and German repertoire.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MCY 626. Keyboard Literature I. 3 Credit Hours.

A survey of keyboard literature from its beginning to approximately 1750 emphasizing changes in styles of writing and expression, development of techniques suited to the primary instruments in use (including the early organ, clavichord, harpsichord and forte-piano), ornamentation both specified and improvised, forms, and ideas for interpretation based on historical sources.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MCY 627. Keyboard Literature II. 3 Credit Hours.

A survey of solo keyboard literature from approximately 1750 to the present emphasizing changes in styles of writing and expression, development of technique suited to the primary instruments in use (including the clavichord, harpsichord, forte-piano and modern piano), embellishment both specified and improvised, forms, and ideas for interpretation based on historical sources (including facsimiles, printed scores, written records and sound recordings, particularly those by the composers themselves).

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MCY 629. Music of the Baroque Period. 3 Credit Hours.

Literature and history of music from the end of the sixteenth to the middle of the eighteenth centuries.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MCY 630. Music of the Classical Period. 3 Credit Hours.

The musical styles which developed between the mid-eighteenth century and the nineteenth century.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MCY 632. History of Chamber Music. 3 Credit Hours.

Styles and forms in chamber music literature from the seventeenth century to the present.

Requisite: Frost School of Music.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MCY 633. Music of the Romantic Period. 3 Credit Hours.

The musical styles which developed during the nineteenth century.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MCY 635. Choral Literature I. 2 Credit Hours.

Choral music of the sixteenth through the eighteenth centuries. A combination of lecture-discussion and class performance.

Requisite: Frost School of Music.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MCY 636. Choral Literature II. 2 Credit Hours.

Choral music of the nineteenth and twentieth centuries. A combination of lecture-discussion and class performance.

Requisite: Frost School of Music.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MCY 637. Music in the United States. 3 Credit Hours.

A survey of music in the United States from colonial times to the present, with emphasis on the social, economic, and political conditions which affected it. Art music (sacred and secular), popular music in all idioms, the music industry as it evolved in the U.S., and the influence of American music on the music of other countries.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MCY 638. Music, Gender, and Sexuality. 3 Credit Hours.

An exploration of music from around the world from the perspective of women. We will examine the roles women have played, and still play, as creators and performers in art music and popular music traditions. Representations of women and gender ideologies will also be discussed.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MCY 640. Music and Religion. 3 Credit Hours.

Music and Religion are fundamental aspects of human existence, evidence of which goes back some 30,000 years. This seminar course will explore musical and religious experiences in human history and the use of music within major religious traditions. It will include specific study of some of the major monuments of sacred music of the western classical tradition.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MCY 653. Miami's Musical Heritage. 3 Credit Hours.

A study of the musical traditions and practices of the various cultures that are part of Miami's unique multi-ethnic society

Components: LEC.

Grading: GRD.

Typically Offered: Spring & Summer.

MCY 654. Music Cultures of the World. 3 Credit Hours.

A study of music culture of the region including the music of folk societies, popular artists, and classical musicians. Open to non-majors.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MCY 662. Music of Argentina and Brazil. 3 Credit Hours.

An in-depth study of Argentine and Brazilian musical cultures covering folk, popular, and classical traditions. Open to non-majors.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MCY 664. Seminar in Latin American Music Collections. 3 Credit Hours.

Examines Latin American music materials at the Cuban Heritage Collection and Special Collections at the Richter Library. Focuses on interpreting original documents and acquiring archival techniques.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MCY 683. History of the American Musical Theatre. 3 Credit Hours.

An examination of the development of musical theatre from its European opera and operetta background to an indigenous American art form. The areas to be explored include the rise and fall of various genre of musical shows, integration of story, song and dance, important producers, directors, lyricists, composers, and new fields such as director-choreographer. The development of an American cultural consciousness and political and socio-economic trends of various decades that greatly influenced the content and form of musical shows is also examined.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MCY 693. Special Projects in Musicology. 1-3 Credit Hours.

Advanced individual instruction pertaining to faculty member's area of expertise and student's area of interest. This course includes a culminating project.

Components: IND.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MCY 694. Special Topics. 1-3 Credit Hours.

Advanced group/classroom instruction pertaining to faculty member's expertise and students' areas of interest.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MCY 7. B.A. in Music Forum. 0 Credit Hours.

Forum for this major will provide programs on and discussion of the role of the musical arts in society for people in a wide range of careers.

Components: FOR.

Grading: CNC.

Typically Offered: Fall & Spring.

MCY 711. Musicology Pedagogy. 3 Credit Hours.

Musicology Pedagogy: The course explores various philosophies of and approaches to teaching music history and literature.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MCY 716. Graduate Musicology Forum. 0 Credit Hours.

Graduate Musicology Forum: A weekly gathering of faculty and students featuring lectures and discussion on current topics in musicology and ethnomusicology.

Components: LEC.

Grading: SUS.

Typically Offered: Fall & Spring.

MCY 720. Jazz Cultures: History and Historiography. 3 Credit Hours.

This course surveys a range of the sounds and practices that have been called jazz over the past century and explores some of the ways in which musicians, educators, scholars, journalists, audiences, and others have understood and shaped this genre.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MCY 728. Music Bibliography. 3 Credit Hours.

Course presents research materials, including dictionaries, encyclopedias, historical collections, scholarly editions, complete works, books, articles, and lists dealing with specialized areas of music history and literature.

Requisite: Frost School of Music.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MCY 793. Special Projects in Musicology. 1-3 Credit Hours.

Advanced individual instruction pertaining to faculty member's area of expertise and student's area of interest. This course includes a culminating project.

Components: IND.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MCY 794. Special Topics in Musicology. 1-3 Credit Hours.

Advanced group/classroom instruction pertaining to faculty member's expertise and students' areas of interest.

Components: SEM.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MCY 810. Master's Thesis. 1-6 Credit Hours.

The student working on his/her master's thesis enrolls for credit, in most departments not to exceed six, as determined by his/her advisor. Credit is not awarded until the thesis has been accepted.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

MCY 820. Research in Residence. 1 Credit Hour.

Used to establish research in residence and maintain full-time enrollment for the master's degree after the student has completed the required hours of thesis credit.

Components: LEC.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

Neuroscience Program (NEU)

NEU 100. Introduction to Neuroscience (EXP). 3 Credit Hours.

Students examine the basic aspects of neuroscience research, specifically targeting neurological disorders. Tools and techniques used in the area of neuroscience such as biochemistry, molecular biology, electrophysiology, light and electron microscopy, confocal microscopy, and image analysis will be addressed. Discussions will also include topics in lab diagnostic techniques as well as state of the art instrumentation.

Components: LEC.

Grading: GRD.

NEU 190. Faculty Overview of Research and Undergraduate Mentoring (FORUM). 1 Credit Hour.

Critical discussion of research reports in neuroscience.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

NEU 200. Introduction to Psychiatry (EXP). 3 Credit Hours.

The course will cover basic aspects of Psychiatry and behavioral sciences. We will emphasize the impact of evidence-based findings on the diagnosis, etiology, management and treatment of all major psychiatric disorders. Concepts such as history of psychiatry, evolution of the psychiatric nomenclature, childhood and adult development, brain circuitry, neurotransmitters, psychotherapies and pharmacological mechanisms of most commonly used medications will be discussed. We will utilize lectures, small group discussions as well as videos and live patient interviews. Students will be able to observe a patient interview by a faculty.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

NEU 280. Introduction to Research Projects I. 1-3 Credit Hours.

Students assist on a research project in neuroscience under supervision of a faculty member. Activities include library research, data collection and management, and attendance at research team meetings.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

NEU 342. Neural Mechanisms of Disease. 3 Credit Hours.

Cellular and molecular mechanisms underlying nervous system dysfunction and mental illness. Biological bases, including clinical and therapeutic aspects, of specific neurological disorders.

Prerequisite: BIL 268 or PSY 220 or PSY 425.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

NEU 380. Introduction to Research Projects II. 1-3 Credit Hours.

Students assist on a research project in neuroscience under supervision of a faculty member. Activities include library research, data collection and management, and attendance at research team meetings.

Prerequisite: PSY 291 or PSY 292. Requisite: UASP and Faculty Permission, 2.5 NEU GPA.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

NEU 400. Neurogenetics. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

NEU 403. Neuroscience laboratory. 4 Credit Hours.

Research methods and laboratory experiments in contemporary neuroscience from individual cells to behavior. Scientific report writing and computer applications in experimental design and analysis.

Prerequisite: PSY 390, BIL 268 or PSY 425. Or Corequisite: PSY 425. Requisite: Senior Status.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

NEU 440. Neural Mechanisms of Psychiatric Disorders. 3 Credit Hours.

Analysis of different neuropsychiatric disorders including, but not limited to, schizophrenia, depression, post-traumatic stress disorder and autism spectrum disorders. Lectures are derived from current research articles looking at in depth mechanisms of these disorders. It is expected that students have a good understanding on neuroscience, molecular biology and abnormal psychology before registering for this course. Grades are based upon two take home exams that are designed to test the student's knowledge of the material presented in class. In addition, students are required to write a research paper on a topic agreed upon by both the professor and the student.

Prerequisite: BIL 268 or PSY 220 or PSY 425.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

NEU 465. Cellular and Molecular Neuroscience. 3 Credit Hours.

Biophysical, biochemical, and structural features of nerve muscle and sensory cells. Basic cellular processes underlying function and development of nervous system.

Prerequisite: BIL 255, BIL 268 or PSY 220, and CHM 202.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

NEU 468. Developmental Neuroscience.. 3 Credit Hours.

Cellular and molecular aspects of nervous system including neuronal differentiation.

Prerequisite: BIL 255, BIL 268 or PSY 220, and CHM 202.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

NEU 480. Research with Writing Credit. 1-3 Credit Hours.

Students assist on a research project in neuroscience under supervision of a faculty member. Activities include library research, data collection and management, and attendance at research team meetings.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

NEU 580. Senior Honors in Neuroscience I. 3 Credit Hours.

Students work closely with a faculty member to design a unique research study and write a scientific paper to report on the results. Limited to undergraduate students only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

NEU 581. Senior Honors in Neuroscience II. 3 Credit Hours.

Students work closely with a faculty member to design a unique research study and write a scientific paper to report on the results. Limited to undergraduate students only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

NEU 601. Introduction to Neuroscience Techniques. 1 Credit Hour.

Hands-on exercises in research laboratories introduce first-year Neuroscience students to methodologies commonly used in the Neurosciences.

The course includes selected techniques from electrophysiology, immunocytochemistry, fluorescence microscopy, recombinant DNA, protein immunoblotting, and functional imaging. Students are required to complete a lab notebook of each exercise. There is also a segment on database searches.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

NEU 609. Research. 1-5 Credit Hours.

Students work with individual members of the program faculty on research problems. Provides orientation as to the areas of research in the field and the techniques used.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

NEU 641. Statistics in Neuroscience. 1 Credit Hour.

This course will provide basic information necessary to appropriately design experiments and analyze and interpret data in the behavioral and biological sciences. A lecture/discussion format will be used. The course will cover research methodology, basic statistical concepts, and an in-depth discussion of descriptive (measures of central tendency, variability and correlation) and inferential statistics (both parametric and non-parametric tests of significance). In addition, various statistical computer programs will be reviewed. Specific topics include: 1. Statistical terminology; 2.

Measurement scales; 3. Plotting your data for initial interpretation; 4. Measures of central tendency and variability; 5. Type I and Type II errors and controlling power; 6. Which statistical test do I use for my data? 7. What can I conclude from my data and does it mean anything? Students will be evaluated based on their understanding of statistical design and data interpretation.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

NEU 650. Modeling CNS injury and Repair. 1 Credit Hour.

This course provides an overview of a number of complex modeling systems using in CNS Injury and Repair biomedical research. The course examines models, such as spinal cord injury, traumatic brain injury, ischemic/stroke injury, experimental autoimmune encephalomyelitis (EAE) model of multiple sclerosis, axon regeneration in retinal nerve and spinal cord, and drosophila models of degeneration. The course will consist of both lectures and hands-on laboratory components. Elective

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

NEU 700. Seminars in Neuroscience. 1 Credit Hour.

Required each Fall and Spring for all NEU students, emphasizes student research presentations (30 min each for 2nd year students; 60 min each for student 3rd year on). Attendance at neuroscience related seminars is also required.

Requisite: Neuroscience.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

NEU 711. Accelerated Basic Science Medical Curriculum. 1-18 Credit Hours.

From late June to mid-February, the following accelerated and intensive complete basic science medical curriculum is offered: Embryology, Gross Anatomy, Histology, Biochemistry, Neuroanatomy, Biophysics and Neurophysiology, Systemic Physiology, Pathology, Medical Microbiology, and Pharmacology. A single grade will be entered on the graduate transcript for this course.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

NEU 720. Research in Residence. 0 Credit Hours.

Used to establish research in residence for the thesis for the master's degree after the student has enrolled for the permissible cumulative total in Master's Thesis (usually six credits). Credit not granted. May be regarded as full time residence.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

NEU 721. Principles of Membrane Physiology and Biophysics I. 2 Credit Hours.

Course discusses chemical and physical structure of membranes, model systems, permeability and transport, membrane potential, ionic channels, excitability in nerve and muscle, ionophores, active transport, and membrane receptors. Identical with MCP 641.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

NEU 722. Principles of Membrane Physiology and Biophysics II. 2 Credit Hours.

Course topics include osmosis and cell volume, tracer analysis of permeability and compartmentation, theory of channels and carriers, cable properties, Hodgkin-Huxley formalism, Na, K, and Ca ion channels, regulation of cellular Na, Ca activities, single-channel analysis, chemical synapses, membrane receptors, cell junctions, excitation and E-C coupling in muscle. Identical with MCP 642.

Prerequisite: NEU 721.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

NEU 731. Advanced Topics in Neuroscience. 1 Credit Hour.

Special work, lecture, laboratory, reading, seminar, or a combination of these as determined by advisor in accordance with student's interest.

Requisite: Neuroscience.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

NEU 761. NEU I - Molecular and Cellular Neuroscience. 2 Credit Hours.

An advanced introduction to modern neurobiology, focusing on the cellular and molecular biology of neurons, glia, synapses, and sensory receptors.

Requisite: Neuroscience.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

NEU 762. NEU II - Systems Neuroscience. 4 Credit Hours.

The course aims to provide a general, but intensive, background to the neurosciences beyond Cellular Neuroscience (NEU 661) and Developmental Neuroscience (NEU 663) and to prepare students for more specialized neuroscience courses, for lab rotations, and for subsequent dissertation work. NEU 662 will present sensory, motor and integrative neuroscience at the level of functional systems, but will do so in the context of cellular and molecular neuroscience. The course concentrates on the experimental basis for our understanding of nervous system function and uses both didactic lectures and student discussions of current research literature. The course expects that students have a working knowledge of synaptic transmission, excitable cell membranes, and ion channels from previous coursework in PHS 641/2 and NEU 661, as well as a general knowledge of biochemistry and molecular biology from their PIBS course. It will also be useful to have taken NEU 663. [Pre-requisites: PHS641/2 and NEU661, or in exceptional cases, permission of instructors].

Requisite: Neuroscience.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

NEU 763. Developmental Neuroscience. 2 Credit Hours.

This course will explore nervous system development from early neural induction and neurogenesis to the construction of neural circuits. Cellular and molecular mechanisms of neurulation and CNS patterning, neural progenitor migration, neural crest and ectodermal placodes, programmed cell death, construction of neural circuits and axon guidance, and synaptogenesis will be covered

Requisite: Neuroscience.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

NEU 797. Neuroanatomy. 3 Credit Hours.

This course is designed to teach functional neuroanatomy to individuals engaged in basic neuroscience research. Therefore, most of the emphasis will be placed upon gross anatomy, identification of pathways and circuits, and a description of the physiological functions of neuroanatomical systems.

To the extent that it may help to explain functional aspects of the nervous system, each lecture will contain some clinical examples and/or case histories. An important feature of each class period will be a laboratory segment in which the student will study human and sheep brains, examine models of the brain, and use internet neuroanatomy websites containing pictures, text, clinical examples, and 3-dimensional rotations of the nervous system

Requisite: Neuroscience.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

NEU 810. Master's Thesis. 1-12 Credit Hours.

The student working on his/her master's thesis enrolls for credit, in most departments not to exceed six, as determined by his/her advisor. Credit is not awarded until the thesis has been accepted.

Components: THI.

Grading: SUS.

Typically Offered: Offered by Announcement Only.

NEU 830. Doctoral Dissertation. 1-12 Credit Hours.

Required for all PhD students before passing the Qualifying Examination. The student will enroll for credits as determined by the Program Office, but no more than a total of 6 credits.

Components: THI.

Grading: SUS.

Typically Offered: Offered by Announcement Only.

NEU 840. Doctoral Dissertation- Post Candidacy. 1-12 Credit Hours.

Required for all PhD students before passing the Qualifying Examination. The student will enroll for credits as determined by the Program Office, but no more than a total of 6 credits.

Components: THI.

Grading: SUS.

Typically Offered: Fall.

NEU 850. Research in Residence. 1 Credit Hour.

Students register in the semester they plan to submit their dissertation to the Graduate School.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

Nursing (NUR)

NUR 100. Introduction to Nursing. 3 Credit Hours.

This is an introductory course to explore the various roles and responsibilities of the professional nurse in American health care. Major issues within health care today will be discussed and the impact they have on professional nursing will be explored.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

NUR 200. Process of Health Promotion. 3 Credit Hours.

Healthcare: A process of health promotion, maintenance, rehabilitation, and preventative medicine.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

NUR 202. Introductory Statistics in Health Care. 3 Credit Hours.

Application of descriptive and inferential statistics. Principles and methods of summarizing data including tables, graphs, percentile ranks, central tendency, variability, normal distribution. Basic concepts of probability, hypothesis testing, and analysis of variance. Examples and problems from nursing and health sciences.

Corequisite: MTH 101. Or Requisite: ALEKS > or = 55 or SAT Score > or = 630 or ACT > or = 28.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

NUR 205. Personal Nutrition. 3 Credit Hours.

Principles of nutrition integrated with cultural dietary patterns across the lifespan. Not for nursing majors or minors.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

NUR 207. Introduction to Pharmacology. 3 Credit Hours.

Introduction to the basic principles of therapeutic pharmacology. Special consideration of cultural beliefs and folk medicine included. Emphasis is on the understanding of the different classes of drugs and their application in various health care settings.

Prerequisites: BIL 150 and CHM 103 or 111 or 121 and HCS 212/215.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

NUR 300. Seminar in Inter-Professional Health Care. 1 Credit Hour.

This course will introduce the core competencies of inter professional collaborative practice using guidelines from the Institute of Medicine, Quality and Safety Education for Nurses and the Inter professional Education Consortium. Concepts of team based care will be discussed. The course will offer online activities as well as face-to-face team based activities with other healthcare professionals.

Requisite: Nursing Major and Sophomore Standing or Higher.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Summer.

NUR 301. Human Sexuality and Vulnerable Populations. 3 Credit Hours.

The study of human sexuality via multidisciplinary theoretical perspectives and research. Students will examine the complex relationships of the physiological, psychological, cultural, gender, religious, historical, and political aspects of human sexuality. Human sexuality in the context of health disparities will form the foundation for the course. WRITING COURSE

Prerequisite: BPH 206 or Requisite: Nursing Clinical Major.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

NUR 303. HIV/AIDS and Health Maintenance for Health Care Providers. 3 Credit Hours.

Definition, diagnosis, management, and care of diverse patient populations with HIV infection and AIDS. Course is presented and discussed from an interdisciplinary health care perspective.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

NUR 304. Adult Health I: Fundamentals of Nursing Practice. 6 Credit Hours.

This clinical course emphasizes the supervised application of health assessment skills, nursing process, and clinical nursing techniques in the clinical laboratory, community, and acute care settings.

Requisite: Must be a Nursing Clinical Major.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

NUR 305. Issues in Health Disparities. 3 Credit Hours.

This course will be an introduction to the general research on health systems and health disparities. Emphasis will be placed on social, biological, economic and social policy issues that impact on the health of minority populations. Concepts associated with epidemiology, poverty, racism, public policy and international politics will be explored. WRITING COURSE

Prerequisite: BPH 206 or Requisite: Nursing Clinical Major.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

NUR 306. Principles of Nutrition. 3 Credit Hours.

Principles of nutrition integrated with cultural dietary patterns for client adaptation across the lifespan.

Requisite: Sophomore Standing.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

NUR 307. Pharmacology. 3 Credit Hours.

Introduction to the basic principles of therapeutic pharmacology. Special consideration of cultural beliefs and folk medicine included.

Requisite: Must be a Nursing Clinical Major.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

NUR 308. Adult Health II. 7 Credit Hours.

This course focuses on the nursing management of the client throughout the adult life cycle who experiences alterations and/or adaptations in physiologic defense mechanisms. Teaching strategies to be utilized include lecture, discussion, critical thinking exercises.

Requisite: Must be a Nursing Clinical Major.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

NUR 310. Global Health. 3 Credit Hours.

Introduction to the concepts of global health and the critical links between public health and social and economic development. Determinants of health and patterns of disease and health outcomes across the globe are critically examined. The course reviews the determinants of health status in terms of biology, demography, epidemiology, culture, sociology, economics, and politics. Key concerns regarding reproductive health, child survival, nutrition, communicable diseases, and chronic diseases are examined. health care delivery in developed vs. undeveloped regions of the world are emphasized.

Prerequisite: BPH 206.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

NUR 311. Theories and Concepts of Nursing. 2 Credit Hours.

An introductory nursing course explaining the philosophy of baccalaureate nursing using the major concepts of person, environment, health, and nursing with a multicultural focus.

Requisite: Nursing Major and Sophomore Standing or Higher.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

NUR 314. Health Assessment and Promotion. 3 Credit Hours.

Introduction to health assessment using a lifespan approach. Emphasis is on the development of data collection and basic decision-making using health assessment findings.

Requisite: Must be a Nursing Clinical Major.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

NUR 315. Pathophysiology. 3 Credit Hours.

The study of the physiologic and biologic manifestations of disease and disease processes. Emphasis is placed on physiology of altered health within the context of disruptions of structure and function of the human body as a whole.

Requisite: Must be a Nursing Clinical Major.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

NUR 317. Theories in Growth and Development. 3 Credit Hours.

Application of growth and development theories through the lifespan with a case study approach to issues commonly encountered nursing practice in a variety of clinical settings.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

NUR 318. Women's Health Nursing. 4 Credit Hours.

This course focuses on the use of the nursing process in the care of women and the care of mothers and newborns with an emphasis on health promotion, illness prevention and nursing clinical management of chronic and acute conditions.

Requisite: Must be a Nursing Clinical Major.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

NUR 319. Contemporary Issues in Bioethics for Health Care. 3 Credit Hours.

This course will cover bioethical issues in the health care environment, including ethical principles, theories and decision making strategies. WRITING COURSE

Prerequisite: BPH 206.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

NUR 320. Child and Adolescent Health Nursing. 4 Credit Hours.

This course focuses in the use of the nursing process to develop and implement nursing management strategies for children and their families experiencing acute, chronic, and critical multi-system health alterations within a multicultural content. Use of the nursing process to expand and develop appropriate clinical interventions and a member of the health care team. Students will build on foundation skills in critical thinking, collaboration, and leadership in the provision of nursing care.

Requisite: Must be a Nursing Clinical Major.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

NUR 350. Pathophysiology/Pharmacology for RN-to-BSN. 4 Credit Hours.

This course presents the study of the physiological and biologic manifestations of disease and disease processes, and introduces the basic principles of therapeutic pharmacology. Emphasis is placed on the physiology of altered health within the context of disruptions of structure and function of the human body as a whole. Special consideration of cultural beliefs and folk medicine is included.

Requisite: Must be in the RN to BSN program.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

NUR 390. Advanced Placement Practice I for RN-to-BSN Students. 10 Credit Hours.

Nursing Management of the client throughout adulthood who experiences alterations and/or adaptations/maladaptions in physiologic defense mechanisms; complex alteration and/or adaptations in organ system function. The client in this course is identified as the individual, family or significant others. Course content emphasizes concepts of infection, the surgical client, immunity and altered cell growth, utilizing the nursing theories and the nursing process. Assists adult clients to adjust to multisystem alterations/adaptations/maladaptions in the endocrine, cardiovascular, respiratory, immunological and hemopoietic, nervous, musculoskeletal, digestive, and renal urinary systems. Specific models are utilized to enhance the teaching of critical thinking. Research findings are utilized to support nursing interventions.

Requisite: Must be in the RN to BSN program.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

NUR 400. Theories, Research and Evidence-Based Practice. 3 Credit Hours.

Course emphasis is placed on developing an understanding of the research process and application of research findings in community-based practice in multicultural settings. Course focuses on the relationship between theory, research, practice, and the development of competencies to become an informed consumer of research. Writing Credit.

Requisite: Must be a Nursing Clinical Major.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

NUR 401. Evidence-Based Nursing Practice. 3 Credit Hours.

This course examines evidence-based practice in nursing. Focuses on the research process; location, critical appraisal, and evaluation of evidence; application and evaluation of evidence-based practice changes; and quality improvement.

Requisite: Must be a Nursing Clinical Major.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Summer.

NUR 402. Global Health Disparities Research. 3 Credit Hours.

This is a 4 week intensive educational experience that prepares students to be successful conducting supervised health disparities research as part of the MHIRT program at a foreign institution, disseminating findings, and applying to graduate school. The training program is broken into a preparation phase (3 weeks prior to leaving to their host country), and a dissemination phase (1 week after they return). Students will be working as a research assistant at a foreign site for eight weeks in between the preparation and dissemination phases of this training program. Students will learn about the influence of culture and healthcare policy on health and health disparities, research design, statistics, communicating research findings and careers in health disparities research.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

NUR 403. Advanced Placement Practice II for RN-to-BSN Students. 10 Credit Hours.

This course focuses on the nursing process in the care of pediatric clients and families, the obstetrical client, and women's health. Emphasis is on the use of the nursing process to assist clients to adapt to health alterations requiring care in secondary health care settings. This course covers care of the pediatric client and the childbearing client and women's health.

Requisite: Must be in the RN to BSN program.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

NUR 405. Professionalism and Career Pathways. 3 Credit Hours.

This nursing course focuses on the assessment and development of a career pathway for registered nurses seeking a Bachelor's in the Science of Nursing professional nursing practice. There will be a focus on concepts of professionalism, roles in nursing, advanced practice, diversity, culture and a critical analysis of legal, ethical and political dimensions of nursing practice.

Requisite: Must be a Nursing Clinical Major.

Components: DIL.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

NUR 406. Current Issues in Healthcare. 3 Credit Hours.

The focus of this course is to explore and understand current and emerging healthcare issues as well as discuss how nurses as members of interprofessional healthcare teams contribute to positive patient outcomes. Students will integrate their professional nursing practice experiences to enrich discussions of current and emerging healthcare issues.

Prerequisite: NUR 311. And NUR 314. And NUR 350. And NUR 400.

Components: DIL.

Grading: GRD.

Typically Offered: Fall.

NUR 408. Genetics and Healthcare. 3 Credit Hours.

Exploration of basic knowledge in genomics, understanding of social, cultural and psychological implications of genetic services, health prevention and promotion.

Requisite: Must be a Nursing Clinical Major.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

NUR 411. Adult Health III. 5 Credit Hours.

This course focuses on the adult experiencing complex multisystem alteration/adaptations in organ and system function. Emphasis is on the use of the nursing process to assist adult clients to adapt to system related insults.

Requisite: Must be a Nursing Clinical Major.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

NUR 412. Epidemiology for Population-Based Care. 2 Credit Hours.

During this course students will examine the principles of epidemiology including, the historical evolution of epidemiology, the natural history of disease, epidemiologic models, and epidemiologic research. Health and disease is conceptualized as a complex interaction between individual relationships, community and socio-economic-political level factors with unique considerations for target populations across the lifespan. The process of disease surveillance is discussed including trends in communicable and non-communicable disease as well as the measures of morbidity (e.g., incidence and prevalence) and mortality. Factors, or determinants of health, that contribute to distribution of disease in populations are discussed. The effect of health care policy and health economics on disease distribution is considered. How the interaction of the determinants of health, health care policy, and health economics contribute to health disparities is also examined. Disease surveillance and health promotion are examined from a global perspective. The impact of the environment on health is also discussed. Finally, introductory disaster management concepts are reviewed as they relate to the care of populations affected by disasters.

Requisite: Must be a Nursing Clinical Major.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Summer.

NUR 414. Advanced Placement Practice III for RN-to-BSN Students. 10 Credit Hours.

Content emphasizes concepts and themes of families and communities and the use of the nursing process to assist in promoting and maintaining health. The behavioral health focuses on psychotherapeutic processes across the life span. Emphasis is on planning nursing care for individuals, families and groups and professional and therapeutic communication skills and techniques. Explores the influence of neuro-physiology and psychopharmacology on the development of psychiatric and mental health services and the evolution of the role of the psychiatric nurse.

Requisite: Must be in the RN to BSN program.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

NUR 415. Perianesthesia Nursing. 3 Credit Hours.

The focus of this course is on the use of the nursing process to develop and implement nursing management strategies for patients and families undergoing a surgical and/or special procedure. Emphasis is placed on the use of a multicultural nursing perspective to plan and implement nursing interventions. This course highlights Perianesthesia nursing care of surgical patients.

Requisite: Must be a Nursing Clinical Major.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

NUR 417. Pre-Immersion Course for Accelerated Option Students. 0 Credit Hours.

This course is designed to facilitate personal and professional success; this course introduces students to the purposes and processes of nursing. An emphasis is placed on study, communication, and critical thinking skills that support academic achievement. Students also examine the relationship between learning and motivation.

Requisite: Must be a Nursing Clinical Major.

Components: DIL.

Grading: NON.

Typically Offered: Spring & Summer.

NUR 418. Pre-Immersion for Traditional Option Students. 0 Credit Hours.

This course is designed to facilitate personal and professional success; this course introduces students to the purposes and processes of nursing. An emphasis is placed on study, communication, and critical thinking skills that support academic achievement. Students also examine the relationship between learning and motivation.

Requisite: Must be a Nursing Clinical Major.

Components: LEC.

Grading: NON.

Typically Offered: Fall.

NUR 424. Math Essentials for BSN Students. 0 Credit Hours.

This course supports students with basic to advanced medical math concepts. Topics include calculating dosages, using scientific formulas and basic statistical principles.

Requisite: Must be a Nursing Clinical Major.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

NUR 426. Leadership and Management in Nursing. 5 Credit Hours.

Analysis and synthesis of the application of professional concepts in a variety of multicultural health care delivery systems. Emphasis is placed on personal, professional, and organizational growth. Individualized and integrated clinical experiences are provided through direct clinical supervision by preceptors.

Requisite: Must be in the RN to BSN program.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

NUR 430. Leadership in Nursing. 3 Credit Hours.

Theoretical and applied concepts of transition to the nursing role within the healthcare setting are explored in this course. The focus is on practice issues and responsibilities in contemporary professional nursing practice. Emphasis is placed on the transition to practice and nursing care systems with increasing responsibility through discussion of practice theory and styles, empowering, mentoring, managing change and striving for excellence. Seminar discussion topics will focus on the issues of successful transition to the practice environment as new nurse.

Requisite: Must be a Nursing Clinical Major.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

NUR 435. Clinical Express Undgr. 5.00 Credit Hours.

This course is an online orientation for clinical faculty at the School of Nursing and Health Studies. The content is specific to clinical instructors who will be supervising BSN nursing students at various clinical sites used by the School of Nursing and Health Studies.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

NUR 440. Population Focused Nursing. 4 Credit Hours.

The focus is on population-focused nursing and community-oriented approaches to understanding and addressing major public health concerns across the life span. Emphasis is on assessing, planning, implementing and evaluating programs for a variety of communities both domestically and internationally. Health and disease is conceptualized as a complex interaction between individual, relationship, community and socio-economic-political level factors. Epidemiology, sociology, behavioral sciences and nursing theory and practice are integrated throughout. Special attention is given to addressing the unique needs of vulnerable populations and cultural groups, the elimination of health disparities, and social justice.

Requisite: Must be a Nursing Clinical Major.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

NUR 441. Public Health Nursing. 2 Credit Hours.

The focus of this course is on public health nursing and community-oriented approaches to addressing major public health concerns across the life span. Emphasis is on assessing, planning, implementing and evaluating programs for a variety of communities both domestically and internationally. The provision of knowledge related to epidemiology, sociology, behavioral sciences and nursing theory and practice is required throughout this process. Special attention is given to addressing the unique needs of vulnerable populations and cultural groups, the elimination of health disparities, and social justice considering the population aggregate's determinants of health. Finally, the varying roles of the public health nurse are examined, including that of the public health nurse in disaster response.

Requisite: Must be a Nursing Clinical Major.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

NUR 448. Psychiatric Mental Health Nursing. 4 Credit Hours.

The focus is on psychotherapeutic processes across the life span. Emphasis is on planning nursing care for individuals, families, and communities with a variety of psychiatric and mental health problems in various settings (inpatient, outpatient, community). Professional and therapeutic communication skills and techniques are important components of this course.

Requisite: Must be a Nursing Clinical Major.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

NUR 453. Role Transition. 5 Credit Hours.

Theoretical and applied concepts of transition to the nursing role within the healthcare setting are integrated in this course. The course is a synthesis of previously learned knowledge, incorporating the components of physiological, psychological, and developmental concerns in the care of the client. Seminar discussion topics have a focus on the issues of successful transition to the practice environment as a nurse generalist, with the ability to exercise clinical reasoning and evidence-based practice.

Requisite: Must be a Nursing Clinical Major.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

NUR 461. Health Disparities Research Practicum. 1-4 Credit Hours.

This course is designed to provide opportunities for students across all levels of higher education to participate in health disparities research.

Students will be mentored by a health disparities researcher with an active research project. Objectives will be established by the research mentor and the student according to educational level, interests and opportunities. Students will be incorporated into the research team and expected to attend project meetings. They will also be expected to participate in scholarly work that could contribute to the success of the project. Examples of scholarly work include co-authoring research papers and presentations, developing recruitment materials, assisting in compiling/developing data collection measures, or any other product deemed appropriate by the mentor.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

NUR 485. Global Health: Transcultural Nursing. 3 Credit Hours.

Components: DIL.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

NUR 487. International Health: Transcultural Nursing. 3 Credit Hours.

Collaborative clinical venture between the University of Miami, School of Nursing and an International School of Nursing. Students will exchange supervised western clinical experiences, knowledge and skills for the care of clients and families in specialty areas including Medical-Surgical, Surgery, Intensive Care and/or Emergency nursing units. This course will allow students to apply and synthesize basic science knowledge and skills that foster ethical, legal and culture specific health care.

Requisite: School of Nursing Health Studies.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

NUR 498. Selected Topics. 6.00 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

NUR 499. Selected Topics. 6.00 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

NUR 536. U.S. Health Care Crisis: Politics and Policies. 3 Credit Hours.

This course will explore key health policy issues within the U.S., along with the politics and interest groups which shape them. Fundamental concerns within the health care system such as: cost, quality and access to care will be analyzed. Major topics of discussion will include: Medicare, Medicaid, private insurance, the nursing shortage, and prescription drugs. The politics and policies surrounding issues such as bioethics, globalization, and infectious disease will also be considered.

Requisite: Junior Status and no IP Credit.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

NUR 601. Advanced Pharmacology. 3 Credit Hours.

Advanced practice nursing application of pharmacological and pharmacokinetics for the purpose of selecting appropriate drug therapies for diverse populations.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

NUR 602. Doctoral Level Orientation/Nur. 0 Credit Hours.

This course provides entering doctoral students with an evaluation of their writing ability and a review of formal writing skills. Other topics pertinent to success for nursing coursework at the doctoral level are addressed.

Components: LEC.

Grading: NON.

Typically Offered: Fall & Spring.

NUR 603. Healthcare Databases: Design, Development and Clinical Application. 3 Credit Hours.

This course focuses database systems, development, design, and implementation within the context of health care. Special emphasis is placed on the role of database applications for continuous quality improvement and regulatory compliance. Students will design a relational database applicable to informatics leadership responsibilities.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

NUR 604. System Life Cycle/Project Management. 3 Credit Hours.

This course covers the identification and development of information technology plans for projects supporting the health care organization's business objectives and all activities required in the initiating, planning, executing, controlling, and closing phases of the project's lifecycle. This course is intended to provide the body of knowledge and best practices necessary for a new Consultant, Business Analyst or Project Manager to successfully perform his/her responsibilities on an IT enterprise project.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

NUR 605. Health Information Exchange. 3 Credit Hours.

This course is designed to introduce the informatics professional to the basic principles of Health Information Exchange. The focus will be on interoperability between ambulatory clinics, acute care facilities and long-term care; electronic health records; electronic prescribing systems and consumer health care informatics. Special emphasis is placed on the role of HIE in the American Recovery and Reinvestment Act.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

NUR 606. Advanced Practice Preparation. 0 Credit Hours.

This preparatory experience provides students an opportunity to review concepts of pharmacology; physiology; and health assessment prior to beginning the Master of Science in Nursing program. Activities related to academic strategies and writing are also included, to assist in improving study and writing skills.

Components: LEC.

Grading: NON.

Typically Offered: Fall & Spring.

NUR 607. Leadership and Professional Development Strategies for Nursing Informatics. 3 Credit Hours.

In this course students will be exposed to the principles of organizational culture, dynamics, mission, vision, values, and goals as it impacts nursing. Additionally they will learn current theories of change management and resource management for nursing informatics practice. They will explore change agent roles in project management and processes.

Co-requisite: NUR 604.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

NUR 608. Concepts in Advanced Practice Nursing. 3 Credit Hours.

Major concepts necessary for advanced practice nursing. Included are: major scientific theories, health and health promotion, health policy, ethical issues, epidemiology, technology in health care, and advanced practice role competencies. Specific emphasis is placed on understanding culture and cultural diversity in health care.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

NUR 609. Professionalism in Advanced Practice Nursing. 2 Credit Hours.

Focuses on the synthesis of concepts and principles necessary to develop leaders in advanced practice nursing specialties. Emphasis is placed on the role of the advanced practice nurse for optimal delivery of health care to clients across the life span.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

NUR 610. Adult Gerontology Acute Care I. 4 Credit Hours.

Analysis of selected theories and conceptual models of nursing and their implementation in practice and research. Approaches to development of a scientific body of knowledge for nursing practice is included. (2) Prerequisite: Graduate status.

Prerequisite: NUR 601 and 612 and 613.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

NUR 611. Foundations of Anesthesia Science and Technology for Nurse Anesthetists. 5 Credit Hours.

Introduction to the application of basic sciences to nurse anesthesia. This course includes the application of principles of physics, molecular biology, biochemistry and medicinal chemistry.

Prerequisite: Anesthesia Track and NUR 601 and 612 and 613.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

NUR 612. Physiology/Pathophysiology for Advanced Practice Nursing. 3 Credit Hours.

Analysis of physiologic and pathophysiologic mechanisms of health and illness.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

NUR 613. Advanced Health Assessment and Diagnostic Reasoning. 3 Credit Hours.

Emphasis on culturally sensitive comprehensive health assessment and diagnostic reasoning related to advanced nursing practice. Special emphasis is placed on advanced health assessment; including age appropriate health screenings; prenatal, pediatric, and geriatric assessment; and interpretation of basic laboratory tests and diagnostic studies utilized in advanced nursing practice. Specialty specific seminars address issues for individual tracks within advanced practice nursing.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

NUR 614. Basic Concepts in Anesthesia Nursing. 5 Credit Hours.

This course is an overview of fundamental knowledge and skills for entry into advanced practice anesthesia nursing. Concepts include essential techniques, monitoring and equipment, and pharmacologic interventions for common problems and conditions requiring routine surgical procedures in a highly structured and guided clinical learning environment. Cultural competence and interdisciplinary anesthesia care across the lifespan is emphasized.

Prerequisite: NUR 601 and NUR 611 and NUR 612 and NUR 613 and Co-requisite: NUR 617.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

NUR 615. Professional Aspects of Anesthesia Nursing. 2 Credit Hours.

This course focuses on the development and current trends in nurse anesthesia practice, education, and research. Concepts include the historical, legal, legislative, and professional role issues associated with advanced practice anesthesia nursing. Professional responsibilities, ethical issues, diversity, cultural competency, quality assurance, continuing education, and professional involvement are emphasized.

Prerequisite: NUR 646 and Co-requisite: NUR 650.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

NUR 616. Pharmacology for Acute Care Nursing. 3 Credit Hours.

Focuses on foundational pharmacologic principles and associated application to clinical practice in acute care nursing. Integration of pharmacological concepts and interventions in safe, culturally competent, and interdisciplinary acute care advanced nursing practice are emphasized.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

NUR 617. Pharmacology for Anesthesia Nursing. 3 Credit Hours.

Focuses on pharmacological principles and associated application to clinical practice in nurse anesthesia. Integration of pharmacological concepts and interventions in safe, culturally competent, and interdisciplinary anesthesia practice are emphasized.

Prerequisite: NUR 601 and NUR 611 and NUR 612 and NUR 613 and Corequisite: NUR 614.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

NUR 618. Research Immersion. 1 Credit Hour.

Students complete a research practicum (data analysis, data collection and writing IRB protocol) under the mentorship of their advisor or faculty member with particular expertise the student needs to acquire for their dissertation research. The advisor/faculty member and student will develop a contract to achieve specific research goals for the semester. These research goals are tied to specific research activities needed to move the student forward in planning or developing their dissertation proposal methods. The practicum requires a total for 45 hours of work over the Summer between the first and second year of course work in the program.

Prerequisite: NUR 670. And NUR 665. And NUR 680. And NUR 674. And NUR 671.

Components: LEC.

Grading: SUS.

Typically Offered: Summer.

NUR 619. Advanced Concepts of Anesthesia Nursing I. 7 Credit Hours.

This course will provide an in-depth knowledge and skills of anesthesia nursing care for a variety of common problems and conditions across anesthesia specializations. Concepts include assessment, techniques, planning and pharmacologic interventions for specialty surgical procedures in a highly structured and guided clinical learning environment. Cultural competence and interdisciplinary anesthesia care across the lifespan is emphasized.

Prerequisites: NUR 601 and NUR 611 and NUR 612 and NUR 613 and NUR 614 and NUR 617.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

NUR 620. Advanced Concepts of Anesthesia Nursing II. 9 Credit Hours.

This course will provide in-depth knowledge and skills of highly specialized problems and conditions requiring anesthesia or surgical interventions. Concepts include assessment, techniques, planning and pharmacologic interventions for regional anesthesia, pain management, care of obstetrical patients and patients with catastrophic conditions in a highly structured and guided clinical learning environment. Cultural competence and interdisciplinary anesthesia care across the lifespan is emphasized.

Prerequisites: NUR 601 and NUR 611 and NUR 612 and NUR 613 and NUR 614 and NUR 617 and NUR 619.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

NUR 621. Diagnostics and Nursing Interventions for Acute Care Nursing. 3 Credit Hours.

Selected diagnostic tests and intervention techniques essential to acute care nursing. Critical thinking and decision making related to interdisciplinary assessment of acute care patients. Cultural issues related to diagnostics and intervention.

Prerequisite: NUR 601 and 612 and 613.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

NUR 622. Acute Care Nursing of Adults I. 4 Credit Hours.

The first of two sequential clinical practicums designed for the development of scientific knowledge and advanced practice skills in the area of acute care nursing. Involves synthesis of concepts, knowledge and skills gained in previous courses applied to the care of the acutely ill patient. Focuses on the advanced practice of acute care nursing via the nurse practitioner/clinical nurse specialist.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

NUR 623. Maternal Child Health in Primary Care Practice. 5 Credit Hours.

Theoretical and clinical bases for advanced practice nursing management of infants and children. Emphasis is placed on strategies for health maintenance and prevention of health problems and management of alterations.

Prerequisite: NUR 628.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

NUR 624. Introduction to Pedagogy. 2 Credit Hours.

This course provides students a foundation in Pedagogy using examples from nursing education. Students will learn about educational theory, the cultural context of education, and the role of teaching in the academy. Educational strategies to be discussed include didactic, online, clinical, laboratory, and simulation. Best practices in assessment and evaluation will be emphasized.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

NUR 625. Adult Gerontology Acute Care II. 7 Credit Hours.

Theoretical and clinical focus for the nurse practitioner as an advanced practice nurse in the health care management of adult populations in rehabilitative settings and residential facilities including assisted living, long term, and home care. (2:6) Prerequisite or corequisite: NUR 601.

Prerequisite: NUR 613 and 617.

Prerequisite: NUR 601 and 610 and 612 and 613.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

NUR 626. Advanced Concepts in Gynecological Health Care for Women. 2 Credit Hours.

Theoretical and clinical bases for the provision of complex gynecological care of women. Emphasis is on strategies for promotion of transcultural health care needs and management of alterations according to the advanced practice roles.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

NUR 627. Primary Prenatal Healthcare of Women. 1-2 Credit Hours.

Theoretical and clinical bases for providing primary prenatal care of women. Emphasis is on management strategies for promotion of transcultural health care needs according to the advanced practice role.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

NUR 628. Adult Gerontology I. 5 Credit Hours.

Theoretical and clinical bases for health care management of health alterations in the adult population. Emphasis on strategies for health maintenance and prevention of health problems, management of alterations, discharge planning and rehabilitation of individuals and aggregate population.

Corequisite: NUR 601. And NUR 612. And NUR 613.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

NUR 630. Research Methods and Evidence-Based Practice. 3 Credit Hours.

Research process, research methods, and the analysis of data using quantitative and qualitative approaches. Focuses on understanding levels of evidence for implementing evidence-based practice and performance improvement in nursing practice and health care. Investigates research methods associated with health disparities, access to health care, and clinical outcomes.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Summer.

NUR 631. Adult Gerontology II. 4-7 Credit Hours.

Theoretical and clinical bases for health management of health alterations in the adult population. Emphasis on strategies for health maintenance and prevention of health problems, management of alterations, discharge planning and rehabilitation of individuals and aggregate population.

Prerequisites: NUR 601 and NUR 612 and NUR 613 and NUR 628.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

NUR 634. Perinatal Health Care. 6.00 Credit Hours.

Continuation of the application of physiologic, psychosocial, and cultural concepts to perinatal health care management. Emphasis is placed on nurse-midwifery management of intrapartum, postpartum, and neonatal clients.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

NUR 635. Innovation in Nursing Informatics. 3 Credit Hours.

This course explores contemporary concepts in nursing informatics. The course examines the historical context of nursing informatics, followed by an exploration of emerging technologies including tele-health, wireless medical devices, consumer health informatics, interactive education, and social media. This course prepares students to critically evaluate and incorporate evolving technology. Special emphasis is placed on the social, ethical, regulatory, and legal issues associated with health care innovations.

Corequisite: NUR 633.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

NUR 636. Nursing Informatics Internship. 3 Credit Hours.

This course is designed to prepare students to function as Nursing Informatics Specialists. Emphasis is on the synthesis of health care informatics theory and mastery of technical applications and each of their respective roles in nursing informatics practice. Students design a scholarly project at the level of a clinical analyst under the direction of a faculty member and preceptor.

Co-requisite: NUR 635.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

NUR 637. Capstone Practicum in Nursing Leadership in Informatics. 3 Credit Hours.

In the capstone course students will assimilate and apply the knowledge and skills they have acquired from their course work in the program.

Students will complete a non-thesis capstone project that requires them to critically analyze and solve a problem they might realistically encounter in health informatics using their skills in data acquisition, project management, data presentation, and risk management. Students will also develop and submit an electronic portfolio that contains key examples of work they generated during their time in the program along with a self-reflection of that work.

Prerequisites: NUR 604 and NUR 607 and NUR 608 and NUR 630 and NUR 633 and NUR 636 and NUR 658 and BTE 450 and BTE 685 and Co-

requisites: NUR 603 and NUR 605.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

NUR 638. Adult Gerontology Acute Care III. 6 Credit Hours.

Theoretical, clinical, and research basis of advanced practice nursing in the care and management of adults in primary care setting. (2:15) Prerequisite: NUR 628.

Prerequisite: NUR 625.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

NUR 639. Acute Care Nursing of Adults II. 7.00 Credit Hours.

The second of two clinical practicums designed to guide the development of scientific knowledge and advanced practice skills in the area of acute care nursing. Designed to assist the student to assume the role of the Acute Care Nurse Practitioner/Clinical Nurse Specialist.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

NUR 640. Teaching and Learning Theory in Clinical Nursing Education. 3 Credit Hours.

This course covers principles and practices of teaching and learning integral to clinical nursing education and identifies the role of the faculty in teaching students with diverse learning styles and needs within a variety of clinical settings.

Components: DIL.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

NUR 641. Methods for Clinical Nursing Education. 3 Credit Hours.

The focus of this course is the organization and management of instruction for clinical nursing education. Emphasis is placed on effective strategies for the development of learning opportunities in diverse clinical settings.

Components: DIL.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

NUR 642. Evaluation in Clinical Nursing Education. 3 Credit Hours.

The course explores principles and practices of evaluation integral to clinical nursing education.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

NUR 643. Practicum in Nursing Education. 5 Credit Hours.

The focus of this course is laboratory and clinical application of principles of teaching and learning.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

NUR 644. Leadership and Professional Development Strategies for Nursing. 4 Credit Hours.

In this course, students will be exposed to the principles of organizational culture, dynamics, mission, vision, values, and goals as it impacts nursing. Additionally they will learn current theories of change management and resource management for nursing practice. They will explore change agent roles in project management and processes.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

NUR 645. Interdisciplinary Anesthesia Nursing I. 8 Credit Hours.

Initial integration and synthesis course of advanced knowledge and skills for interdisciplinary anesthesia nursing care. Selected topics and clinical case studies include collaborative-decision-making, effective communication, planning and evaluation for patients with complex problems and conditions across the lifespan. With continual guidance, students assume greater responsibility for culturally competent and interdisciplinary anesthesia care.

Prerequisites: NUR 601, NUR 611, NUR 612, NUR 613, NUR 614, NUR 617, NUR 619, NUR 620.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

NUR 646. Interdisciplinary Anesthesia Nursing II. 10 Credit Hours.

Second integration and synthesis course of advanced knowledge and skills for interdisciplinary anesthesia nursing care for complex problems and conditions across the lifespan. With moderate guidance students assume greater responsibility for culturally competent and interdisciplinary anesthesia care.

Prerequisite: NUR 601 and NUR 611 and NUR 612 and NUR 613 and NUR 614 and NUR 617 and NUR 619 and NUR 620 and NUR 645.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

NUR 647. Advanced Practice Nursing Integration. 6 Credit Hours.

Integration of the components of the Advanced Practice Nursing role to analyze advanced practice issues.

Prerequisite: NUR 623 and 631.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

NUR 648. Internship. 7.00 Credit Hours.

Integration and role synthesis of Advanced knowledge and skills in nurse midwifery care for women and infants within diverse cultural clinical settings. Selected topics include practice management and clinical case studies to include diagnosis, collaborative practice, planning and evaluations of care for normal and complex conditions for the female adolescent, reproductive age woman and infant, the mature women and their families.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

NUR 650. Interdisciplinary Anesthesia Nursing III. 11 Credit Hours.

This course is the third and final integration and synthesis course of advanced knowledge and skills of interdisciplinary anesthesia nursing care for complex problems and conditions across the lifespan. With minimal guidance students assume greater responsibility for culturally competent and interdisciplinary anesthesia care.

Prerequisite: NUR 646.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

NUR 651. Qualitative Data Analysis. 3 Credit Hours.

The course is designed to help the student develop skills and understanding relating to the advanced analysis of qualitative data. The course assumes all students will either be in or nearing the analysis stages in their research. Focus is on preparation and management of text and media data for analyses; the creation and application of various types of coding to data; the distinctions in coding data evolving from different qualitative approaches; and analysis of longitudinal qualitative data. Permission required.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

NUR 652. Introduction to Clinical Inquiry I. 3 Credit Hours.

Combines clinical knowledge and hands-on clinical experience in an area of the student's potential research interest. Students will practice under the supervision of an advanced practice nurse in the specialty area. Students are expected to begin the process of identifying clinical research problems.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

NUR 653. Introduction to Clinical Inquiry II. 6 Credit Hours.

Combines clinical knowledge and hands-on clinical experience in an area of the student's potential research interest. Students will practice under the supervision of an advanced practice nurse in a specialty area. There will be a focus on health care delivery systems. Students are expected to translate clinical problems into researchable questions.

Prerequisites: NUR 652 and 662 and 665 and 670 and 674 and 698.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

NUR 654. The Evolution of Nursing Practice and Application of Theory in Nursing Practice. 3 Credit Hours.

This course is an overview of the conceptual foundations of nursing science and nursing practice. Knowledge from basic and applied sciences and ethics as well as the history of the global evolution of nursing practice are examined.

Requisite: Enrollment in the DNP Program.

Components: LEC.

Grading: GRD.

Typically Offered: Spring & Summer.

NUR 655. Health Care Management, Economics, Financing, and Ethics. 3 Credit Hours.

This course is an overview of health care management, financing, ethics and core and advanced concepts of health care economics. This course will also examine issues associated with health care management, economics, and ethics.

Requisite: Enrollment in the DNP Program.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

NUR 656. Global Health. 3 Credit Hours.

This course covers diverse topics that affect the health of the population and advanced practice nursing internationally.

Requisite: Enrollment in the DNP Program.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

NUR 657. Population Based Health and Health Care Disparities. 3 Credit Hours.

This course is an overview of knowledge from nursing, public health and other disciplines for population based assessment. Population based models and frameworks from nursing, public health, and other disciplines will be explored. The importance of cultural and ethical dimensions in program development is highlighted.

Prerequisites: NUR 654 and NUR 656 and NUR 663 and NUR 664.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

NUR 658. Health Policy Development and Implementation. 3 Credit Hours.

An exploration of health care organizations and healthcare policy, and how change is effected in both. Health care policy and planning to address health care disparities at the local, state, and federal levels will be explored. Organizational diagnosis, organizational change, and ethical dimension of public policy formulations and implementation will be highlighted.

Requisite: Enrollment in the DNP Program.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

NUR 659. Technology in Health Care. 3 Credit Hours.

An exploration of the various aspects of the evolving technology to improve and transform health care and advanced practice nursing. This course prepares DNP nursing students to design, select and use technology to support, manage, and improve patient care and health care systems.

Requisite: Enrollment in the DNP Program.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

NUR 660. Translational Science. 3 Credit Hours.

Emphasis is on translational science which includes organizational readiness and promoting change in a health care environment. Focus is on utilizing systematic analysis to identify, plan, execute and appraise best evidence on selected topics.

Prerequisites: NUR 654 and NUR 663 and NUR 664.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

NUR 662. Nursing Epistemology. 4 Credit Hours.

Focus on historical and philosophical perspectives in the development of knowledge and patterns of knowing with in-depth examination of the evolution of nursing science. Analysis of concepts relevant to nursing phenomena. Approaches to scientific development in nursing with emphasis on theory building and theory generation.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

NUR 663. Research I: Evaluating the Evidence for Practice. 3 Credit Hours.

This course is an analysis of evidence-based nursing practice. During the course, students acquire the knowledge base to resolve clinical practice problems and direct evidence-based practice.

Requisite: Enrollment in the DNP Program.

Components: LEC.

Grading: GRD.

Typically Offered: Spring & Summer.

NUR 664. Research II: Biostatistical Applications for Nursing Practice. 3 Credit Hours.

This course is an overview of basic statistical concepts and computer applications related to healthcare, nursing, and biomedical research. An examination of both parametric and non-parametric statistics in program evaluation, testing and process outcomes, and/or basic research studies is included.

Requisite: Enrollment in the DNP Program.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

NUR 665. Quantitative Research Methods. 3 Credit Hours.

In-depth exploration of research methods and design for quantitative research in nursing. Emphasis on development of a research problem; quantitative research design from descriptive to randomized clinical trials; epidemiologic designs; threats to validity; sampling and power analysis; measurement including psychometric theory, data collection and management; and interpretation of data. Other topics include ethics, human subjects' protection, and translation of findings into practice.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

NUR 667. Research Practicum. 1 Credit Hour.

Student participates in an ongoing research project under the guidance of a faculty member. Conducts the practical aspects of research including: IRB application/continuing reports, data collection and management.

Prerequisite: NUR 665 and NUR 670.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

NUR 670. Qualitative Methods in Research. 3 Credit Hours.

Exploration of inductive approaches to research and the use of qualitative methods including grounded theory, ethnography, focus group, and phenomenology. The techniques include unstructured and structured interviews. Discussion of techniques, analysis, and the ethical and political implications of special problems in qualitative research.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

NUR 671. Scientific and Theoretical Writing. 3 Credit Hours.

Introduction to the process of scientific writing including concept analysis and publication. Critique and respond to own and peers' writing. Challenges of making revisions. Synthesize relevant literature. Other topics include: impact factor, publication process, and techniques of writing.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

NUR 672. DNP Scholarly Project Seminar I. 3 Credit Hours.

Emphasis is on translational science which includes organizational readiness and promoting change in a health care environment. Focus is on utilizing systematic analysis to identify, plan, execute and appraise best evidence on selected topics.

Prerequisites: NUR 676 and NUR 688 and NUR 689.

Components: LEC.

Grading: GRD.

Typically Offered: Spring & Summer.

NUR 673. DNP Scholarly Project Seminar II. 3 Credit Hours.

This second capstone course is the implementation and evaluation of the project developed in Capstone I.

Prerequisite: NUR 672.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

NUR 674. Applied Statistics: Generalized Linear and General Estimating Equations. 5 Credit Hours.

Overview of GLM, GZLM, and GEE, which combine many aspects of ANOVA/ANCOVA and multiple regression models for continuous and categorical independent and dependent variables, moderation/mediation, multiple independent variables, and repeated measures of dependent variables.

Computer applications using real data and standard statistical software packages will be utilized.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

NUR 676. Practice Immersion Experience I. 2-12 Credit Hours.

This course contains individually precepted learning experiences across the spectrum of advanced practice nursing in a variety of settings. Students develop expertise within the scope of their nursing practice.

Requisite: Enrollment in the DNP Program.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

NUR 679. Applied Statistics: Structural Equation Modeling and Hierarchical Linear Modeling. 3 Credit Hours.

Overview of structural equation modeling (SEM) and hierarchical linear modeling (HLM) for continuous, categorical, longitudinal, and nested data.

Computer applications using real data and statistical software packages (Exel, SPSS, Mplus).

Prerequisite: NUR 674.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

NUR 680. Research Ethics. 0 Credit Hours.

This is a hybrid course that addresses the ethical and responsible conduct of research, protection of human subjects, and nursing science career development.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

NUR 681. Measurement of Nursing Phenomenon. 3 Credit Hours.

Development of instruments to measure a phenomenon of concern within the domain of nursing.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

NUR 682. Advanced Practice Psychopharmacology. 2 Credit Hours.

Review of common psychoactive medications, classes, uses, effects, side effects, and prescriptive implications.

Components: DIL.

Grading: GRD.

Typically Offered: Spring.

NUR 683. Theoretical Bases for Advanced Practice Psychiatric Mental Health Nursing. 2 Credit Hours.

Review of theories and practice of individual, group and, family therapy; role of advanced practice mental health nursing, ethics, research, legislative practice.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

NUR 684. Advanced Practice Psychiatric Mental Health Nursing Therapeutic Interventions. 1-5 Credit Hours.

Assessment and treatment of persons with major psychiatric disorders.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

NUR 685. Advanced Practice Psychiatric Mental Health Nursing Preceptorship. 4 Credit Hours.

Clinical preceptorship with experience in individual, and group, therapy. Includes experiences in prescribing psychoactive medications.
Prerequisites: NUR 682 and NUR 683 and NUR 684.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

NUR 686. Advanced Practice Psychiatric Mental Health Nursing Preceptorship II. 5 Credit Hours.

Clinical preceptorship with experience in individual, and family therapy. Includes experiences in prescribing psychoactive medications.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Summer.

NUR 688. Health Systems Development and Leadership Practice Immersion II. 2 Credit Hours.

This course contains individually precepted learning experiences across the spectrum of nursing in a variety of settings. Students develop expertise within the scope of their nursing practice.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

NUR 689. New Method of Implementation-Practice Immersion Experience III. 2 Credit Hours.

This course contains individually precepted learning experiences across the spectrum of nursing in a variety of settings. Students develop expertise within the scope of their nursing practice.

Prerequisites: NUR 676, NUR 688.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

NUR 690. Independent Study. 1-6 Credit Hours.

A in depth study of a specified area in advanced nursing of special interest to the student, under faculty guidance.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

NUR 694. Clinical Practicum for DNP Nurse Anesthesia Clinical. 7 Credit Hours.

This course is the clinical integration and synthesis of advanced knowledge and skills of interdisciplinary anesthesia nursing care for complex problems and conditions across the lifespan. Students assume responsibility for culturally competent and interdisciplinary anesthesia care with minimal assistance.

Prerequisite NUR 650.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

NUR 695. Clinical Practicum for DNP Nurse Anesthesia. 9 Credit Hours.

This course is the clinical integration and synthesis of advanced knowledge and skills of interdisciplinary anesthesia nursing care for complex problems and conditions across the lifespan. Students assume responsibility for culturally competent and interdisciplinary anesthesia care with minimal assistance.

Prerequisite: NUR 694.

Components: PRA.

Grading: GRD.

Typically Offered: Fall.

NUR 696. Crafting the Dissertation Proposal Part I. 2 Credit Hours.

The course is designed to help students focus and refine their ideas for their dissertation proposals. Focus is on developing and refining the ideas for the dissertation, and writing the introductory/review of the literature/methods chapters. The student will also begin preparation for a grant submission. During the semester, the course coordinators will assist the student in choosing a dissertation chair who will also provide input into the proposal.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

NUR 697. Selected Topics. 12.00 Credit Hours.

Subject matter offerings based upon student demand and availability of faculty. Subtitles describing topics will be shown in class schedule in parentheses after selected topic notation.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

NUR 698. Selected Topics. 6.00 Credit Hours.

Subject matter offerings based upon student demand and availability Of faculty. Subtitles describing topics will be shown in class schedule in parentheses after selected topic notation.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

NUR 699. Special Topics in Nursing Research. 1-3 Credit Hours.

Directed or independent research in collaboration with a faculty member providing opportunity for participation in ongoing nursing research. Specific requirements and credit allocation determined by contractual arrangement between student and faculty member.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

NUR 700. Post Master Clinical. 12.00 Credit Hours.

Post Master Clinical

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

NUR 701. Clinical Continuation. 6.00 Credit Hours.

Clinical Continuation

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

NUR 702. Adult Gerontology III. 7 Credit Hours.

Integration of the components of the Advanced Practice Nursing role to analyze adult gerontology advanced practice issues.

Prerequisite: NUR 631.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

NUR 703. Becoming a Successful Nurse Scientist 1. 0 Credit Hours.

This course is part 1 of a 4 course sequence that builds skills for academic and career success, provides a forum for discussing current issues in the discipline that have implications for research, and assists students with career planning. Weekly attendance is required for first year students. Third and fourth year students are invited to all course meetings and encouraged to attend for and/or present specific topics.

Components: LEC.

Grading: SUS.

Typically Offered: Fall.

NUR 704. Becoming a Successful Nurse Scientist 2. 0 Credit Hours.

This course is part 2 of a 4 course sequence that builds skills for academic and career success, provides a forum for discussing current issues in the discipline that have implications for research, and assists students with career planning. Weekly attendance is required for first year students. Third and fourth year students are invited to all course meetings and encouraged to attend for and/or present specific topics.

Components: LEC.

Grading: SUS.

Typically Offered: Spring.

NUR 705. Becoming a Successful Nurse Scientist 3. 0 Credit Hours.

This course is part 3 of a 4 course sequence that builds skills for academic and career success, provides a forum for discussing current issues in the discipline that have implications for research, and assists students with career planning. Weekly attendance is required for first year students. Third and fourth year students are invited to all course meetings and encouraged to attend for and/or present specific topics.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

NUR 706. Becoming a Successful Nurse Scientist 4. 0 Credit Hours.

This course is part 4 of a 4 course sequence that builds skills for academic and career success, provides a forum for discussing current issues in the discipline that have implications for research, and assists students with career planning. Weekly attendance is required for first year students. Third and fourth year students are invited to all course meetings and encouraged to attend for and/or present specific topics.

Components: LEC.

Grading: SUS.

Typically Offered: Spring.

NUR 796. Crafting the Dissertation Part 2. 2 Credit Hours.

The course is designed to help students: learn how to pursue funding for their dissertation research; and write the third(methods) chapter of their dissertation proposal. In addition to attending class, students are expected to meet regularly with their advisor (future Dissertation Chair) to obtain his/her input on assignments.

Prerequisite: NUR 696. And NUR 671.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

NUR 810. Master's Thesis. 1-6 Credit Hours.

The student working on his/her master's thesis enrolls for credit, in most departments not to exceed six, as determined by his/her advisor. Credit is not awarded until the thesis has been accepted.

Components: DIS.

Grading: SUS.

Typically Offered: Fall & Spring.

NUR 830. Doctoral Dissertation. 1-12 Credit Hours.

Required of all candidates for the Ph.D. The student will enroll for credit as determined by his/her advisor but not for less than a total of 12 credits. Not more than 12 hours of NUR 730 may be taken in a regular semester, nor more than six in a summer session. A student who has passed (a) qualifying examinations, and (b) is engaged in an assistantship, may still take the maximum allowable credit stated above.

Components: THI.

Grading: SUS.

Typically Offered: Fall & Spring.

NUR 850. Research in Residence. 1-3 Credit Hours.

Used to establish research in residence for the Ph.D., after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Credit not granted. May be regarded as full-time residence as determined by the Dean of the Graduate School.

Components: THI.

Grading: SUS.

Typically Offered: Fall & Spring.

NUR 000. Nursing. 1-30 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

Ocean Sciences

OCE 501. Oceanography III (Chemical). 2 Credit Hours.

The third section of the course core curriculum designed as an integrated and multidisciplinary view of ocean processes, covering the major disciplines of marine science and their applications to the study of the marine environment. To be taken in dequence with Oceanography I - Geological (MGG 501), Oceanography II - Physical (MPO 502), and Oceanography IV - Biological (MBF 502). This course is for non-MAC majors only. Prerequisite: Undergraduates require permission of instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

OCE 502. Oceanography II (Physical). 2 Credit Hours.

The second section of the course core curriculum designed as an integrated and multidisciplinary view of ocean processes, covering the major disciplines of ma rine science and their applications to the study of the marine environment. To be taken in sequence with Oceanography I - Geological (MGG 501), Oceanography I II - Chemical (MAC 501), and Oceanography IV - Biological (MBF 502). This cours e is for non-MPO majors only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

OCE 503. Physical Oceanography. 3 Credit Hours.

Introduction to properties of seawater, instruments and methods, heat budget, general ocean circulation, formation of water masses, dynamics of circulation, regional oceanography, waves, tides, and sea level. A mathematical and problem solving course for majors in MPO.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

OCE 504. Analytical Methods in Marine and Atmospheric Chemistry. 1 Credit Hour.

A survey of analytical methods as applied to oceanographic and atmospheric chemistry. Course is taught in a multi-instructor format. Topics include trace organic analysis by HPLC, GC, and GC-MS, laser induced fluorescence detection of gas phase atoms, differential absorption detection of atmospheric species, aerosol sampling, ion chromatography, photochemical techniques, oceanographic tracers, microbiological techniques, and computational resources. Course is designed to be taught in conjunction with MAC 503.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

OCE 509. Coastal Physics and Engineering. 3 Credit Hours.

Course addresses linear wave theory, wave statistics, wave generation, tides, wind-driven currents, nearshore circulation, sediment transport by waves and currents, bedforms, bedload, and suspended load. Other topics include longshore and cross-shore transport, equilibrium beach profiles, coastal processes models, Pelnard-Considerere model for shoreline change, and Escoffier model for inlet stability.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

OCE 511. Geophysical Fluid Dynamics I. 3 Credit Hours.

The basic equations of state, continuity, and motion. Topics include wave motions, group velocity, theory of stratified fluids and internal waves turbulence.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

OCE 512. Marine Organic Geochemistry. 3 Credit Hours.

Broad introduction to the chemical constituents comprising organic matter in marine environments. This course will address how biological origins, dietary and detrital reworking, and physical phase influence the distribution and fluxes of organic matter in the marine carbon cycle, on both short and long timescales. Topics will address both the water column and sediments, in open-ocean and coastal environments. Students may choose topics of specific interest to their research for presentations and writing assignments (subject to instructor approval). The first half of the course will focus on the chemistry and physical phases of organic matter; the second half will focus on discussing the application of organic geochemical tools to environmental questions via the primary literature.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

OCE 515. Environmental Hydrology. 3 Credit Hours.

An introduction to the physical processes of hydrological science. The principles of evapotranspiration, precipitation, infiltration, groundwater flow, seepage, overland flow, and stream flow are expounded. Areas of interrelation with environmental, marine, and geophysical sciences are emphasized. Measurement techniques for hydrological variables and the statistical analysis of hydrological data time series for runs and extremes are also described.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

OCE 522. Marine Microbial Dynamics. 3 Credit Hours.

An overview of the function of microbes in the ocean from a chemical perspective, building a quantitative understanding of cellular needs and metabolic functions, and the role these microbial processes play in controlling chemical fluxes and biogeochemical cycles in the ocean.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

OCE 531. Ocean Data Analysis. 3 Credit Hours.

Useful and widely used ocean data analysis techniques are discussed. Topics covered include: a review of statistical concepts and linear algebra; time series analysis; least squares and regression techniques; principal component analysis; optimization and inverse methods; and simple models of ocean processes. Computational methods are emphasized. Choice of the material covered is dictated in part by student interests.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

OCE 536. Hurricanes. 3 Credit Hours.

This course is intended to provide a broad overview of tropical cyclones, starting from the basic structure, dynamics and thermodynamics, then expanding through to observations, modeling, forecasting and impacts.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

OCE 537. Natural Hazards: Atmosphere and Ocean. 3 Credit Hours.

This course is designed to provide students with an understanding of natural hazards in both the atmosphere and ocean. In the atmosphere, we will explore both weather events such as storms and hurricanes and tornadoes as well as longer term phenomena such as monsoons and excess rainfall in the tropics. Oceanographically, the course will address hazards such as storm surge and flooding, rogue waves, rip currents, and tsunamis that occur on short time scales as well as the longer term effects such as sea level rise and the impacts of El Niño and La Niña oceanographic conditions on weather conditions. Thus, the course focus is on hazards and their impacts around the globe.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

OCE 542. Physics of Remote Sensing I - Passive Systems. 3 Credit Hours.

Course discusses basic physical principles of remote sensing. Topics include an introduction, sampling issues, fundamental laws of electromagnetic waves, passive sensing, active sensing, and a brief survey of satellite sensors.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

OCE 543. Physics of Remote Sensing II - Active Systems. 3 Credit Hours.

This course discusses basic physical principles of remote sensing. The main topics are (1) Introduction, (2) Sampling issues, (3) Fundamental laws of electromagnetic waves, (4) Passive sensing, (5) Active sensing, and (6) Brief survey of satellite sensors.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

OCE 551. Applied Ocean Acoustics and Marine Mammals. 3 Credit Hours.

The objective of this course is to provide a basis in the fundamental of sound in the sea and on the effects of sound on marine mammals.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

OCE 561. Tropical Atmosphere and Ocean. 3 Credit Hours.

Observed structure of large-scale tropical circulations, including the Trades, the intertropical Convergence Zone, the Walker circulation, and equatorial wave disturbances. An overview of tropical climate, including El Niño/Southern Oscillation, and tropical monsoons is included as well as the formation, structure, and dynamics of tropical cyclone interactions between tropical convection and large-scale circulations, equatorial waves, and flow instabilities.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

OCE 575. Fluid Mechanics. 3 Credit Hours.

The equations governing the dynamics of homogeneous fluids are derived. The concepts of deformation rates, vorticity, stream function, and ideal fluid flow are introduced and demonstrated in applications describing flows in the marine environment. Semi-empirical methods for analyzing viscous flows, boundary layers, and turbulence are presented. Eddy viscosity and more advanced turbulence closure schemes are discussed in the context of coastal circulation, bottom boundary layers and sediment transport.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

OCE 576. Wave Propagation in the Ocean Environment. 3 Credit Hours.

Wave equation models, acoustic and other elastic waves, surface gravity waves, boundary conditions, ray tracing, dispersion, diffraction, reflection attenuation, and radiation transport laws are discussed.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

OCE 581. Special Topics in Marine and Atmospheric Chemistry. 1-4 Credit Hours.

Lectures, research projects or direct readings in special topics of marine and atmospheric chemistry.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

OCE 582. Special Topics. 1-4 Credit Hours.

Lectures, research projects or direct readings in special topics.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

OCE 583. Special Topics. 1-4 Credit Hours.

Lectures, research projects or directed readings in special topics.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

OCE 584. Special Topics. 1-4 Credit Hours.

Lectures, research projects or directed readings in special topics of Marine and Atmospheric Chemistry.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

OCE 585. Special Topics in Marine Chemistry. 1-4 Credit Hours.

Lectures, research projects or directed readings in special topics related to marine chemistry.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

OCE 586. Applied Remote Sensing. 3 Credit Hours.

This 3-credit course is to provide the student with a solid understanding of satellite remote sensing. The course will focus on practical aspects, including, but not limited to, problem solving in class and hands-on data processing and analysis. Students are expected to attend MPO/OCE 542/642 (Physics of Remote Sensing I: Passive Systems) and MPO/OCE 543/643 (Physics of Remote Sensing II: Active Systems) that focus on the theory of remote sensing. The companion course MPO/OCE 587/687 (Applied Radar Remote Sensing) is offered in the Spring Semesters.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

OCE 587. Applied Radar Remote Sensing. 3 Credit Hours.

This course complements MPO/OCE 543/643 (Physics of Remote Sensing II: Active Systems) with additional lectures and exercises tailored specifically to the needs of MPS students. Students taking this course will learn how to obtain, read, and process radar images from remote sensing satellites and from ship-based marine radars and how to perform some fundamental tasks to identify, enhance, and interpret signatures of various features in the images on their own computer.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

OCE 602. Oceanography II (Physical). 2 Credit Hours.

The second section of the course core curriculum designed as an integrated and multidisciplinary view of ocean processes, covering the major disciplines of marine science and their applications to the study of the marine environment. To be taken in sequence with Oceanography I - Geological (MGG 501), Oceanography I II - Chemical (MAC 501), and Oceanography IV - Biological (MBF 502). This course is for non-MPO majors only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

OCE 603. Physical Oceanography. 3 Credit Hours.

Introduction to properties of seawater, instruments and methods, heat budget, general ocean circulation, formation of water masses, dynamics of circulation, regional oceanography, waves, tides, and sea level. A mathematical and problem solving course for majors in MPO.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

OCE 609. Coastal Physics and Engineering. 3 Credit Hours.

Course addresses linear wave theory, wave statistics, wave generation, tides, wind-driven currents, nearshore circulation, sediment transport by waves and currents, bedforms, bedload, and suspended load. Other topics include longshore and cross-shore transport, equilibrium beach profiles, coastal processes models, Pelnard-Considerere model for shoreline change, and Escoffier model for inlet stability.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

OCE 610. Ocean Biogeochemistry. 3 Credit Hours.

Introductory course to understand the ocean as a system. It will cover the interactions between biological, chemical, and geological processes in the environment, all within the context of physical controls. In the ocean, biogeochemistry includes the cycling of both major (e.g., C, N, P, Si, O) and minor elements (such as Fe). Tracing the spatial and temporal variability of these elements provides insights on the biological and geochemical processes at work, as well as the hydrographic and other controls on those processes. In this course, the physical ocean system is introduced in the context of its controls on the biological system, which in turn controls distributions of bioactive elements. Considered here are the major processes controlling ocean productivity, its roles as a carbon sink, organic matter production and consumption, the cycling of nutrients, the inorganic carbon system, and biogeochemistry of the sediments.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

OCE 611. Geophysical Fluid Dynamics I. 3 Credit Hours.

The basic equations of state, continuity, and motion. Topics include wave motions, group velocity, theory of stratified fluids and internal waves turbulence.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

OCE 612. Marine Organic Geochemistry. 3 Credit Hours.

Broad introduction to the chemical constituents comprising organic matter in marine environments. This course will address how biological origins, dietary and detrital reworking, and physical phase influence the distribution and fluxes of organic matter in the marine carbon cycle, on both short and long timescales. Topics will address both the water column and sediments, in open-ocean and coastal environments. Students may choose topics of specific interest to their research for presentations and writing assignments (subject to instructor approval). The first half of the course will focus on the chemistry and physical phases of organic matter; the second half will focus on discussing the application of organic geochemical tools to environmental questions via the primary literature.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

OCE 615. Tracers of Oceanographic Processes. 3 Credit Hours.

Course describes the various tracer techniques used by oceanographers to understand water transport and mixing, sedimentation, gas exchange, nutrient recycling, and transport. Tracers used are both natural occurring and anthropogenic. This course is of interest to students from various disciplines.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

OCE 622. Marine Microbial Dynamics. 3 Credit Hours.

An overview of the function of microbes in the ocean from a chemical perspective, building a quantitative understanding of cellular needs and metabolic functions, and the role these microbial processes play in controlling chemical fluxes and biogeochemical cycles in the ocean.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

OCE 624. Applied Data Analysis. 3 Credit Hours.

The course is intended to jump-start students in strategies for fruitful computer interaction practices for careers in MPO areas of science. Academic topics include key concepts in probability & statistics, issues of graphical evidence and inference, linear models and regression, spectral analysis, and matrix decomposition. Practical topics include hands-on exercises in data analysis and the sharing of code+results and interpretation. Students do projects on data from their research or interests.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

OCE 625. Shoreline Processes. 3 Credit Hours.

Dynamics of water and sediment in the nearshore zone. Includes wave shoaling, radiation stress, longshore currents, physics of sediment transport, littoral and cross-shore sediment transport, equilibrium beach profiles. Lecture, 3 hours; laboratory, 2 hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

OCE 630. Marine Organic Chemistry. 3 Credit Hours.

Organic chemistry of the marine environment. Inventory of organic constituents, their sources and sinks, sampling and analytical techniques, functions of and processes involving organic compounds in the ocean are discussed. Review of current research topics is included.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

OCE 631. Ocean Data Analysis. 3 Credit Hours.

Useful and widely used ocean data analysis techniques are discussed. Topics covered include: a review of statistical concepts and linear algebra; time series analysis; least squares and regression techniques; principal component analysis; optimization and inverse methods; and simple models of ocean processes. Computational methods are emphasized. Choice of the material covered is dictated in part by student interests.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

OCE 635. Introduction to Underwater Acoustics. 3 Credit Hours.

Course topics include sound waves and pulses, harmonic analysis, sound propagation in the ocean, sonar systems, scattering and absorption, acoustic measurement of marine life and sea-floor properties, sound transmission in waveguides, ambient noise, transducers, and hydrophones.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

OCE 636. Hurricanes. 3 Credit Hours.

This course is intended to provide a broad overview of tropical cyclones, starting from the basic structure, dynamics and thermodynamics, then expanding through to observations, modeling, forecasting and impacts.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

OCE 637. Natural Hazards: Atmosphere and Ocean. 3 Credit Hours.

This course is designed to provide students with an understanding of natural hazards in both the atmosphere and ocean. In the atmosphere, we will explore both weather events such as storms and hurricanes and tornadoes as well as longer term phenomena such as monsoons and excess rainfall in the tropics. Oceanographically, the course will address hazards such as storm surge and flooding, rogue waves, rip currents, and tsunamis that occur on short time scales as well as the longer term effects such as sea level rise and the impacts of El Niño and La Niña oceanographic conditions on weather conditions. Thus, the course focus is on hazards and their impacts around the globe.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

OCE 642. Physics of Remote Sensing I - Passive Systems. 3 Credit Hours.

Course discusses basic physical principles of remote sensing. Topics include an introduction, sampling issues, fundamental laws of electromagnetic waves, passive sensing, active sensing, and a brief survey of satellite sensors.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

OCE 643. Physics of Remote Sensing II - Active Systems. 3 Credit Hours.

This course discusses basic physical principles of remote sensing. The main topics are (1) Introduction, (2) Sampling issues, (3) Fundamental laws of electromagnetic waves, (4) Passive sensing, (5) Active sensing, and (6) Brief survey of satellite sensors.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

OCE 651. Applied Ocean Acoustics and Marine Mammals. 3 Credit Hours.

The objective of this course is to provide a basis in the fundamental of sound in the sea and on the effects of sound on marine mammals.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

OCE 653. Special Topics. 1-3 Credit Hours.

Lectures, research projects or directed readings in special topics.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

OCE 661. Tropical Atmosphere and Ocean. 3 Credit Hours.

Observed structure of large-scale tropical circulations, including the Trades, the intertropical Convergence Zone, the Walker circulation, and equatorial wave disturbances. An overview of tropical climate, including El Niño/Southern Oscillation, and tropical monsoons is included as well as the formation, structure, and dynamics of tropical cyclone interactions between tropical convection and large-scale circulations, equatorial waves, and flow instabilities.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

OCE 668. Marine Isotopic Processes. 3 Credit Hours.

The use of isotopic methods in geology, geochemistry, and geophysics including oceanography and meteorology. General laws governing isotopic effects in chemical and physical processes are discussed as well as specific problems in dating, tracing, and paleotemperatures.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

OCE 673. Applied Underwater Acoustics. 3 Credit Hours.

Course topics include sonar systems and operating characteristics, scattering and reverberation, target strength, signal processing, transducers and arrays, detection and noise, and acoustic telemetry.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

OCE 675. Fluid Mechanics. 3 Credit Hours.

The equations governing the dynamics of homogeneous fluids are derived. The concepts of deformation rates, vorticity, stream function, and ideal fluid flow are introduced and demonstrated in applications describing flows in the marine environment. Semi-empirical methods for analyzing viscous flows, boundary layers, and turbulence are presented. Eddy viscosity and more advanced turbulence closure schemes are discussed in the context of coastal circulation, bottom boundary layers and sediment transport.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

OCE 676. Wave Propagation in the Ocean Environment. 3 Credit Hours.

Wave equation models, acoustic and other elastic waves, surface gravity waves, boundary conditions, ray tracing, dispersion, diffraction, reflection attenuation, and radiation transport laws are discussed.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

OCE 680. Transport and Mixing Process in the Marine Environment. 3 Credit Hours.

Heat and constituent transport and mixing processes in the marine environment. Derivation of the fundamental equations governing heat and constituent transport and mixing processes, steady and unsteady state heat transfer by conduction, laminar and turbulent convection, and radiation, steady and unsteady state constituent transfer by diffusion and laminar and turbulent convection, mixing and flushing in tidally driven coastal waters are also discussed.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

OCE 681. Special Topics. 1-4 Credit Hours.

Lectures, research projects or directed readings in special topics.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

OCE 682. Special Topics. 1-4 Credit Hours.

Lectures, research projects or directed readings in special topics.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

OCE 683. Special Topics. 1-4 Credit Hours.

Lectures, research projects or directed readings in special topics.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

OCE 684. Special Topics. 1-4 Credit Hours.

Lectures, research projects or directed readings in special topics.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

OCE 685. Advanced Studies. 1-4 Credit Hours.

Supervised study in areas of special interest to graduate students.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

OCE 686. Applied Remote Sensing. 3 Credit Hours.

This 3-credit course is to provide the student with a solid understanding of satellite remote sensing. The course will focus on practical aspects, including, but not limited to, problem solving in class and hands-on data processing and analysis. Students are expected to attend MPO/OCE 542/642 (Physics of Remote Sensing I: Passive Systems) and MPO/OCE 543/643 (Physics of Remote Sensing II: Active Systems) that focus on the theory of remote sensing. The companion course MPO/OCE 587/687 (Applied Radar Remote Sensing) is offered in the Spring Semesters.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

OCE 687. Applied Radar Remote Sensing. 3 Credit Hours.

This course complements MPO/OCE 543/643 (Physics of Remote Sensing II: Active Systems) with additional lectures and exercises tailored specifically to the needs of MPS students. Students taking this course will learn how to obtain, read, and process radar images from remote sensing satellites and from ship-based marine radars and how to perform some fundamental tasks to identify, enhance, and interpret signatures of various features in the images on their own computer.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

OCE 700. Practical Training and Internship. 1-6 Credit Hours.

Supervised internships or off-campus employment for students pursuing the M.A., M.S., or Ph.D. degree. Consists of work related to research in progress.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

OCE 701. Mathematical Methods in Marine Physics. 3 Credit Hours.

Review of linear algebra with emphasis on real symmetric systems. Least squares, optimal estimation, and the Gauss-Markov theorem. Equilibria in discrete and continuous systems, and the foundations of continuum mechanics. Review of vector and tensor analysis. Calculus of variations and the variational principles of mechanics. Fourier analysis and orthogonal expansions. Integral transforms. The discrete Fourier and z transforms. Functions of a complex variable. Ordinary differential equations. Dynamical systems, the phase plane, stability, and an introduction to chaos. The diffusion equation. Linear and nonlinear wave equations. Applications to marine physics involving wave motion and fluid flow are emphasized throughout the course.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

OCE 705. Chemical Oceanography. 3 Credit Hours.

This course will introduce students to the chemistry of the oceans, descriptive chemical oceanography of the components of ocean waters (metals, gases, organic compounds and nutrients), and biogeochemical cycles in oceanic systems.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

OCE 706. Special Project-Post Candidacy. 1-6 Credit Hours.

Used to establish student has been admitted to candidacy for the MA Degree. The student working on his/her research paper enrolls for credit not to exceed 06 combined with 705. No credit is awarded until final paper has been accepted.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

OCE 710. Environmental Optics and Electromagnetic Wave Propagation. 3 Credit Hours.

The course will allow students to understand the physical background of geophysical optical and microwave measurements, to learn how to carry out and interpret optical measurements, and how to work with microwave passive/active remote sensing platforms. The student will leave with a thorough understanding of existing physical background of optical instrumentation for underwater measurements as well as active/passive optical and microwave remote sensing.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

OCE 711. Geophysical Fluid Dynamics II. 3 Credit Hours.

The focus of this course is on the effects of stratification, on time variable phenomena, and on the interaction between large-scale circulation and mesoscale eddies. Course topics include quasi-geostrophic scale analysis, Rossby waves, barotropic and baroclinic instability, wave-mean flow interaction and non-geostrophic waves.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

OCE 712. Large Scale Ocean Circulation: Models and Observations. 3 Credit Hours.

Course topics include theoretical models of the oceanic current systems, wind-driven and thermohaline circulation, effects of bottom topography, and lateral bounding.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

OCE 715. Masters Thesis-Post Candidacy. 1-6 Credit Hours.

Used to establish student has been admitted to candidacy for the MS Degree. The student working on his/her Master's Thesis enrolls for credit not to exceed 06 combined with 710. Credit is not awarded until the Thesis has been accepted.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

OCE 720. Marine Physical Chemistry. 3 Credit Hours.

Physical-chemical principles applied to the marine environment, based on thermodynamics and the study of rate processes.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

OCE 721. Waves and Tides I. 3 Credit Hours.

The focus of this course is on the kinematics, dynamics and energetics of wave motions in the ocean and atmosphere from both theoretical and observational perspectives. We examine the internal wave spectrum ranging from the buoyancy frequency to the inertial frequency including the WKBJ scaling of the momentum by the buoyancy frequency. The IW spectrum often contains both the semidiurnal and diurnal tidal frequencies where the former is often referred to as internal tide that are excited along continental margins by barotropic tides. Within the context of normal modes, Kelvin and topographically Rossby waves are also present in this regime known as coastally trapped (also known as continental shelf waves). The course then goes into the equatorial wave guide that supports these motions (except for near-inertial motions). This is followed by the forced wave motions by atmospheric fronts and cyclones where Green's functions are introduced.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

OCE 724. Statistical Modeling of Geophysical Fields. 3 Credit Hours.

An advanced course in statistical modeling, analysis, and assimilation of geophysical data. Emphasis is placed on practical applications, computer software, and new nonstandard techniques.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

OCE 731. Air-Sea Interaction. 3 Credit Hours.

Oceanic and atmospheric mixed layers including fluxes of heat, momentum, moisture and salt between the ocean and atmosphere; vertical distribution of energy sources and sinks at the interface including the importance of surface currents; forced upper ocean dynamics, the role of surface waves on the air-sea exchange processes and ocean mixed layer processes.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

OCE 736. Modeling of Physical-Biological Interactions. 3 Credit Hours.

The course is designed to teach students the basic components for building coupled physical biological models. Students will be able to understand the processes affecting from low- to high-trophic level organisms in the planktonic environment. Emphasis will be given on numerical simulations of mechanisms involved in: Plankton distribution and patchiness; Trophic interactions (NPZD); Larval behavior and transport; Marine population connectivity.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

OCE 750. Coastal Ocean Circulation. 3 Credit Hours.

Circulation and stratification in the coastal ocean, including the dynamics of wind-driven, tidally-driven, and buoyancy-driven mean and transient flows over variable topography with density stratification. Design of numerical models and observing systems for coastal ocean circulation is also included.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

OCE 751. Special Topics. 1-3 Credit Hours.

Lectures, research projects or directed readings in special topics related to Applied Marine Physics.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

OCE 752. Vortex Dynamics. 3 Credit Hours.

This course will cover fundamental to advanced topics in vortex dynamics. A review of fluid dynamics and vorticity in two dimensions will be followed by studies of vortex dynamics in three-dimensional, incompressible flow and in three-dimensional, stratified flow.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

OCE 754. Special Topics. 1-3 Credit Hours.

Lectures, research projects or directed readings in special topics related to Applied Marine Physics.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

OCE 762. Computer Models in Fluid Dynamics. 3 Credit Hours.

Course topics include numerical techniques of dealing with dynamic problems in meteorology and oceanography. Dynamic prediction models, initial data conditioning, computational stability, and error estimates are also included.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

OCE 763. Environmental Photochemistry. 3 Credit Hours.

Introduction to the principles of photochemistry and their application to understanding sunlight initiated processes in the region of the ocean-atmosphere interface. Organic and inorganic photochemical reactions and subsequent thermal reactions in solution, gas, and solid media are discussed.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

OCE 764. Atmospheric and Oceanic Turbulence. 3 Credit Hours.

Structure and dynamics of planetary boundary layers, turbulent transport processes, Fickian and statistical theories of turbulence, influence of stratification, and rotation on turbulent motion are discussed.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

OCE 767. Spectral and Finite Element Methods in Computational Fluid Dynamics. 3 Credit Hours.

The simulation of fluid flows in geometrically complex domains (like ocean basins) and/or with high fidelity requires the adoption of new discretization techniques that can simultaneously handle the complicated geometry and permit high accuracy solution. The finite element method has traditionally been used to tackle the geometric complexity while spectral methods have been developed to handle high accuracy in simple geometries. Here we present an approach to handle both complexity within a single framework, namely the spectral element method. The course starts by describing the weak formulation common to all finite element methods which, by design, are geometrically flexible. The second part of the course describe how high order polynomial can be implemented within the finite element framework to achieve high accuracy rates.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

OCE 768. Marine Trace Element Geochemistry. 3 Credit Hours.

This course includes an in-depth discussion on all major aspects of oceanic trace element cycle and their application in oceanography and climate studies. The discussed topics include distribution, controlling processes, trace element speciation, isotopes, the role of trace elements in oceanic cycle of major nutrients and the application in the studies of past ocean history and climate. New data and major findings of the on-going GEOTRACES program will also be discussed.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

OCE 770. Seminar in Ocean Sciences. 1 Credit Hour.

Oral presentation of research and special topics by students, faculty, and visiting scientists.

Components: SEM.

Grading: SUS.

Typically Offered: Fall & Spring.

OCE 772. Advanced Underwater Acoustics. 3 Credit Hours.

Analysis and numerical modeling of sound propagation in the ocean: geometrical acoustics, normal mode theory, and the parabolic equation method. Recent advances in underwater acoustics: effects of oceanic variability, signal fluctuations, random medium propagation, ocean bottom interactions, and shallow water propagation are also examined.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

OCE 775. Advanced Studies. 1-4 Credit Hours.

Supervised study of special interest to graduate students.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

OCE 776. Mesoscale Oceanography. 3 Credit Hours.

The course will present a current view of our understanding of ocean mesoscale variability, including its properties in different oceanic regimes, the dynamics governing its origin and development, and its overall role in the oceans and climate. Lectures will present material covering theory, observations (both in situ and satellite), and numerical model results. Students will learn basic concepts on ocean mesoscale processes and perspectives on current research topics from lectures, assignments and research papers.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

OCE 780. Capstone Independent Study of Coastal Engineering (MSOE). 3 Credit Hours.

OCE 780 is an independent study course in the field of Coastal Engineering that is intended to be a final semester capstone project in the MS in Ocean Engineering program. The student will work with the instructor to select a laboratory or field experimental project of interest related to coastal oceanographic engineering. The student will review the background of similar studies, design the project applying appropriate scaling laws (in the case of the laboratory studies), design the measurements to be taken and the protocols for doing so. The student will assist in model construction as required. Data will be collected, analyzed and archived. A report will be prepared and presented at an open seminar on campus.

Components: IND.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

OCE 781. Special Topics in Marine Chemistry. 1-4 Credit Hours.

Lectures, research projects or directed readings in special topics related to marine chemistry.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

OCE 786. Advanced Ocean Measurements. 2 Credit Hours.

Theory and techniques of ocean measurements, ocean data systems, and processing and ocean data transmission are discussed. Lecture, 2 hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

OCE 790. Mechanics and Thermodynamics of the Air-Sea Interface. 3 Credit Hours.

This course deals with the theory and practice of air-sea interaction. Two hours of lectures and one hour in the wind-wave laboratory provide an appropriate mix of theory and experiment. The topics covered include: thermodynamics of the interface; conservation equations; wave generation, propagation, and dissipation; boundary layer turbulence; heat, mass, and momentum transfer; energy dissipation, intermittency; turbulence closure; and wave prediction models.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

OCE 793. Special Problems. 1-3 Credit Hours.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

OCE 795. Advanced Studies. 1-3 Credit Hours.

Supervised study in areas of special interest to graduate students.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

OCE 798. Advanced Studies. 1-3 Credit Hours.

Supervised study in areas of special interest to graduate students.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

OCE 800. Practical Training and Internship. 1-6 Credit Hours.

Supervised internships or off-campus employment for students pursuing the M.A., M.S., or Ph.D. degree. Consists of work related to research in progress.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

OCE 805. MPS Internship. 1-6 Credit Hours.

The Master of Professional Science internship is an approved, supervised internship project with an organization engaged in activities associated with the student's degree track. The internship results in a collaborative project, written report, and oral presentation on a topic approved by the student's advisory committee. Up to 6 credits are necessary for graduation.

Components: PRA.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

OCE 810. Master's Thesis. 1-6 Credit Hours.

The student working on his/her master's thesis enrolls for credit, in most departments not to exceed six, as determined by his/her advisor. Credit is not awarded until the thesis has been accepted.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

OCE 815. Master's Thesis-Post Candidacy. 1-6 Credit Hours.

Used to establish student has been admitted to candidacy for the MS degree. The student working on his/her Master's Thesis enrolls for credit not to exceed 6 combined with 710. Credit is not awarded until the Thesis has been accepted.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

OCE 820. Research in Residence. 1 Credit Hour.

Used to establish research in residence for the thesis for the master's degree after the student has enrolled for the permissible cumulative total in AMP 710 (usually six credits). Credit not granted. May be regarded as full time residence.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

OCE 830. Doctoral Dissertation. 1-12 Credit Hours.

Required of all candidates for the Ph.D. The student will enroll for credit as determined by his/her advisor but not for less than a total of 12. Not more than 12 hours of AMP 730 may be taken in a regular semester, nor more than six in a summer session. Where a student has passed his/her (a) qualifying examinations, and (b) is engaged in an assistantship, he/she may still take the maximum allowable credit stated above.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

OCE 850. Research in Residence. 1 Credit Hour.

Used to establish research in residence for the Ph.D., after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Credit not granted. May be regarded as full-time residence as determined by the Dean of the Graduate School.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

Ophthalmology

OPH 610. Anatomy and Physiology of the Eye. 1 Credit Hour.

This course introduces the major anatomical and physiological regions of the eye, including cornea, lens, retina, optic nerve, cranial nerves and extraocular tissues. Emphasis is placed on the relationship between the eye and others systems. Demonstrations include eye dissection, visual testing and visual perception experimentation.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

OPH 615. Pathology of Eye Diseases. 1 Credit Hour.

This course covers in detail the major pathologies of the eye, including congenital diseases and syndromes, infectious diseases, tumors and adult-onset degenerations. Emphasis is placed on pathophysiological mechanisms contributing to pathology, and also covers examination of the eye, diagnostic features, and management of major eye diseases. Demonstrations include histological sections, OCT, visual field and angiogram, and associated diagnostic criteria.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

OPH 620. Ocular Pharmacology, Epidemiology, and Biostatistics. 1 Credit Hour.

Course will teach local anesthetics, anti-infectious, anti-allergic agents, control of ocular pain, adverse ocular and systemic reactions caused by therapeutic agents will be part of the course. Ocular therapeutic principles (pharmacokinetics and pharmacodynamics, toxicity), sources of drug information, new drug development, drug regulations as applicable to different areas of operation including prescription writing will be discussed. An introductory course in epidemiologic and biostatistics methodology covering study design for investigation of both infectious and chronic diseases of the eye; screening programs and health services research will also be discussed. Outbreak investigation, natural history of infectious diseases, validity of clinical tests, survival analysis, and clinical trial and etiologic studies will be discussed. Methods of biostatistician evaluation of experiment design and analyses of data to decipher significant from non-significant results and general tools for statistical analyses will be reviewed.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

OPH 625. Microbiology and Immunology of the Eye. 1 Credit Hour.

Students will learn concepts and terminologies of immunology, bacteriology, virology, parasitology and mycology with an emphasis on mechanisms of microbial disease transmission and host defense mechanisms. Students become familiar with the types of organisms responsible for human disease, the mechanisms by which they produce disease, and the application of this knowledge to the treatment of patients. This course integrates the biomedical disciplines of immunology and medical microbiology. Infectious and immunological diseases with relevance to the clinical setting and pharmacological approaches will be presented. A basic understanding of the classification and characteristics of infectious microorganisms, the mechanisms by which infectious agents cause disease, and methods of both prevention and treatment are highlighted. Causes and treatment of immune diseases will also be presented. Concepts of inflammation, sepsis, cell injury, tissue repair, hemodynamic disorders, genetic disorders, environmental and nutritional pathology, immunodeficiency diseases, autoimmune and metabolic diseases will be presented. Throughout the course, small group tutorials and interactive clinical correlations based on clinical cases linking basic science concepts to clinical medicine will be presented. Tutorials, clinico-pathological correlations and laboratories emphasize problem-solving skills, integration of knowledge and independent learning.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

OPH 630. Ophthalmic Genetics. 1 Credit Hour.

This course provides an overview of the influence of genetics in ophthalmology with respect to understanding pathogenic mechanisms of eye diseases, and the development of novel therapeutic strategies. The course will provide an introduction to complex and Mendelian genetics, and research strategies involved in identifying disease-associated genetic changes. Specific topics include hereditary retinal diseases, genetic associations in age related macular degeneration and glaucoma, genetics of myopia and optic nerve diseases, and mitochondrial disorders affecting the eye. Additional discussions include current gene therapy clinical trials.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

OPH 635. Electrophysiology of the eye. 1 Credit Hour.

This course will introduce the basic principles of electrophysiology of the eye, identify neural signals, neurotransmitters, molecular signaling within neurons. Additionally, the sensation and sensory systems. Emphasis is placed on the relationship between the eye and other signals and senses.

Corequisite: OPH 663.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

OPH 640. Vision and Optics. 2 Credit Hours.

This course will provide an introduction to the principles of geometrical optics and its application to the study and assessment of the visual system. Topic covered will include fundamental of geometrical optics, principles of optical system components (lenses, mirrors, prisms, light sources), optics of the eye and vision correction, basic principles of visual optical instruments (loupe, microscopes, telescopes), and principles and applications of ophthalmic diagnostic and imaging systems, including ophthalmoscopes, retinoscopes, slit-lamp, keratometers, corneal topography systems, aberrometers and optical coherence tomography.

Corequisite: OPH 662.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

OPH 645. Biochemistry, Cellular and Molecular Ophthalmology. 2 Credit Hours.

An introduction to biochemistry with emphasis on ocular clinical applications. Topics will include nutrition, cellular biology, biochemistry of tears, conjunctiva, and cornea. The structure and functions of proteins and enzymes as well as metabolism of carbohydrates and lipids will be discussed. Case studies and journal articles will be used to demonstrate the useful applications of these principles to ocular health-related issues.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

OPH 661. LAB: Basic Biochemistry, Microbiology, and Pathology. 3 Credit Hours.

Experiments related to molecular biology (includes PCR, DNA cloning, hybridization analysis, restriction mapping, and DNA sequence analysis), protein purification and analysis (salt fractionation, ion exchange chromatography, affinity chromatography, SDS-PAGE, and immuno-blotting), and determination of enzyme kinetic parameters.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

OPH 662. Lab: Basic and Applied Optics and Statistics. 1 Credit Hour.

This laboratory course serves as a companion to the Vision and Optics course. It will include practical hands-on examples of the application of geometrical optical theory to the design and calculation of optical systems, provide an initial hands-on experience with basic optical system setup on an optical bench, and provide basic hand-on training or demonstration of ophthalmic diagnostic techniques and instruments, including refraction, ophthalmoscopy, retinoscopy, slit-lamp examination, aberrometry, corneal topography and optical coherence tomography.

Corequisite: OPH 640.

Components: LAB.

Grading: GRD.

Typically Offered: Spring.

OPH 663. Lab: Electrophysiology, Clinical Testing and Applications. 1 Credit Hour.

This laboratory work will introduce the students to novel clinical recording techniques, electrophysiologic tests, and clinical applications of ERG, EOG, and VEP. Emphasis is placed on novel and specialized clinical applications and recordings. The course will be divided in two sections. Section one ends with focus on the effects of maturation, aging, and testing in infants. Section two will conclude with electrophysiologic findings of many clinical conditions and clinical applications of ERG, EOG, and VEP of various eye disorders/diseases.

Corequisite: OPH 635.

Components: LAB.

Grading: GRD.

Typically Offered: Spring.

OPH 691. Clinical Ophthalmology Update. 2 Credit Hours.

Society, Science and Medicine. History and evolution of medicine, Seminars on different aspects of medicine including a broad spectrum view of career options. The emphasis will be how medicine has been developed historically, its efficacy, and the future outlook. For example, antibiotic resistant bacteria was discovered in 12,000 year old underground caves that makes us realize that antibiotic resistance is an old problem and we need to have an outlook bearing that in mind. .

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

OPH 771. PBL: Advanced and High Throughput Approaches in Science. 2 Credit Hours.

The Problem-Based Learning Method (PBL) was designed to teach students in small groups to identify specific techniques that will yield the answers to the problems. Content will include the underlying norms and principles that shaped these concepts. The courses also include plenary session presentations by experts on relevant topics and their use in preparing manuscripts and grant applications and policies regarding conduct of experiments using these techniques.

Components: ENS.

Grading: GRD.

Typically Offered: Fall.

OPH 772. PBL: Management skills and Tools for Academia and Enterprises. 2 Credit Hours.

This Problem-Based learning course will introduce grant writing, pre-award preparation, post-award management and will be taught using problem-based modules. Federal and non-federal extramural grants will be used as modules specific aspects of different segmental grants will be presented. Major research grant, training and fellowships, grants-in-aid will be taught. In addition, small business innovation research (SBIR) or STTR will be covered. Students will learn techniques to analyze markets, identify optimal opportunities, develop plans to sell their vision in order to attract talent and stakeholders. A series of problem-based lectures integrates modern business concepts from an entrepreneurial approach.

Components: ENS.

Grading: GRD.

Typically Offered: Spring.

OPH 773. PBL: Animal Models, Regulatory issues, and Research Methods. 2 Credit Hours.

Part I: The aim of this Problem-Based learning course is to provide students the basic understanding and expertise pertaining to generation and implementation of preclinical research IACUC protocol. This course consists of a problem based learning module with a focus on developing students' understanding of various animal models in preclinical research and how to refine animal research models that meet the requirement of IACUC regulation. Part II: The purpose of this course is to provide clinical research regulatory expertise with an aim to create future leaders in the drug development industry. This regulatory science course uses a multidisciplinary approach and encompasses course work in regulatory writing techniques, quality systems, and medical device and pharmaceutical regulation. The concentration is designed to develop the student's understanding of how to meet regulatory oversight requirements as they relate to the conduct of clinical studies. This course will prepare students to play critical roles throughout the lifecycle of pharmaceuticals, medical devices, and biologics. They provide strategic, tactical and operational direction, and support for working within regulations to expedite the development and delivery of safe and effective healthcare products to individuals around the world. The regulatory professional's services can be utilized in research and development, clinical trials, extension of premarket approvals, manufacturing, labeling and advertising, and post-market surveillance. Knowledge of clinical research conduct and management which involves the design, execution and management of clinical trials as well as quality assurance and compliance principles are important to regulatory professionals. Course also provides highlight on how to effectively partner with experts such as writers drafting pre- and post- approval regulatory FDA submission documentation (INDs, NDAs, PMAs etc.) for product clearance or licensure, IRB reviewers and investigational Pharmacists to enhance the development of healthcare products.

Components: ENS.

Grading: GRD.

Typically Offered: Spring.

OPH 810. Ophthalmology Research Thesis. 1-7 Credit Hours.

The course allows the student to work full-time on a research project of interest under the supervision of research/clinical faculty or a team of faculty members.

Components: THE.

Grading: SUS.

Typically Offered: Fall.

Osher Lifelong Learning Inst (OSH)

OSH 1. Osher Auditing Fee. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 10. OLLI TRIP TO ITALY (PAYMENT #2). 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 100. Wealth Management. 0 Credit Hours.**Components:** LEC.**Grading:** GRD.**OSH 101. Sig: Current Events. 0 Credit Hours.****Components:** LEC.**Grading:** NOG.**OSH 102. Persia: Then and Now. 0 Credit Hours.****Components:** LEC.**Grading:** NOG.**OSH 103. It's Our World - What's Wrong with It. 0 Credit Hours.****Components:** LEC.**Grading:** NOG.**OSH 104. World Powers in Transition. 0 Credit Hours.****Components:** LEC.**Grading:** NOG.**OSH 105. Triumph and Tragedy. 0 Credit Hours.****Components:** LEC.**Grading:** NOG.**OSH 106. Election and World Affairs in 2012. 0 Credit Hours.****Components:** LEC.**Grading:** NOG.**OSH 107. Bill of Rights: Then and Now. 0 Credit Hours.****Components:** LEC.**Grading:** NOG.**OSH 108. Bill of Rights: Then and Now. 0 Credit Hours.****Components:** LEC.**Grading:** NOG.**OSH 109. Jerusalem: A City and Its Secrets. 0 Credit Hours.****Components:** LEC.**Grading:** NOG.**OSH 11. OLLI LUNCH & LEARN. 0 Credit Hours.****Components:** LEC.**Grading:** NOG.**OSH 110. Emerging World Powers vs. Traditional World Powers. 0 Credit Hours.****Components:** LEC.**Grading:** NOG.**OSH 111. Bless This Dwelling - Sacred House, Sacred Ceremony. 0 Credit Hours.****Components:** LEC.**Grading:** NOG.**OSH 112. Emerging World Powers vs. Traditional World Powers. 0 Credit Hours.****Components:** LEC.**Grading:** NOG.**OSH 113. The Supremes: Two Justices, History, And. 0 Credit Hours.****Components:** LEC.**Grading:** NOG.**OSH 115. Forgery and Looting of Art. 0 Credit Hours.****Components:** LEC.**Grading:** NOG.**OSH 116. Ancient Political Rivalries. 0 Credit Hours.****Components:** LEC.**Grading:** NOG.**OSH 117. SIG: Propaganda. 0 Credit Hours.****Components:** LEC.**Grading:** NOG.**Typically Offered:** Fall, Spring, & Summer.

OSH 118. A History of Modern Israel. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 119. The Person Behind the Politician. 0 Credit Hours.

Components: LEC.

Grading: NON.

OSH 12. OLLI LUNCH EVENT. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 120. Holocaust Studies. 0 Credit Hours.

Components: LEC.

Grading: NON.

OSH 121. Domestic and International Economic Influences. 0 Credit Hours.

Components: LEC.

Grading: NON.

OSH 122. Great Decisions. 0 Credit Hours.

Components: LEC.

Grading: GRD.

OSH 123. Leonardo Da Vinci. 0 Credit Hours.

Components: LEC.

Grading: GRD.

OSH 125. A Historic Miscellany. 0 Credit Hours.

Components: LEC.

Grading: NON.

OSH 126. Miami-Dade County and You. 0 Credit Hours.

Components: LEC.

Grading: NON.

OSH 127. Us Supreme Court. 0 Credit Hours.

Components: LEC.

Grading: NON.

OSH 128. LAW & ORDER - A SPEAKER SERIES. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 129. TURBULENCE IN MOSLEM WORLD. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 13. OLLI 30th ANNIVERSARY CELEBRATION RECEPTION. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 130. WHAT'S GOING ON IN.....?. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 131. WHAT'S NEW(S) IN MIAMI?. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 132. WOMEN WHO SHOOK THEIR WORLD AND THUS CHANGED OURS. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 133. GREAT LAWYERS & DEFENSES. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 134. BIG BUSINESS BIG GOVERNMENT: ALLIES OR ENEMIES. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 135. TIME TRAVELER: 1920-1930 "ROARING TWENTIES". 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 136. MEN WHO SHOOK THEIR WORLD AND THUS CHANGED OURS. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 137. THE BIRTH OF ISLAM. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 138. CURRENT EVENTS - INTERNATIONAL PERSPECTIVE. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 139. AMERICA'S CIVIL WAR. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 14. OLLI 30th ANNIVERSARY CELEBRATION RECEPTION. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 140. LOVE & MARRIAGE INDIAN STYLE (A FILM COURSE). 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 141. A BRIEF HISTORY OF MODERN GERMANY. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 142. HOW TO PROTECT YOURSELF IN THIS UNCERTAIN WORLD. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 143. THE RISE AND FALL OF ISLAMIC EMPIRES. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 144. LONGING & BELONGING (FILM SERIES): SOUTH ASIANS IN THE DIASPORA. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 145. HOW WE GOT HERE AND WHO WE ARE: THE HISTORY OF GREATER MIAMI. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 146. NEW & OLD PLAYERS IN INTERNATIONAL POWER POLITICS. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 147. SLAVERY. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 148. WEST VS EAST. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 149. WORLD WAR II. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 15. OLLI SAMPLER. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 150. ARMCHAIR ARCHAEOLOGY. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 151. PASSENGERS TO INDIA. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 152. ISLAM 101. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 153. HERSTORY. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 154. HISTORY OF HUMOR. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 155. POLITICS OF K-12 EDUCATION. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 156. CANADA: HISTORY & CULTURE. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 157. WINSTON CHURCHILL. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 158. INTERNATIONAL CURRENT EVENTS. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 159. ARTISTAS DESPUES DE LA SEGUNDA GUERRA MUNDIAL. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 16. OLLI FIELD TRIP - MILLIONAIRE'S ROW CRUISE. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 160. INTERNATIONAL ACTION. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 161. GEOPOLITICS OF THE BIBLE. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 162. INT'L HOT TOPICS (UM DEPT OF INT'L STUDIES SPEAKER SERIES). 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 163. CONSUMER SAFETY (SPEAKER SERIES). 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 164. ARTISTAS DE PRIMEROS DEL SIGLO 20. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 165. 100 YEARS OF PIANO. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 166. EARLY 20TH CENTURY ARTISTS. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 167. FROM IRVING BERLIN TO BURT BACHARACH - PART 1. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 168. FROM IRVING BERLIN TO BURT BACHARACH - PART 2. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 169. A MODERN VIEW OF THE MIDDLE EAST. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 17. OLLI PRESENTS: GUEST SPEAKER. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 170. CLASSICAL MUSIC: 19th CENTURY NATIONAL MOVEMENTS AND WESTERN CLASSICAL TRADITION. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 171. INDIA'S WOMEN (IN FILM). 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 172. HOW TO LOOK AT ART: FORM, CONTENT, CONTEXT. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 173. INTRO TO THE HUMANITIES - PART 1. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 174. INTERPRETATIONS OF SOLO CONCERTOS. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 175. ASPECTS OF NAZI GERMANY. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 176. CLASSICAL MUSIC: SELECTED TOPICS. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 177. AMERICAN PRESIDENTIAL ELECTIONS. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 178. A BIOSOCIAL HISTORY OF THE HUMAN FAMILY. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 179. HEROES, CELEBRITIES & SAINTS. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 18. OLLI GOES TO THE MORIKAMI MUSEUM AND JAPANESE GARDENS. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 180. EVOLVING IN THE 21st CENTURY. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 181. SWINGIN' ON A STAR: THE BIG BANDS. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 182. CHALLENGES FACING THE MIDDLE EAST, NORTH AFRICA & CENTRAL ASIA. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 183. SELECT 19TH CENTURY SYMPHONIES. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 184. AMERICA'S HEROES IN SONG & LEGEND. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 185. IN SEARCH OF AMERICA: THROUGH THE EYES OF 6 TRAVELERS. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 186. MUSIC APPRECIATION: VOICE TYPES & RANGES. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 187. 19TH CENTURY SOLO PIANO & CHAMBER WORKS. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 188. FILMING THE RAJ. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 189. THE VERY BEST OF BROADWAY: 1950 TO PRESENT!. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 19. OLLI GOES TO THE PAMM (PEREZ ART MUSEUM MIAMI). 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 190. RUSSIA: THEN AND NOW. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 191. READING CECILIA VALDES. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 192. WELLNESS, NOT WEIGHT. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 193. THE CONSTITUTION. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 194. ARABIC FOR BEGINNERS: LISTENING AND SPEAKING. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 195. CLASSICAL MUSIC: BETWEEN ROMANTICISM AND MODERNISM. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 196. ENTERTAINMENT WITH YOUR IPHONE OR IPAD. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 197. HISTORY OF THE CALIPHATES AND ANCIENT ARAB KINGDOMS. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 198. GREAT TALK SHOWS, MUSIC AND HOSTS. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 199. FROM ANCIENT PERSIA TO MODERN IRAN. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 2. Osher Field Trip - Lunch and Bus. 0 Credit Hours.

Components: LEC.

Grading: GRD.

OSH 20. OSHER MOVIE & LUNCH. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 201. Intermediate Tai Chi. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 202. Enhance Fitness. 0 Credit Hours.

Components: LAB.

Grading: NOG.

OSH 203. Cpr - A. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 204. Cpr - B. 0 Credit Hours.

Components: LAB.

Grading: NOG.

OSH 205. AARP. 0 Credit Hours.

Components: LAB.

Grading: NOG.

OSH 206. SIG: Games - Scrabble. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 207. Embracing Transitions After 50. 0 Credit Hours.

Components: LEC.

Grading: NON.

OSH 208. Gender Continuum. 0 Credit Hours.

Components: LEC.

Grading: NON.

OSH 209. Fun with Massage. 0 Credit Hours.

Components: LEC.

Grading: NON.

OSH 21. OLLI GOES TO THE NSU ART MUSEUM. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 210. CHAIROBICS. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 211. HAPPINESS AROUND THE WORLD. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 212. LIFE 101. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 213. AGING IN THE 21st CENTURY (SPEAKER SERIES). 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 214. DECIPHERING ORIENTATION. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 215. THE JOY OF LIVING. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 216. CHAIR YOGA. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 217. BRIDGE FOR BEGINNERS. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 218. BRIDGE 2. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 219. GROWING WISE, NOT OLD (CIRCLE OF REFLECTIVE DIALOGUE). 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 22. ONE-HOUR ARTIST - PAINTING FUN. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 220. POSITIVE & CONSCIOUS AGING. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 221. DE-CLUTTER: THE POWER OF A CLUTTER-FREE LIFESTYLE. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 222. DE-CLUTTER NOW: A PRACTICAL GUIDE TO LIVING YOUR MOST ORGANIZED LIFE. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 223. HELPING YOURSELF OR OTHERS THROUGH LIFE'S TRAGEDIES: PRACTICAL, MINDFUL WAYS TO MOVE FORWARD. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 224. IT'S OK TO BE ME. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 225. POSITIVE PSYCHOLOGY. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 226. SOLO PARA MI: TALLER DE REFLEXION. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 227. YOUNG AT HEART. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 228. SIG: CANASTA FOR BEGINNERS. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 229. LEARNING RESILIENCE THRU POSITIVE PSYCHOLOGY. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 23. VEGETABLE GARDENING. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 230. SIG: CANASTA FOR ADVANCED BEGINNERS. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 231. INTRO TO MONEY BASICS FOR WOMEN. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 232. HOW TO LIVE A HAPPIER, UNCLUTTERED LIFE. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 233. DEVELOPMENTAL SEXUALITY. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 234. REAL TALK WITH ARTHUR. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 235. SIG: SHAKESPEARE READING GROUP. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 236. YOGA FOR BEGINNERS. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 237. FROSTY, FOXY ROBERT FROST. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 238. EXPRESSIONISM: FEELINGS, ART & ANGST. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 239. THE ROLLING STONES - BEHIND THE CURTAIN. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 24. OLLI ONE-DAY WORKSHOP. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 240. GETTING INTO GRAPHICS. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 241. GETTING INTO EVEN MORE GRPHICS. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 242. TIME CAPSULE. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 243. 6 OPERAS IN 6 WEEKS. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 244. SONGWRITERS & THEIR SONGS. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 245. REMARKABLE WOMEN IN MUSIC. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 246. NUCLEAR ENERGY DISCUSSION GROUP. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 247. SPANISH, BASIC PART F. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 248. SPANISH, INTERMEDIATE - PART F. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 249. NUCLEAR ENERGY CLUB. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 25. OLLI ONE DAY WORKSHOP. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 250. OLLI LIT: MORE ELIZABETH STROUT. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 251. SPANISH LITERATURE READING GROUP. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 252. MAH JONGG. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 253. IN THE NEWS. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 254. EL SABOR LATINO: SURVIVAL SPANISH. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 255. HERESY: DIVERSITY & DISSENT IN WORLD RELIGIONS. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 256. A SWEEPING HISTORICAL LITERARY ADVENTURE. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 257. HUMAN RACES: FACT & FICTION. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 258. HOT TAKES ON TALLAHASSEE: ISSUES OF IMPACT FOR THE UPCOMING 2018 LEGISLATIVE SESSION. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 259. THE GREAT ARRANGERS: BEHIND THE MUSIC. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 26. OLLI ONE DAY WORKSHOP. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 260. THE DOT, THE CURVE, AND THE IDEA. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 261. HISTORY OF CUBAN MUSIC. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 262. AUSTRO-GERMAN: MUSICAL TRENDS IN THE 20TH CENTURY. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 263. A MODERN VIEW OF ARABIC CULTURE AND HISTORY. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 264. FRENCH CONVERSATION ADV. SHORT STORIES. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 265. CURRENT CONTROVERSY & PHILOSOPHY. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 266. OLLI LIT: FIRST LADIES. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 267. OLLI LIT: ELEANOR & JACKIE. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 268. DUKE ELLINGTON: LIFE & LEGACY. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 27. ONE-DAY WORKSHOP. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 28. ONE-DAY WORKSHOP. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 29. ONE-DAY WORKSHOP. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 3. Osher Field Trip - Lunch Only. 0 Credit Hours.

Components: LEC.

Grading: GRD.

OSH 30. ONE-DAY WORKSHOP. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 301. Memoir Writing. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 302. The Art of Creative Nonfiction. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 303. Beginning Spanish: Part A. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 304. Marcel Proust: In Search of Lost Time. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 305. Literature Group. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 306. Advanced French. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 307. Conversational Spanish: Intermediate. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 308. Intermediate French: Part C. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 309. Elementary Italian: Part A. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 31. ONE-DAY WORKSHOP. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 310. Sig: Fun with Yiddish Lunch Group. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 311. Intermediate Spanish I. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 312. Spanish American Literature. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 313. Advanced Spanish. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 314. Advanced Italian. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 315. Beginning Spanish: Part B. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 316. Bill Bryson, "A Short History of Private Life". 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 317. Intermediate French. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 318. Beginning Spanish: Part C. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 319. Swamplandia (Karen Russell). 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 32. ONE-DAY WORKSHOP. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 320. Intermediate French: Part E. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 321. Memoirs and Fiction through Themes, Threads, and Obsessions. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 322. Travel French. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 323. French Literature - Flaubert's "Un Coeur Simple". 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 324. Beginning Japanese. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 325. Beginning Portuguese. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 326. Crime Fiction. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 327. Adv Conversational Spanish. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 328. Intermediate Italian Conversation. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 329. The Immigrant Experience in Literature. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 33. OLLI COMMUNITY CHORUS. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 330. Beginning French. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 331. The Jazz Age: Art, Music, Literature. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 332. SIG: FRENCH CONVERSATION CLUB. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 333. Mystical Love Poetry. 0 Credit Hours.

Components: LEC.

Grading: NOG.

Typically Offered: Fall, Spring, & Summer.

OSH 334. World Poetry. 0 Credit Hours.

Components: LEC.

Grading: NOG.

Typically Offered: Fall, Spring, & Summer.

OSH 335. SIG: Book Club. 0 Credit Hours.

Components: LEC.

Grading: NOG.

Typically Offered: Fall, Spring, & Summer.

OSH 336. Masterpieces of Russian Literature. 0 Credit Hours.

Components: LEC.

Grading: NON.

OSH 337. The Writer's Journey: Mythic Structure for Writers. 0 Credit Hours.

Components: LEC.

Grading: NON.

OSH 338. Shakespeare. 0 Credit Hours.

Components: LEC.

Grading: NON.

OSH 339. Sophie's World: Philosophy and Fiction. 0 Credit Hours.

Components: LEC.

Grading: NON.

OSH 340. More Mystical Love Poetry. 0 Credit Hours.

Components: LEC.

Grading: NON.

OSH 341. Ron Rash: Appalachian Literature and Poetry. 0 Credit Hours.

Components: LEC.

Grading: GRD.

OSH 342. Literary Expatriates in Paris. 0 Credit Hours.

Components: LEC.

Grading: NON.

OSH 343. Improvisational Comedy. 0 Credit Hours.

Components: LEC.

Grading: NON.

OSH 344. OLLI WRITERS CLUB. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 345. FIRST WAVE FEMINISM: LITERATURE OF THE NEW WOMAN. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 346. INTERMEDIATE ITALIAN - PART F. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 347. CARSON McCULLERS: THE SOUTHERN AND THE GROTESQUE. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 348. HAPPINESS: WHAT DOES IT REALLY MEAN?. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 349. A WALK THROUGH PARIS. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 35. QUESTIONS THAT MATTER WORKSHOP BUNDLE. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 350. INTERMEDIATE FRENCH CONVERSATION CLUB. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 351. INTERMEDIATE ITALIAN - PART A. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 352. BASIC SPANISH. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 353. THE REPORTER AS LITERARY ARTISTS: THE NEW JOURNALISM OF WOLFE, DIDION, THOMPSON, AND TALESE. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 354. FAULKNER. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 355. BASIC ITALIAN (PART B - A CONTINUATION FROM PART A). 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 356. SELECTED TOPICS IN LITERATURE. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 357. ITALIAN, BASIC - PART C. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 358. SIG: SPANISH CONVERSATION CLUB. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 359. WRITING RED. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 36. OSHER FIELD TRIP. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 360. SELECTED TOPICS IN AMERICAN LITERATURE. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 361. ITALIAN, INTERMEDIATE PART C. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 362. DOGS OF GOD: THE MALICE, ODDITY, AND INNOCENCE OF RURAL WEST VIRGINIANS. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 363. THE SHORT STORY. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 364. ITALIAN, INTERMEDIATE PART D. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 365. HUMORIST ESSAY & DAVID SEDARIS. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 366. SPANISH, BASIC - PART D. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 367. BASIC ITALIAN, PART D. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 368. PORTUGUESE, BASIC - PART D. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 369. THOMAS PYNCHON'S INHERENT VICE. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 37. OSHER FIELD TRIP. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 370. DIRTY REALISM: WRITERS OF THE 1980s. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 371. FRENCH BOOT CAMP (5 DAYS). 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 372. FRENCH BOOT CAMP (10 DAYS). 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 373. FRENCH GRAMMAR & PRONUNCIATION, INTERMEDIATE - PART A. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 374. SENIORS IN FICTION: HAROLD FRY & OLIVE KITTERIDGE. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 375. FRENCH CONVERSATION, ADVANCED: AMERICA THROUGH FRENCH EYES. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 376. PARIS UNCOVERED. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 377. SO YOU WANT TO WRITE A NOVEL. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 378. INTERMEDIATE ITALIAN - PART B. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 379. FRENCH GRAMMAR & PRONUNCIATION, INTERMEDIATE - PART B. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 38. PICTURING AMERICA WITH THE SMITHSONIAN AMERICAN ART MUSEUM. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 380. SPOON RIVER ANTHOLOGY. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 381. BEGINNING FRENCH - PART B. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 382. SIG: OLLI WRITERS WORKSHOP. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 383. EVERY PICTURE TELLS A STORY. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 384. IMMIGRANT VOICES. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 385. THE PLAY'S THE THING. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 386. MEET THE LOCAL AUTHORS. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 387. TO KILL A MOCKINGBIRD. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 388. A CAREGIVER'S GUIDE: DOING THE JOB WELL WHILE PRESERVING YOUR OWN WELL-BEING. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 389. FRENCH GRAMMAR AND PRONUNCIATION, INTERMEDIATE. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 39. PICTURING AMERICA WITH THE SMITHSONIAN AMERICAN ART MUSEUM. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 390. FRENCH, BASIC - PART D. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 391. FRENCH, BASIC - PART E. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 392. VIVIENDO EL ESPANOL. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 393. FRENCH CONVERSATION, ADV: ANNA GAVALDA. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 394. FRENCH CONVERSATION: INTERMEDIATE. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 395. SPANISH READING & CONVERSATION. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 396. TUTTI A BORDO. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 397. CRAFTING YOUR PERSONAL ESSAY. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 398. ITALIAN, BASIC - PART E. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 4. Osher Field Trip Event. 0 Credit Hours.

Components: LEC.

Grading: GRD.

OSH 40. PICTURING AMERICA WITH THE SMITHSONIAN AMERICAN ART MUSEUM. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 401. Sig: Investments. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 402. Asia and the Economy. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 403. The Silk Road. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 405. Current Economic and Political Powerhouses. 0 Credit Hours.

Components: LEC.

Grading: GRD.

OSH 406. World Economics - New Boys in the Neighborhood: How New Economic Powers are Playing a Game. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 407. INSURANCE 101: EVERYTHING YOU NEED TO KNOW ABOUT INSURANCE. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 408. SIG: INVESTMENTS FOR BEGINNERS. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 409. FINANCIAL CAPABILITY 101: MANAGING FINANCES. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 41. PICTURING AMERICA WITH THE SMITHSONIAN AMERICAN ART MUSEUM. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 410. WRITE RIGHT OR IF NOT, THEN WRONG!. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 411. THREE BRILLIANT NEW MEMOIRS. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 412. CLUB: ENGLISH CONVERSATION (FOR NON-NATIVE SPEAKERS). 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 413. PREPARIAMOCI! MASTER COURSE IN ITALIAN GRAMMAR & CONVERSATION. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 414. CLASSICAL NUMBER THEORY. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 415. SMARTPHONE & MOBILE TECHNOLOGY. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 416. FRENCH BOOT CAMP - LES POUSSINS - BEGINNERS. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 417. FRENCH BOOT CAMP - LES CADETS - INTERMEDIATE. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 418. SPANISH BOOT CAMP - BEGINNERS. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 419. SPANISH BOOT CAMP - INTERMEDIATE. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 42. ONE-DAY WORKSHOP. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 420. SPANISH INTERMEDIATE - PART A. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 43. ONE-DAY WORKSHOP. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 44. ONE-DAY WORKSHOP. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 45. DESCARTES' PHILOSOPHY. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 46. ONE DAY WORKSHOPS. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 47. OLLI CUISINE. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 5. HAPPY OLLIday LUNCHEON. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 501. Jerusalem: A City and its Secrets - Olli North. 0 Credit Hours.

Components: LEC.

Grading: NON.

OSH 502. Tai Chi - Olli North. 0 Credit Hours.

Components: LEC.

Grading: NON.

OSH 503. Adobe Photoshop Elements - Olli North. 0 Credit Hours.

Components: LEC.

Grading: NON.

OSH 504. Domestic and International Economic Influences - Olli North. 0 Credit Hours.

Components: LEC.

Grading: NON.

OSH 505. Beethoven's Symphonies - Olli North. 0 Credit Hours.

Components: LEC.

Grading: NON.

OSH 507. Current Economic and Political Powerhouses - Olli North. 0 Credit Hours.

Components: LEC.

Grading: GRD.

OSH 508. Triumph and Tragedy: The Lives of Great Men - Olli North. 0 Credit Hours.

Components: LEC.

Grading: GRD.

OSH 509. Leonardo Da Vinci - Olli North. 0 Credit Hours.

Components: LEC.

Grading: GRD.

OSH 510. Nature and Animal Digital Photography - Olli North. 0 Credit Hours.

Components: LEC.

Grading: GRD.

OSH 511. ITALIAN - INTERMEDIATE, PART E. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 512. INTERMEDIATE SPANISH - PART E. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 513. WRITERS' UNIQUE VOICES. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 514. MARK TWAIN. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 515. SIX (ALMOST)FORGOTTEN WARS. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 6. Conni Gordon and Creative Thinking Using Art. 0 Credit Hours.

Components: LEC.

Grading: GRD.

OSH 7. SANDWICH & SALAD SOCIAL. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 700. Nature and Animal Digital Photography - Olli North. 0 Credit Hours.

Components: LEC.

Grading: GRD.

OSH 701. Adventures in Musicology. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 702. Making it New: The Great Modern Writers. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 703. The History of Photography: Part 3. 0 Credit Hours.

Components: THI.

Grading: NOG.

OSH 704. The Big Questions: The Elements of Philosophy. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 705. Olli Presents: Great Events. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 706. Exploring the Theater. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 707. Cultural Explorations. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 708. The School of Paris. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 709. Romanticism. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 710. The Whimsical and Semi-Scandalous World of Classical Music. 0 Credit Hours.

Components: THI.

Grading: NOG.

OSH 711. Miami Architecture: Think You've Seen It All?. 0 Credit Hours.

Components: THI.

Grading: NOG.

OSH 712. The Challenge of Musical Interpretation. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 713. Broadway Musicals. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 715. The Titanic: From Maiden Voyage to Its Ultimate Fate. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 716. The Titanic: From Maiden Voyage to its Ultimate Fate. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 717. UNDERSTANDING & ENJOYING CUBAN MUSIC. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 718. Great Conductors of the 20th Century. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 719. The Great Experiment: Philosophical Foundations of American Democracy. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 720. Olli Presents: Thespians. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 721. Dual Forces in a Triple Play. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 722. Exploring the Elements of Music. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 723. World Cinema: An Overview. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 724. Impact On Miami. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 725. Olli Travelogue. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 726. The Splendor of Italy. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 727. The Heart of Faulkner. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 728. Music and Spirituality. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 729. Religion in America: History and Culture. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 730. Art Nouveau. 0 Credit Hours.

Components: LEC.

Grading: NOG.

Typically Offered: Fall, Spring, & Summer.

OSH 731. The Image of "The Other" in Western Music. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 732. Music Masterpieces. 0 Credit Hours.

Components: LEC.

Grading: NON.

OSH 733. Religion in South and Southeast Asian History and Culture. 0 Credit Hours.

Components: LEC.

Grading: NON.

OSH 734. Art and Art History. 0 Credit Hours.

Components: LEC.

Grading: NON.

OSH 735. Symphonic Trends in the 19th Century. 0 Credit Hours.

Components: LEC.

Grading: NON.

OSH 736. Fairchild Botanic Garden Series. 0 Credit Hours.

Components: LEC.

Grading: GRD.

OSH 737. Poetics of Cinema. 0 Credit Hours.

Components: LEC.

Grading: NON.

OSH 738. A Historical Overview of American Popular Song. 0 Credit Hours.

Components: LEC.

Grading: NON.

OSH 739. RELIGION IN AFRICAN HISTORY & CULTURE. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 740. INDIA: NEW FACES, NEW PLACES. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 741. INSIDE IMPROVISATION. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 742. LOOKING BACKWARDS: HOW DID WE BECOME WHO WE ARE?. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 743. TIME TRAVELER. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 744. DOCUMENTARY FILM SERIES. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 745. FILMS: INDIA AND THE RAJ - A LOVE/HATE STORY. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 746. ART AND ARCHITECTURE IN 16th CENTURY SPAIN AND MEXICO. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 747. MOZART IS NOT AMADEUS. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 748. TIME TRAVELER: 1720 - 1730. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 749. TIME TRAVELER: 1870 - 1880 SOUND AND LIGHT. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 750. MONARCHS WHOSE LIVES WERE CUT SHORT. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 751. FROM 19th CENTURY BALLROOM TO OPERETTAS OF OFFENBACH & STRAUSS II. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 752. OLLI GOES TO THE LOWE ART MUSEUM. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 753. THE LIVES OF OTHERS. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 754. GOLDEN AGE OF SPANISH ART. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 755. THE GREAT AMERICAN SONGBOOK. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 756. DEPICTION OF LOVE IN ART. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 757. FRANZ SHUBERT: ELUSIVE GENIUS. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 758. 30 YEARS OF OLLI: MOVIES FROM THE 80's. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 759. MUSIC AND NATURE: DIVERSE APPROACHES & PERSPECTIVES. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 760. CYRUS THE GREAT: MAN OF MANY MYTHS. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 761. 30 YEARS OF OLLI - UM ALL-STARS. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 762. AMERICAN MUSICAL THEATER. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 763. FASCINATING FACTS: EXPLORING THE MYTHS & MYSTERIES OF JUDAISM. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 764. PERSPECTIVES ON JEWISH MUSIC. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 765. 30 YEARS OF OLLI: EXCELLENCE OF TEACHING: POTPOURRI SERIES. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 766. PERSPECTIVES ON JEWISH MUSIC - PART 2. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 767. 30 YEARS OF OLLI: GREAT MOMENTS IN FILM. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 768. BEETHOVEN 1. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 769. FRENCH THRU FILM & MUSIC. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 770. MUSIC IN THE MOVIES. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 771. BEETHOVEN 2. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 772. ANCIENT ART DISCOVERIES. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 773. MUSIC, SOCIETY, AND CULTURE. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 774. HISTORY OF THE ORCHESTRA. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 775. MORAL DILEMMAS IN 19TH CENTURY OPERAS. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 776. THE BIBLE AS ART INSPIRATION. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 777. THE IMPRESSIONIST ARTISTS. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 778. IMAGES OF WOMEN IN ART. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 779. ASPECTS OF GREAT MUSIC. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 780. EVALUATING GREAT MUSICAL WORKS. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 781. WOMEN IN SONG. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 782. MUSIC & THE GREAT DIVIDE. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 783. ART TREASURES IN THREE CITIES: BARCELONA, PARIS & ROME. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 784. WHERE HAVE ALL THE GOOD SONGS GONE?. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 785. AFRICA & CUBA. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 786. CHAMBER MUSIC PART 1. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 787. WORLD RELIGIONS. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 788. POST-IMPRESSIONIST ART & ARTISTS. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 789. ARMCHAIR TRAVELER. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 790. THE IDEA OF AMERICA. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 791. CHAMBER MUSIC PART 2. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 792. MUSICAL TRENDS IN THE LATE BAROQUE, PART 1. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 793. INDIA FILMS ITSELF. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 794. MUSIC & EMPIRE. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 795. MILESTONES IN 19/20 CENTURY GREAT MUSIC. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 796. J.S. BACH. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 797. ARTISTS AFTER WORLD WAR 2. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 798. THE ANATOMY OF A MUSICAL PERFORMANCE. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 799. NOTABLE AMERICAN ARTISTS. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 8. OLLI TRIP TO ITALY (NON-REFUNDABLE DEPOSIT). 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 800. ART OF THE AMERICAS. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 801. Understanding the Universe: Einstein's Gravity and Cosmos. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 802. Understanding the Universe - Black Holes and the Big Bang. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 803. Health and Medicine Update. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 804. New Perspectives On Reality. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 805. Looking Up: Skywatching. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 806. Nature and its Inhabitants. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 807. Two Mysteries. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 808. Marine and Atmospheric Sciences. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 809. Reality - What an Interesting Concept!. 0 Credit Hours.

Components: LEC.

Grading: NON.

OSH 810. Sig: Stargazing. 0 Credit Hours.

Components: LEC.

Grading: GRD.

OSH 811. Our Mysterious Fine-Tuned Universe. 0 Credit Hours.

Components: LEC.

Grading: GRD.

OSH 812. Singularity: The Future is Here. 0 Credit Hours.

Components: LEC.

Grading: GRD.

OSH 813. A SCIENTIFIC MISCELLANY. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 814. THE EVERGLADES. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 815. UNSUNG HEROES OF THE UNIVERSE. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 816. ETHICS & SOCIETY. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 817. HUMAN GENETICS. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 818. EINSTEIN REVEALED. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 819. HUMAN EVOLUTION. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 820. UNDERSTANDING THE UNIVERSE: THE QUANTUM REVOLUTION. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 821. GENES & GENDER. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 822. INTRODUCTION TO METEOROLOGY. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 823. FRENCH CONVERSATION, ADV: POTPOURRI OF CURRENT EVENTS. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 824. WRITING A SHORT STORY. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 825. SOUTHERN GOTHIC WILL RISE AGAIN!. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 827. FRENCH CONVERSATION, ADVANCED: THE FRENCH IN SOUTH FLORIDA. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 828. MATH REVIEW FOR THE 21ST CENTURY. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 829. INTERMEDIATE SPANISH - PART B. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 830. FRENCH, BEGINNERS, PART C. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 831. INTERMEDIATE SPANISH, PART D. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 832. GENETIC ENGINEERING. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 833. COSMIC ROOTS. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 834. WORKING & LIVING ABROAD FOR THE US GOVERNMENT. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 835. THE PRESIDENTIAL TRANSITION: THE SHIFT FROM CAMPAIGNING TO GOVERNING. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 836. REVISITING THE VIETNAM ERA THROUGH A LITERACY MASTERPIECE. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 837. MASTERS OF MODERN ART. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 838. ARABIC-ISLAMIC POLITICAL THOUGHT: PAST & PRESENT. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 839. THE BEATLES: MUSIC & MORE. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 840. EARTH'S CLIMATE. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 841. THE ART OF INDIGENOUS GLOBAL CULTURES. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 843. EUROPEAN HISTORY: YOU ARE THERE. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 844. STRESS & HEALTH. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 845. THE ARTS OF EGYPT & THE ANCIENT NEAR EAST. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 846. EVOLUTIONARY ORIGINS OF HUMANS. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 847. SHYLOCK: THE ORIGINAL AND THE LATEST. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 848. CLASSICAL MUSIC STRUCTURES. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 849. THE RAT PACK: MUSIC & MORE. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 850. CONSPIRACY!. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 851. AMERICAN ART. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 852. AMERICAN ART: FROM COLONIAL TO MODERN - PART 2. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 853. TORRID LOVE AFFAIRS IN THE ART WORLD. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 9. OLLI TRIP TO ITALY (PAYMENT #1). 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 901. Painting with Acrylics. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 902. Advanced Acrylic Painting. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 903. Watercolor Basics. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 904. Advanced Watercolor Painting. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 905. Photography Projects Around Town. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 906. Photoshop Elements for Beginners. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 907. Photoshop Elements for Intermediate and Advanced Users. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 908. Computer Basics: Part 1. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 909. Computer Basics: Part 2. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 910. How Blogging Works. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 911. ADOBE PHOTOSHOP ELEMENTS (PSE 4-15)/PART B. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 912. Photoshop Elements. 0 Credit Hours.**Components:** LEC.**Grading:** NOG.**OSH 913. Photography Around Town - Miami Landmark Shoots. 0 Credit Hours.****Components:** LEC.**Grading:** NOG.**OSH 914. Introduction to Today's Most Popular Computer Programs. 0 Credit Hours.****Components:** LAB.**Grading:** NOG.**OSH 915. Blogging and Flickr. 0 Credit Hours.****Components:** LEC.**Grading:** NOG.**OSH 916. Internet and E-Mail for Beginners. 0 Credit Hours.****Components:** LEC.**Grading:** NOG.**Typically Offered:** Fall, Spring, & Summer.**OSH 917. Social Media (Facebook, Twitter). 0 Credit Hours.****Components:** LEC.**Grading:** NON.**OSH 918. Architectural and Landscape Digital Photography. 0 Credit Hours.****Components:** LEC.**Grading:** NON.**OSH 919. Nature and Animal Digital Photography. 0 Credit Hours.****Components:** LEC.**Grading:** NON.**Typically Offered:** Offered by Announcement Only.**OSH 920. Wire Sculpture. 0 Credit Hours.****Components:** LEC.**Grading:** NOG.**OSH 921. iphone, ipad, ipod, oh my. 0 Credit Hours.****Components:** LEC.**Grading:** NOG.**OSH 922. PHOTOGRAPHY: SPIRIT OF MIAMI & SOBE. 0 Credit Hours.****Components:** LEC.**Grading:** NOG.**OSH 923. PHOTOGRAPHY: HIGH DYNAMIC RANGE. 0 Credit Hours.****Components:** LEC.**Grading:** NOG.**OSH 924. JEWELRY MAKING FOR FUN. 0 Credit Hours.****Components:** LEC.**Grading:** NOG.**OSH 925. INTERMEDIATE COMPUTER TRAINING. 0 Credit Hours.****Components:** LEC.**Grading:** NOG.**OSH 926. INTRO TO CALLIGRAPHY. 0 Credit Hours.****Components:** LEC.**Grading:** NOG.**OSH 927. EXCEL. 0 Credit Hours.****Components:** LEC.**Grading:** NOG.**OSH 928. EXCEL 2. 0 Credit Hours.****Components:** LEC.**Grading:** NOG.

OSH 929. INTRO TO PAINTING WITH PASTELS. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 930. DIGITAL PHOTOGRAPHY: EXPLORE, DISCOVER & CAPTURE. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 931. NIGHT DIGITAL PHOTOGRAPHY. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 932. INTRODUCTION TO MOSAICS. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 933. POLYCHROME MIXED MEDIA SCULPTURE. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 934. ACRYLICS & WATERCOLOR - ADVANCED. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 935. IPHONEOGRAPHY. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 936. IPHONE & IPAD - INTERMEDIATE. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 937. WATERCOLOR OPEN STUDIO. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 938. PENCIL DRAWING & SKETCHING. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 939. INTRO TO CHARCOAL DRAWING & SKETCHING. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 940. INTRO TO SOCIAL MEDIA. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 941. INTERMEDIATE IPHONEOGRAPHY. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 942. A MUSIC LOVER'S FAVORITE SONGS AND SINGERS. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 943. LIVING WITH THE ATOMIC BOMB. 0 Credit Hours.

Components: LEC.

Grading: NOG.

OSH 944. EVERYDAY MOVEMENT. 0 Credit Hours.

Components: LEC.

Grading: NOG.

Pharmacology (PHA)

PHA 801. Medical Pharmacology. 1-6 Credit Hours.

Components: LEC.

Grading: SUS.

Philosophy (PHI)

PHI 101. Introduction to Philosophy. 3 Credit Hours.

Problems concerning knowledge, mind, freedom, religion, and morality. Reading and discussion of primary sources.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

PHI 103. Introduction to Philosophy through Markets and Morals. 3 Credit Hours.

Introduction to philosophy in a way that emphasizes its relevance to thinking about the economy. It will familiarize you with central texts in moral and political philosophy, and it will provide you with an opportunity to apply the tools of philosophical analysis and argumentation toward questions about the role of markets in contemporary life.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 104. Introduction to Philosophy and the Nature of Scientific Knowledge. 3 Credit Hours.

Introduction to philosophy in a way that emphasizes its relevance to thinking about the sciences. It will familiarize you with some historically important philosophical works about knowledge and reality, and it will provide you with an opportunity to apply the tools of philosophical analysis and argumentation toward questions about the nature and possibility of scientific knowledge.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 105. Introduction to Philosophy through the Brain and Behavioral Sciences. 3 Credit Hours.

Introduction to philosophy in a way that emphasizes its connections to the brain and behavioral sciences. It will familiarize you with traditional questions about knowledge, freedom, the self, society, and morality; it will introduce relevant work in the brain and behavioral sciences; and it will provide an opportunity to reflect on how the scientific advances might inform our thinking about the philosophical puzzles.

Components: LEC.

Grading: GRD.

PHI 106. Introduction to Philosophy and Health Sciences. 3 Credit Hours.

Introduction to philosophy in a way that emphasizes its relevance to thinking about the health sciences. It will provide you with tools for thinking about both metaphysical and moral issues raised by the health sciences. The metaphysical issues include: the nature of life, death, health, and disease. The moral issues include: patient autonomy, what makes death bad, abortion, euthanasia, experimentation, and the allocation of health care resources.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 107. Introduction to Philosophy and Law. 3 Credit Hours.

Introduction to philosophy in a way that emphasizes its relevance to thinking about the law and legal reasoning. It will familiarize you with traditional theories of moral obligation, social justice, free will, and responsibility. And it will provide an opportunity to explore the significance these theories have for addressing questions about the nature of law, our obligation to obey the law, rights, freedom, punishment, and liberty.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 108. Sexual Ethics. 3 Credit Hours.

An introduction to philosophy, focused on definitional, psychological, ethical and political issues relevant to sexual ethics.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 109. The Superhuman Mind: An Introduction to Philosophy of Mind. 3 Credit Hours.

Cases of people who became geniuses by accident, human echolocation, lucid dreaming, synthetic telepathy used to move objects with the mind, and more, will be used to shed light on basic concepts in philosophy, such as the concept of mind, the concept of intelligence and the concept of human agency and human capacity.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 110. Critical Thinking. 3 Credit Hours.

Principles of sound reasoning; the construction and evaluation of arguments in everyday contexts and the assessment of evidence.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

PHI 111. Introduction to Philosophy Through Video Games. 3 Credit Hours.

Central philosophical topics through reading, playing, talking and writing about video games.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 115. Social and Ethical Issues in Computing. 3 Credit Hours.

History, social context and methods and tools of analysis. Professional and ethical responsibilities. Intellectual property. Privacy and civil liberties.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PHI 130. Contemporary Moral Issues. 3 Credit Hours.

An examination of the philosophical problems which arise in connection with such moral and social issues as abortion, war, suicide, civil disobedience, racial discrimination, the death penalty, and the right to privacy.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

PHI 131. Ethical Debates. 3 Credit Hours.

Ethical theories, their applications to contemporary issues, and a debate component styled after the Ethics Bowl.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 135. Love 101. 3 Credit Hours.

Love from different ethical, psychological and neuro-scientific perspectives. Among other things we will look at what distinguishes different kinds of love from each other, how love is manifested psychologically and neuro-scientifically, what chemicals drive feelings of love and obsession and why it can be so difficult to recover from a breakup.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 210. Symbolic Logic. 3 Credit Hours.

Introduction to symbolic logic and its methods.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Summer.

PHI 215. Logic and Law. 3 Credit Hours.

Principles and techniques of logic applied to legal reasoning.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PHI 236. Feminist Philosophy. 3 Credit Hours.

This course is an introduction to issues in feminist philosophy, including its critique of Western philosophy and its contributions to major areas of philosophy such as ethics, social philosophy, theories of human nature, and theories of knowledge. Theories of oppression introduced at the beginning of the course inform analyses of sexism, heterosexism, racism, classism and ableism, and philosophizing about these "isms" is aided by sociocultural research. The emphasis is not only on what is contained in these topics, but also on how to think critically about them.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

PHI 237. Philosophy of Sport. 3 Credit Hours.

A philosophical examination of the nature and characterization of sports and of the many ethical issues they raise.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 238. Environmental Ethics. 3 Credit Hours.

Theoretical and practical issues in the field of environmental ethics. It will explore the relationship between humans and the natural environment, the moral status of the natural world and the non-human entities within it, and how we should address various environmental problems and challenges. Topics to be covered include anthropocentrism vs. non-anthropocentrism, moral obligations to non-human animals, conservation vs. preservation, wilderness, over-population, agriculture and the environment, climate change, human rights and the environment, and sustainable development.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 240. Language, Power and Politics. 3 Credit Hours.

A discussion of various types of politically relevant speech, which includes terms like 'gender' and 'race', slurs, political rhetoric, feminist discourse, pornography. How do politicians use rhetoric to persuade and manipulate their targets? How do words embody an ideology? How do we use language to demean, derogate, silence and hurt other people based on their gender, ethnic origin, religious affiliation or sexual orientation? What is the meaning of slurs? And how does this meaning enable slurs to derogate? How is pornography a speech act and how does it subordinate and silence women? Should pornography be granted protection under the first amendment? What does it mean to be a 'women' and what does it mean to be a 'feminist'? What do certain gendered and racial terms mean? How might language constitute or enable violence?

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 241. History and Philosophy of Science. 3 Credit Hours.

An introduction to the history and philosophy of science by approaching this field from historical and epistemological points of view.

Components: LEC.

Grading: CNC.

Typically Offered: Spring.

PHI 242. Self-Knowledge. 3 Credit Hours.

How we can come to know our own minds.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 244. Philosophy of Emotions. 3 Credit Hours.

The philosophy of emotions focusing on questions about what emotions are, whether emotions can be rational and whether they are socially constructed.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 245. Philosophical Psychology. 3 Credit Hours.

An examination of problems in psychology that philosophical methods have traditionally been used to solve.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 247. Perception. 3 Credit Hours.

An overview of the nature of sensory perception.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 248. Phenomenology. 3 Credit Hours.

A historical account of the phenomenological tradition and its significance to contemporary theorizing.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 271. Ancient Philosophy. 3 Credit Hours.

This course will introduce students to Ancient Greek ideas by examining central philosophical themes, such as: Knowledge; Why Be Moral? Justice in the City/Justice in the Soul; Liberty and Social Engineering; Happiness; Friendship; Death. We will use primary texts (in translation) by Plato, Aristotle, Cicero, and Augustine of Hippo, supplemented by some selections from the Greek historian Thucydides. Some Greek vocabulary will be assigned. The final exam will consist of a 2-week-long role playing game, *The Threshold of Democracy: Athens in 403 B.C.* (Developed by the Classics department at Barnard College, and a core component of Ancient Philosophy courses at UT Austin). Students will be assigned different roles: Thrasylbulus; a radical Democrat; an Oligarch; and a supporter of Socrates.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PHI 272. Modern Philosophy. 3 Credit Hours.

The Renaissance through Kant.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PHI 295. Special Topics. 1-4 Credit Hours.

Special Topics taken at other institutions with no direct equivalents.

Components: LEC.

Grading: GRD.

PHI 330. Ethics. 3 Credit Hours.

The main ethical systems and ethical concepts, an analysis of important ethical readings, and an application of ethical concepts to the individual and to society.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

PHI 331. Social and Political Philosophy. 3 Credit Hours.

Relations between morality and politics, the sources and the limits of political obligation, the function of the state, the nature of law, civil disobedience and revolution.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 332. Philosophy of Law. 3 Credit Hours.

An examination of basic philosophical issues concerning the nature and function of law, with particular attention to the legal system of the United States.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 333. Philosophical foundations of criminal law. 3 Credit Hours.

Philosophical examination of questions concerning the purpose, scope and limits of criminal law and the justification of punishment.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 334. Biomedical Ethics. 3 Credit Hours.

Fundamental issues including: the allocation of medical resources, behavior control, definition of death, experimentation with human subjects, euthanasia, and abortion.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 335. Professional Ethics. 3 Credit Hours.

Moral issues in business, engineering, law, and medicine. Development of moral principles to guide those in professional roles.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 336. Human Rights.. 3 Credit Hours.

This course offers philosophical, legal, and political perspectives on human rights. After a short introduction to international human rights, it surveys international human rights treaties and institutions. Next it turns to topics in human rights theory, covering some contemporary philosophical theories of human rights. The final section explores some human rights problems and controversies.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 337. Environmental Ethics. 3 Credit Hours.

Theoretical and practical issues in the field of environmental ethics.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 338. Philosophy and Feminism. 3 Credit Hours.

Theoretical (metaphysical and epistemological) and applied issues in feminist thought.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 339. Philosophy of Love. 3 Credit Hours.

Love from different ethical, psychological and neuroscientific perspectives. Among other things we will look at what distinguishes different kinds of love from each other, how love is manifested psychologically and neuroscientifically, what chemicals drive feelings of love and obsession and why it can be so difficult to recover from a breakup

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PHI 340. Theory of Knowledge. 3 Credit Hours.

Analysis of the nature, sources and structure of knowledge. Possible topics include perception, skepticism, reason, truth, justification, and certainty.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 341. Philosophy of Language. 3 Credit Hours.

Theories of meaning, reference, predication, nature of signs and symbols, types and functions of discourse.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 343. Philosophy of Science. 3 Credit Hours.

Scientific theories and their relation to evidence; experimentation and its logic; explanation, the rationality of science and the growth of scientific knowledge.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 344. Philosophy of Mind. 3 Credit Hours.

The nature of mind and mental acts, events, and states and their relations to physical states of the brain and body and to behavior.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 345. Metaphysics. 3 Credit Hours.

The basic structure and kinds of constituents of the world.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 346. Philosophy of Mathematics. 3 Credit Hours.

An examination of key philosophical issues concerning mathematics and the understanding of mathematical practice.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 347. Philosophy of Social Science. 3 Credit Hours.

Examination of whether there are important differences between the social sciences and the natural sciences in terms of their methodology and objects of study.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 348. Introduction to Philosophy through the Brain and Behavioral Sciences. 3 Credit Hours.

Cognitive neuroscience taught on a level accessible to people in the humanities, the fine arts and the behavioral sciences.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 349. Philosophy of Space and Time. 3 Credit Hours.

Time and space are notoriously difficult to think about. We seem to have an intuitive understanding of them, but it is surprisingly hard to express that understanding. To make matters worse, modern physics challenges what little grasp we thought we had on the concepts of space and time. We are told that space can be curved, and that there can fail to be an objective fact about which of two events occurred first. So we are left without even an intuitive grasp of two of the most fundamental concepts of experience.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

PHI 350. Philosophy of Psychology. 3 Credit Hours.

Philosophical questions about psychology. Topics include: the foundations of Freudian psychology; neuro-psychoanalysis; the nature of the self; thinking animals; computers and consciousness; actions, reasons, and causes; first person authority; the unconscious; meaning and the mental; neuro-science and psychology.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 351. Philosophy of Religion. 3 Credit Hours.

The nature of and grounds for religious beliefs; traditional arguments for and against the existence of God; God's attributes; reason vs. faith.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 352. Aesthetics. 3 Credit Hours.

The philosophy of art, such as defining 'art', adjudicating among competing judgments or interpretations of works of art, and understanding the metaphysical status of art objects.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 353. Philosophy of Film. 3 Credit Hours.

Philosophical questions concerning the ontology and aesthetics of film.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

PHI 354. Philosophy of Literature. 3 Credit Hours.

Central philosophical issues concerning literature and the evaluation of literary works.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 355. History of Philosophy of Art. 3 Credit Hours.

An examination of the history of philosophical work on the arts (including literature, visual art, and music) from ancient times through the mid twentieth century.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

PHI 356. Philosophy of Education. 3 Credit Hours.

Examines the nature and aims of education. Of particular concern will be the evaluation of five possible epistemic aims of education: knowledge, truth, rationality, understanding, and intellectual virtue. Are all of these legitimate aims? How do they relate to one another? Are any more fundamental than the others? We will also consider a range of moral/political/social aims of education. A general question concerns the cultural embeddedness of all such proposed aims, so we will consider the place of considerations of diversity, multiculturalism, and their place in civic education in democratic societies in the determination of legitimate educational aims and ideals.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 357. Introduction to Semantics and Pragmatics. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 360. Assessing Philosophical Papers: Philosophy Conference Organization. 3 Credit Hours.

This course teaches students how to evaluate academic work outside their main specialty area and to plan and orchestrate an undergraduate philosophy conference.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 373. Nineteenth Century Philosophy. 3 Credit Hours.

Fichte, Schelling, Hegel, Schopenhauer, Kierkegaard, Marx, Comte, Mill, Spencer, and Nietzsche.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 374. Twentieth Century Philosophy. 3 Credit Hours.

Philosophy and philosophers in the twentieth century.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 381. Existentialism. 3 Credit Hours.

Existentialist philosophy as seen in the works of such authors as Kierkegaard, Nietzsche, Heidegger, Sartre, Camus, and Dostoevsky.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 391. Special Studies. 3 Credit Hours.

Study of selected problems, philosophers, or movements. May be repeated for credit.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 392. Special Studies. 3 Credit Hours.

Study of selected problems, philosophers, or movements. May be repeated for credit.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 494. Independent Study in Philosophy. 1-3 Credit Hours.

Independent research conducted under the guidance of a faculty member. May be repeated for credit.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 495. Senior Honors Thesis. 3 Credit Hours.

Directed reading and a substantial and scholarly paper.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 496. Senior Honors Thesis. 3 Credit Hours.

Directed reading and a substantial and scholarly paper.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 506. Mathematical Logic. 3 Credit Hours.

Logics, truth, proof, logical consequences, model theory, formalization, and computation. Meta-theory of first-order logic, computability theory, and Goedel's Incompleteness theorems. Related results by Church, Turing, and Tarski. Discussion of their philosophical significance.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 510. Formal Logic. 3 Credit Hours.

First and second-order quantification theory; metalogic.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PHI 530. Ethical Theory. 3 Credit Hours.

G. E. Moore to the present.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 533. Political Philosophy. 3 Credit Hours.

A survey of some central issues and developments in political philosophy.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 540. Epistemology. 3 Credit Hours.

A survey of the basic topics and questions in epistemology: knowledge acquisition and justification, perception, fallibilism, and skepticism.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 541. Mind and Language. 3 Credit Hours.

Philosophical problems about signs, linguistic and mental representations, intentionality, action, and consciousness.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 543. Induction, Probability, and Scientific Method. 3 Credit Hours.

Foundations of inductive reasoning and role of experiment in science.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 544. The Philosophy of Language. 3 Credit Hours.

A central feature of human language is that it is meaningful; this is what allows us to use language to record and share information about the world, and to communicate the ideas, thoughts and emotions that make up our private mental lives. But what is linguistic meaning? One historically influential idea is that linguistic meaning is to be analyzed in terms of truth. This course will examine this idea, and consider several philosophical debates that have arisen from it, or in which it has played an important role. Along the way students will gain an understanding of some of the most central concepts and issues in contemporary philosophy of language.

Prerequisite: PHI 357 (249) or at least one of PHI 341 - 346.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 545. Metaphysics. 3 Credit Hours.

A selection of topics dealing with the main problems of metaphysics: existence, modality, universals, identity and persistence through time, causation, the self and physicalism.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 546. Evidence and Knowledge in Medicine. 3 Credit Hours.

Basic methodologies in medicine in the context of philosophical theories of evidence.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PHI 553. Philosophy and Film. 3 Credit Hours.

Combining readings in philosophy and film theory and criticism with close analysis of selected films, this course is premised on a conviction in the potential fruitfulness, both for film studies and philosophy, of thinking philosophically about the ontology of the medium, the history and the art of film, the ways we experience movies, and their impact on our lives. A main focus will be on the writings of Stanley Cavell-the most important author in the Anglo/American philosophical tradition to make writing about film a substantial part of his philosophical project-and philosophical responses by to his work.

Components: LEC.

Grading: GRD.

PHI 555. Philosophy of Education. 3 Credit Hours.

Problems concerning the nature and aims of education.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

PHI 560. History of Logic. 3 Credit Hours.

Aristotle, the Stoics, the Scholastics, Leibniz, Boole, DeMorgan, Peirce, Frege, and Russell and Whitehead.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

PHI 562. History of Ethics. 3 Credit Hours.

A selection of ethical theories from Aristotle to Rawls.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 570. Presocratics and Plato. 3 Credit Hours.

Fragments from the Presocratics and the dialogues of Plato.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 571. Aristotle and Hellenistic Philosophy. 3 Credit Hours.

A survey of central philosophical topics in Aristotle and Hellenistic Philosophers (Epicureans, Stoics, and Skeptics).

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 572. Medieval Philosophy. 3 Credit Hours.

The patristic period through the scholasticism of the late middle ages.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 573. Early Modern Philosophy. 3 Credit Hours.

An examination of early modern philosophy from Hobbes and Descartes to Hume.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 575. Kant. 3 Credit Hours.

An examination of selected issues in Kant's theoretical or practical philosophy.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 581. Pragmatism. 3 Credit Hours.

Peirce, James, Dewey, and others.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 582. History of Analytic Philosophy. 3 Credit Hours.

The development of analytic philosophy from its beginnings in the work of Frege and Russell through logical positivism to contemporary philosophy.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 583. The Phenomenological Tradition. 3 Credit Hours.

An examination of the phenomenological movement (Edmund Husserl, Martin Heidegger, Maurice Merleau-Ponty, and others) and of its impact on contemporary thought.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 591. Special Topics. 3 Credit Hours.

A selected philosopher or philosophical problem. May be repeated for credit.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 592. Special Topics. 3 Credit Hours.

A selected philosopher or philosophical problem. May be repeated for credit.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 593. Special Topics. 3 Credit Hours.

A selected philosopher or philosophical problem. May be repeated for credit. Prerequisite: Six credits in Philosophy and junior standing.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 594. Independent Study in Philosophy. 1-3 Credit Hours.

Directed reading on a topic or philosopher. May be repeated for credit.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 606. Mathematical Logic. 3 Credit Hours.

Logics, truth, proof, logical consequences, model theory, formalization, and computation. Meta-theory of first-order logic, computability theory, and Goedel's Incompleteness theorems. Related results by Church, Turing, and Tarski. Discussion of their philosophical significance.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 611. Formal Logic. 3 Credit Hours.

First and second-order quantification theory; metalogic.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PHI 631. Ethical Theory. 3 Credit Hours.

G. E. Moore to the present.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 634. Political Philosophy. 3 Credit Hours.

A survey of some central issues and developments in political philosophy.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 642. Epistemology. 3 Credit Hours.

A survey of the basic topics and questions in epistemology: knowledge acquisition and justification, perception, fallibilism, and skepticism.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 644. The Philosophy of Language. 3 Credit Hours.

A central feature of human language is that it is meaningful; this is what allows us to use language to record and share information about the world, and to communicate the ideas, thoughts and emotions that make up our private mental lives. But what is linguistic meaning? One historically influential idea is that linguistic meaning is to be analyzed in terms of truth. This course will examine this idea, and consider several philosophical debates that have arisen from it, or in which it has played an important role. Along the way students will gain an understanding of some of the most central concepts and issues in contemporary philosophy of language.

Prerequisite: PHI 357 (249) or at least one of PHI 341 - 346.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 646. Evidence and Knowledge in Medicine. 3 Credit Hours.

Basic methodologies in medicine in the context of philosophical theories of evidence.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PHI 647. Mind and Language. 3 Credit Hours.

Philosophical problems about signs, linguistic and mental representations, intentionality, action, and consciousness.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 648. Induction, Probability, and Scientific Method. 3 Credit Hours.

Foundations of inductive reasoning and role of experiment in science.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 649. Metaphysics. 3 Credit Hours.

A selection of topics dealing with the main problems of metaphysics: existence, modality, universals, identity and persistence through time, causation, the self and physicalism.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 653. Philosophy and Film. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 655. Philosophy of Education. 3 Credit Hours.

Problems concerning the nature and aims of education.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

PHI 660. History of Logic. 3 Credit Hours.

Aristotle, the Stoics, the Scholastics, Leibniz, Boole, DeMorgan, Peirce, Frege, and Russell and Whitehead.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

PHI 662. History of Ethics. 3 Credit Hours.

A selection of ethical theories from Aristotle to Rawls.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 670. Presocratics and Plato. 3 Credit Hours.

Fragments from the Presocratics and the dialogues of Plato.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 672. Aristotle and Hellenistic Philosophy. 3 Credit Hours.

A survey of central philosophical topics in Aristotle and Hellenistic Philosophers (Epicureans, Stoics, and Skeptics).

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 673. Medieval Philosophy. 3 Credit Hours.

The patristic period through the scholasticism of the late middle ages.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 674. Early Modern Philosophy. 3 Credit Hours.

An examination of early modern philosophy from Hobbes and Descartes to Hume.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 677. Kant. 3 Credit Hours.

An examination of selected issues in Kant's theoretical or practical philosophy.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 681. Pragmatism. 3 Credit Hours.

Peirce, James, Dewey, and others.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 683. The Phenomenological Tradition. 3 Credit Hours.

An examination of the phenomenological movement (Edmund Husserl, Martin Heidegger, Maurice Merleau-Ponty, and others) and of its impact on contemporary thought.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 684. History of Analytic Philosophy. 3 Credit Hours.

The development of analytic philosophy from its beginnings in the work of Frege and Russell through logical positivism to contemporary philosophy.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 695. Special Topics. 3 Credit Hours.

A selected philosopher or philosophical problem. May be repeated for credit.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 696. Special Topics. 3 Credit Hours.

A selected philosopher or philosophical problem. May be repeated for credit.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 697. Special Topics. 3 Credit Hours.

A selected philosopher or philosophical problem. May be repeated for credit. Prerequisite: Six credits in Philosophy and junior standing.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 698. Independent Study in Philosophy. 1-3 Credit Hours.

Directed reading on a topic or philosopher. May be repeated for credit.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 701. Proseminar (First Semester). 3 Credit Hours.

Covers the core texts from the history of analytic philosophy. First semester of the year-long pro-seminar for first-year graduate students in Philosophy.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 702. Proseminar (Second Semester). 3 Credit Hours.

Covers the core texts and issues of analytic philosophy in the second half of the twentieth century. Second semester of the year-long pro-seminar for first-year graduate students in Philosophy.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 711. Topics in Logic. 3 Credit Hours.

Problems in philosophical logic; non-standard logic.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 731. Seminar in Ethics. 3 Credit Hours.

Problems in normative ethics, meta-ethics, and value theory.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PHI 736. Values, Norms, and Actions. 3 Credit Hours.

The role of values and norms in practical reasoning and decision making.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 742. Seminar in Epistemology. 3 Credit Hours.

Problems concerning knowledge: skepticism, belief, certainty, truth, and justification.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 744. Seminar in Philosophy of Mind. 3 Credit Hours.

Problems concerning mental phenomena: theories of perception, action, consciousness.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 747. Seminar in Philosophy of Language. 3 Credit Hours.

Nature and uses of language; concepts of reference, truth, and meaning.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 748. Philosophy of Science. 3 Credit Hours.

Selected topics in the philosophy of science, such as realism, explanation, and conceptual and methodological issues in the special sciences.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 749. Seminar in Metaphysics. 3 Credit Hours.

Problems related to the nature and kinds of being.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 751. Seminar in Philosophy of Art. 3 Credit Hours.

Problems related to beauty and the philosophy of art.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 772. Seminar in Ancient Philosophy. 3 Credit Hours.

A discussion of selected topics in ancient philosophy.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 778. Idealism. 3 Credit Hours.

An examination of Idealism, both contemporary and historical.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 795. Seminar in Special Topics. 3 Credit Hours.

A selected philosopher or philosophical problem. May be repeated for credit.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 796. Seminar in Special Topics. 3 Credit Hours.

A selected philosopher or philosophical problem. May be repeated for credit.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 798. Independent Study in Philosophy. 1-3 Credit Hours.

Directed reading on a topic or philosopher. May be repeated for credit.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 810. Master's Thesis. 1-6 Credit Hours.

The student working on his/her master's thesis enrolls for credit, in most departments not to exceed six, as determined by his/her advisor. Credit is not awarded until the thesis has been accepted.

Components: THI.

Grading: SUS.

Typically Offered: Fall & Spring.

PHI 830. Doctoral Dissertation. 1-12 Credit Hours.

Required of all candidates for the Ph.D. The student will enroll for credit as determined by his/her advisor, but for not less than a total of 12 hours. Up to 12 hours may be taken in a regular semester, but not more than six in a summer session.

Components: THI.

Grading: SUS.

Typically Offered: Fall & Spring.

PHI 840. Post-candidacy doctoral dissertation. 1-6 Credit Hours.

Required of all candidates for the Ph.D. who have advanced to candidacy. The student will enroll for credit as determined by his/her advisor, but not for less than a total of 12. Not more than 12 hours of PHI 740 may be taken in a regular semester, nor more than six in a summer session.

Components: THI.

Grading: SUS.

Typically Offered: Fall & Spring.

PHI 850. Research in Residence. 1 Credit Hour.

Used to establish research in residence for the Ph.D., after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Credit not granted. May be regarded as full-time residence as determined by the Dean of the Graduate School.

Components: THI.

Grading: SUS.

Typically Offered: Fall & Spring.

Physical Science (PSC)

PSC 101. Physical Science. 3 Credit Hours.

An interdisciplinary course to provide the non-science major with an understanding of some of the methods, ideas and accomplishments of Physics, Astronomy, Chemistry, Geology, and their role in the development of civilization.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

Physical Therapy (PTS)

PTS 601. Advanced Clinical Practice: Counterstrain 1. 1 Credit Hour.

This seminar course will provide an in depth discussion of the history, physiologic rationale, and fundamentals of the Strain Counterstrain method of manual therapy. Newer concepts of fascial science will also be explored. Counterstrain I will stress palpation skills as the foundation for any manual therapist and will teach advanced palpatory anatomy techniques. 30-50 Counterstrain techniques spanning the whole body and consisting of the musculoskeletal, neurovascular, and visceral systems will be taught through lecture, demonstration, and lab.

Components: LEC.

Grading: SUS.

Typically Offered: Fall.

PTS 602. LAGO Local Pro-Bono Clinic Elective. 1 Credit Hour.

This course is designed to provide physical therapy students with an integrated clinical experience under the supervision of licensed physical therapist. The students work in a pro-bono clinic located at University of Miami Hospital. Students will have the opportunity to participate in the full spectrum of physical therapy care with a population of uninsured patients in need of a broad range of health care and health care education services. Students will have an opportunity to apply previously learned knowledge and skills as it applies to the needs assessed in the community for pro bono service. Health risk issues related to prevention will be assessed and physical therapy services applicable to the needs will be designed.

Requisite: Physical Therapy Majors Only.

Components: LEC.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

PTS 603. Introduction to Principles of Orthotic Fabrication and Prescription. 1 Credit Hour.

This seminar course is designed to introduce the art of custom orthotic making. We will explore the various categories within custom orthotics; static, dynamic, serial static, and static progressive. A comparison of the features of pre-fabricated orthoses vs. custom made will be made. The application of clinical reasoning to decision making will equip the Therapist with the necessary information to assist them when considering the orthotic options to achieve the best possible outcome for their patients.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

PTS 604. Rehabilitation Technology for Physical Therapists. 1 Credit Hour.

This course will introduce current advancements in diagnostic and therapeutic equipment used by physical therapists in clinical practice. The emphasis will be on latest rehabilitation technology such as virtual reality, neural stimulation and rehabilitation robotics. Students will observe the equipment being used on patients, get a basic understanding of its operation and have an opportunity for hands-on learning.

Components: LEC.

Grading: CNC.

Typically Offered: Fall.

PTS 605. Physical Therapy Private Practice Management. 1 Credit Hour.

Course focuses on establishing a private physical therapy practice, including initial development through marketing and management.

Requisite: Physical Therapy Majors Only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PTS 606. Issues in Women's Health: Gynecology. 1 Credit Hour.

Introduction to physical therapy practice for evaluation and treatment of pelvic floor dysfunction.

Requisite: Physical Therapy Majors Only.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

PTS 607. Issues in Women's Health: Obstetrics, Osteoporosis and Breast Health. 1 Credit Hour.

Introduction to physical therapy practice for evaluation and treatment of problems related to pregnancy, osteoporosis, and other disorders specific to women.

Requisite: Physical Therapy Majors Only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PTS 608. Nutrition for Physical Therapists. 1 Credit Hour.

A presentation of nutrition content that will benefit the professional skills of physical therapists.

Requisite: Physical Therapy Majors Only.

Components: LEC.

Grading: SUS.

Typically Offered: Spring.

PTS 609. Advances in Amputee Rehabilitation and Prosthetic Technology. 1 Credit Hour.

This course is designed to provide interested students with educational materials about amputations surgery, prosthetic technology and rehabilitation that will augment the information presented in other courses. A select faculty of experts have been invited to present on topics of interest that provide greater depth of knowledge for those physical therapy students who are interested in the field of prosthetics and amputee care. Students will be encouraged to actively participate during each presentation with thought provoking dialog regarding how technology, evidence-based rehabilitation and disciplines involved in prosthetic rehabilitation can work together as a team to generate a better than satisfactory outcome for people with limb loss.

Components: LEC.

Grading: SUS.

Typically Offered: Fall.

PTS 610. Introduction to Pilates - Gateway. 1 Credit Hour.

This course provides in-depth instruction in the use of Pilates Mat to supplement physical therapy practice. This course covers the history of Pilates and Polestar education, biomechanics, and the many uses of Pilates in physical practices, as well as instruction in 18 Pilates mat exercises. Students learn to perform and teach the exercises and 4 unique class sequences.

Components: LEC.

Grading: SUS.

Typically Offered: Offered by Announcement Only.

PTS 611. Advanced Clinical Practice: Topics in Pediatrics. 1 Credit Hour.

The course will focus on advanced topics in pediatric physical therapy. Through lecture, seminar discussion and lab experiences, topics will include: typical and atypical development over the first year and examination and evidence-based intervention strategies used in early intervention strategies.

Requisite: Physical Therapy Majors Only.

Components: LEC.

Grading: SUS.

Typically Offered: Fall.

PTS 612. Sports Physical Therapy. 1 Credit Hour.

An overview of the general aspects of sports physical therapy practice will be provided. Topics will include the various settings, evaluations, interventions, and techniques involved in Sports physical therapy practice.

Requisite: Physical Therapy Majors Only.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PTS 613. Advanced Clinical Practice: Evaluation and Treatment of the Foot and Ankle. 1 Credit Hour.

This course will review the anatomy, normal and abnormal kinesiology/biomechanics, pathology and imaging of the foot and ankle and discuss physical therapy evaluation and intervention based on evidence based practice. It will include an introduction to evaluation and negative casting for orthotics.

Requisite: Physical Therapy Majors Only.

Components: LEC.

Grading: SUS.

Typically Offered: Fall.

PTS 614. Certified Strength and Conditioning Specialist Preparation (NSCA). 1 Credit Hour.

Evaluation and exercise planning of athletes to help them achieve their maximum physical performance without incurring injury. Case studies, a problem-solving approach, and integration of previously learned material are emphasized. Classroom instruction, exercise performance, video analysis, and case studies are utilized.

Requisite: Physical Therapy Majors Only.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

PTS 615. Advance Clinical Practice: Taping for the Orthopedic Population.. 1 Credit Hour.

This seminar course is designed to introduce the participant to the concepts of taping for various musculoskeletal pathologies commonly seen in the athletic population. Athletic taping and kinesiotaping principles and uses in rehabilitation will be introduced. A lab component will allow participants to practice the various taping techniques demonstrated.

Requisite: Physical Therapy Majors Only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PTS 616. Clinical Research I. 3 Credit Hours.

This course provides a foundation for evidence based practice as a physical therapist. It presents the principles, concepts and basic skills required to identify, evaluate, create and apply research evidence to the practice of physical therapy. Topics covered include levels of research evidence, health/disability models, searching for research literature including electronic data bases hypothesis testing, critical review of research literature, measurement, statistical analysis, research design, sampling, bias, and statistical computing.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PTS 617. Abdominal Anatomy. 1 Credit Hour.

Course analyzes abdominal anatomy emphasizing structure and function. Cadaver dissection is included.

Requisite: Physical Therapy Majors Only.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

PTS 619. Pelvic Anatomy. 1 Credit Hour.

Course analyzes the anatomy of the human pelvic area. Cadaver dissection is included.

Requisite: Physical Therapy Majors Only.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

PTS 620. Spanish for Physical Therapists. 1 Credit Hour.

This course is designed to familiarize the physical therapy student with different aspects of the Spanish speaking culture. This course is also designed to assist the student in developing the basic communication skills in Spanish needed in the clinical setting when working with Spanish speaking patients.

Components: LEC.

Grading: SUS.

Typically Offered: Summer.

PTS 621. Advanced Topics in Neurologic Physical Therapy: Vestibular Rehabilitation. 1 Credit Hour.

This course will expand on knowledge and skills developed in prior courses (Neuroscience, Neuro Examination, and Neurorehabilitation) to focus on the clinical management of an individual with a vestibular disorder from identification of dysfunction through comprehensive clinical management.

Through lecture, seminar discussion, and lab experiences, topics will include: Comprehensive vestibular examination and evaluation, Clinical management and intervention strategies, Competency skills checklist, Implementation of treatment

Requisite: Physical Therapy Majors Only.

Components: LEC.

Grading: SUS.

PTS 623. Myofascial Release. 1 Credit Hour.

Introduction to Myofascial Release technique in rehabilitation.

Requisite: Physical Therapy Majors Only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PTS 624. Myofascial Release II. 1 Credit Hour.

A follow up to the introductory course MFR I. This course focuses on a review of bioenergy followed by practice of release techniques for trunk, extremities and head and neck. Cranial techniques and rebounding are also taught.

Requisite: Physical Therapy Majors Only.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PTS 625. Introduction to Dry Needling Theory and Technique. 1 Credit Hour.

Course introduces the participant to the concepts of dry needling, its neuro-functional principles, and its use in a physical therapy setting. Emphasis on comparing and contrasting dry needling to acupuncture, as well as the safety, indications and contraindications of dry needling. A lab component will allow participants to practice various introductory dry needling techniques.

Requisite: Physical Therapy Majors Only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PTS 627. Gateway Pilates II. 1 Credit Hour.

This two-day Pilates course will teach how to provide four new basic Pilates Mat classes. A total of 18 Gateway 2 preparatory exercises and original Pilates Mat exercises will be taught. The instructor will provide ample experiences for real time practice of each of the 4 Pilates Mat sequences, and will provide feedback to each participant pertaining to additional training and practice to become proficient teachers of the Gateway Introductory Mat work.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PTS 629. Evaluation and Treatment of Spinal Dysfunctions I. 3 Credit Hours.

This course provides an in-depth exploration of the evaluation and treatment of various dysfunctions of the spine. The lumbar and sacro-iliac regions will be explored. Thorough evaluation procedures will be emphasized as they relate to specific diagnosis. Treatment for the respective diagnoses will include therapeutic exercise, soft tissue stretching, and postural re-education.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

PTS 630. Foundations of Physical Therapy. 3 Credit Hours.

Historical development, philosophical foundations and contemporary practice of a physical therapist as an educator, consultant, researcher, administrator, and model of healthy behaviors. Health as indicated by global fitness measures will be demonstrated and experienced. Medical terminology mastered.

Requisite: Physical Therapy Majors Only.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

PTS 631. Gross Anatomy for Physical Therapy I. 3 Credit Hours.

Gross anatomy with emphasis on the musculoskeletal systems and a survey of other systems that are relevant to physical therapy practice. Cadaver dissection.

Requisite: Physical Therapy Majors Only.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

PTS 632. Gross Anatomy for Physical Therapy II. 3 Credit Hours.

Gross Anatomy with emphasis on the musculoskeletal systems and a survey of other systems that are relevant to physical therapy practice. Cadaver dissection.

Requisite: Physical Therapy Majors Only.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

PTS 633. Communication in Physical Therapy Practice. 2 Credit Hours.

Course provides an analysis of communication skills in physical therapy clinical practice. Emphasis is placed on instruction of patients and their families, supportive staff, and health care team members. In-depth examination of patient-therapist interactions is included. Prerequisite: Open to Physical Therapy majors only.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

PTS 640. Neuroscience I. 3 Credit Hours.

This course will explore the human nervous system with an emphasis on the relationship between structure and function. The gross structures of the central and peripheral nervous systems will be discussed, and basic neurophysiological and neuropsychological constructs regarding the function of the nervous system will be explored. Particular emphasis is placed on the systems involved in human motor control and function, its assessment, and the basis for diagnosis and treatment selection by physical therapists.

Requisite: Physical Therapy Majors Only.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PTS 641. Neuroscience II. 3 Credit Hours.

Basic neurophysiological and neuropsychological constructs regarding the function of the nervous system are explored. Analyses of normal systems are contrasted with abnormal systems. Particular emphasis is placed on the systems involved in human motor control and function, its assessment, and the basis for diagnosis and treatment selection by physical therapists.

Requisite: Physical Therapy Majors Only.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

PTS 642. Electrotherapy. 3 Credit Hours.

This course presents the physiological rationale, indications, contraindications and the application of electrical modalities, including electrical stimulation, thermal modalities, sound modalities, compressive devices, mechanical machinery, and light therapy.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

PTS 643. Medical Pathology Seminar I. 1 Credit Hour.

Lectures and seminar discussion on medical and surgical management of pathological conditions, with particular emphasis on musculoskeletal disorders.

Requisite: Physical Therapy Majors Only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PTS 644. Medical Pathology Seminar II. 1 Credit Hour.

Lectures and seminar discussion on pathological conditions with particular emphasis on neuromuscular and musculoskeletal disorders.

Requisite: Physical Therapy Majors Only.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PTS 645. Medical Pathology Seminar III. 1 Credit Hour.

This course provides lectures and seminar discussion on medical and surgical management of pathological conditions, with particular emphasis on regenerative medicine, neuromuscular disorders and women's health.

Requisite: Physical Therapy Majors Only.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

PTS 646. Medical Pathology Seminar IV. 1 Credit Hour.

Lectures and seminar discussion of pathological conditions with particular emphasis on cardiorespiratory and pediatric disorders.

Requisite: Physical Therapy Majors Only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PTS 650. Pharmacology. 2 Credit Hours.

Basic principles of pharmacology and pharmacotherapeutics. Contemporary drug therapies and their effects on patients undergoing rehabilitation are discussed.

Requisite: Physical Therapy Majors Only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PTS 670. Clinical Skills in Physical Therapy. 3 Credit Hours.

This course is specifically designed to provide each student with the necessary and basic clinical skills to function within a variety of patient settings. Utilizing a combination of lecture and the associated co-requisite laboratory, this course will cover proper body mechanics, patient positioning and draping, massage, daily patient documentation, vital signs, range of motion, basic wheelchair management and measurement, bed mobility and transfers, tilt table benefits and management, ambulatory assistive devices and gait training with assistive devices.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PTS 671. Therapeutic Physiology. 2 Credit Hours.

This course will require the student to analyze and apply physiologic principles to promote optimal patient evaluation and management. A variety of tests and measures will be reviewed and will be integrated with specific physiologic principles in order for the student to better understand the role of therapeutic interventions for patients referred to physical therapy. The focus of the course will revolve around several related themes including (1) interpreting the cardiorespiratory response to exercise, (2) understanding energy production and regulation, (3) integrating the cardiovascular, pulmonary, and muscular systems to better understand and interpret cardiorespiratory function as well as energy production, regulation, and homeostasis, and (4) examining the effects of de-conditioning and re-conditioning using different forms of exercise for individuals who are healthy or diagnosed with a medical disorder.

Requisite: Physical Therapy Majors Only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PTS 672. Clinical Kinesiology and Biomechanics. 3 Credit Hours.

A study of musculoskeletal structure and function, physiological and biomechanical factors, and principles underlying the kinematics and kinetics of normal and abnormal human motion.

Requisite: Physical Therapy Majors Only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PTS 674. Clinical Examination. 3 Credit Hours.

This course will present the basic examination skills for patients with various diseases and dysfunctions of the neuromusculoskeletal system. The skills emphasized are patient interviewing, palpation, reflex/sensory testing, cranial nerve testing, coordination testing, manual muscle testing, goniometric measurement with assessment of end feels, upper and lower quarter screening, postural assessment, and documentation of findings.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PTS 675. Clinical Decision Making I. 2 Credit Hours.

This course presents components of physical therapist practice with an emphasis on evidence-based decision making related to interviewing patients, selecting appropriate tests and measures, arriving at a physical therapy diagnosis and developing a plan of care within the physical therapist's scope of practice. Documentation formats as they relate to clinical decision making are presented. The Physical Therapist Guide to Practice patient/client management model, International Classification of Function, and practice patterns are presented. The process of physical therapy diagnosis is presented. Students will be given an opportunity to practice with case studies.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

PTS 676. Medical Screening in Physical Therapy. 1 Credit Hour.

This course presents content related to screening for medical conditions in order to make clinical decisions about appropriateness for physical therapy and need for medical referral for patients presenting for physical therapy management.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PTS 695. Selected Topics in Physical Therapy. 1-3 Credit Hours.

Topics in contemporary physical therapy clinical practice with focus on specialty areas such as neonatal pulmonary care, balance/vestibular dysfunction, geriatrics, pediatrics, obstetrics, and gynecology.

Requisite: Physical Therapy Majors Only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

PTS 706. Neurological Evaluation. 2 Credit Hours.

Comprehensive evaluation of the patient with neurological dysfunction. Emphasis is placed on decision making, differential diagnosis, selection, and interpretation of examination components.

Requisite: Physical Therapy Majors Only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PTS 708. Human Gait and Locomotion. 1 Credit Hour.

This course is an in-depth study of the fundamental mechanisms of normal human gait and locomotion. Students will be instructed on the terminology, normal joint range of motion and muscle function of the lower limbs during gait. Mechanisms of observational and instrumented analyses of gait will be discussed. Identification of common gait deviations, using observational gait analysis skills, will be briefly discussed.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PTS 710. Clinical Internship I. 2 Credit Hours.

First in a series of supervised clinical education experiences emphasizing the mastery of clinical skills and professional behaviors across patient care settings as they relate to the patient/client management model. This is an 8-week clinical internship.

Components: CLN.

Grading: SUS.

Typically Offered: Fall.

PTS 711. Clinical Internship II. 2 Credit Hours.

Second in a series of supervised clinical education experiences emphasizing the mastery of clinical skills and professional behaviors across patient care settings as they relate to the patient/client management model. This is an 8-week clinical internship.

Components: CLN.

Grading: SUS.

Typically Offered: Fall.

PTS 714. Neurorehabilitation. 3 Credit Hours.

Evidence-based practices in the treatment of individuals with neurological involvement are explored. Emphasis is placed upon the integration and application of theoretical constructs, prognostic indicators, examination and evaluation findings, and therapeutic intervention strategies utilized by physical therapists in neurological rehabilitation across disease course and practice settings.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PTS 715. Rehabilitation of the Complex Patient. 3 Credit Hours.

The course will instruct students on the management of individuals with complex pathology that has additional complex social and environmental factors. Emphasis will be placed on the principles of assessment, treatment, discharge planning, and referral in the Acute Care environment. Topics covered include: early mobilization in the ICU, management of patients with multiple lines, drains, and tubes, multiple trauma, cancer, hospice and palliative care, bariatrics, solid organ transplantation, patient safety, collaboration with healthcare team members, and use of acute care appropriate outcome measures. The course includes hands on transfer labs, patient evaluation and simulation experiences, and a practical examination on assessment and mobilization of a simulated complex patient.

Requisite: Physical Therapy Majors Only.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

PTS 717. Clinical Research II. 3 Credit Hours.

This course is a continuation of Clinical Research I that provides the student with continued guidance in the completion of the faculty led research project begun as part of Clinical Research I. A series of lectures also provide exposure to additional topics relevant to clinical research in Physical Therapy. Potential lecture topics include data analysis, design, error, philosophy of science, and research reporting.

Requisite: Physical Therapy Majors Only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PTS 718. Physical Therapy Administration. 3 Credit Hours.

Course discusses physical therapy services, departmental policies and procedures, and personnel management. Issues relevant to clinical practice and the physical therapy profession are emphasized.

Requisite: Physical Therapy Majors Only.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

PTS 720. Biomechanical Basis of Human Movement. 3 Credit Hours.

A study of the basic biomechanical principles underlying the kinetics and kinematics of normal and abnormal human motion as well as the measurement of human movement.

Requisite: Physical Therapy PHD Majors Only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PTS 721. Measurement of Impairment and Function in Human Movement. 3 Credit Hours.

A study of measurement tools utilized in the analysis of normal and abnormal human motion.

Requisite: Physical Therapy PHD Majors Only.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PTS 722. Pathobiology of Human Function I. 3 Credit Hours.

Pathophysiology of musculo-skeletal processes that impair human function including skeletal muscle; skin, tendons, ligaments, cartilage; bone; and cardiorespiratory.

Requisite: Physical Therapy PHD Majors Only.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PTS 724. Cardio-Respiratory Physical Therapy. 3 Credit Hours.

The skills necessary for the evaluation and treatment of patients with various cardio-respiratory diseases and dysfunctions. Inpatient and outpatient cardiac and respiratory rehabilitation is included. Research on prevention of cardio-respiratory diseases and dysfunctions as it relates to evaluative, and therapeutic methods is also discussed.

Requisite: Physical Therapy Majors Only.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PTS 726. Therapeutic Exercise. 3 Credit Hours.

This course will be a comprehensive approach for the evaluation and management of patients with various orthopaedic pathologies and their related dysfunction(s). An emphasis will be placed on evidence-based practice, critical thinking, treatment algorithms, as they all inter-relate to therapeutic exercises. The general focus of this course is to possess entry-level skills in the cognitive, affective, and psychomotor domains as they relate to the treatment of a wide-variety of orthopaedic conditions.

Requisite: Physical Therapy Majors Only.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PTS 727. Prosthetics and Orthotics. 3 Credit Hours.

This course offers a comprehensive approach to the evaluation, treatment and management of people who require the intervention of prosthetic or orthotic appliances. Identification and application of appropriate therapeutic management alternatives are integrated with self-help appliances to assist with the goal of returning the client to the community and/or the highest level of social interaction.

Requisite: Physical Therapy Majors Only.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PTS 728. Musculoskeletal Examination and Manual Treatment I. 3 Credit Hours.

In-depth examination of differential diagnosis of various extremity dysfunctions with principles of examining soft tissue, bony and post-surgical problems relevant to the shoulder, elbow, wrist/hand, hip, knee, ankle, and foot. Manual therapy/joint mobilizations for each joint will also be introduced.

Requisite: Physical Therapy Majors Only.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PTS 729. Evaluation and Treatment of Spinal Dysfunctions II. 3 Credit Hours.

This course provides an in-depth exploration of the evaluation and treatment of various dysfunctions of the spine. The cervical, thoracic, suboccipital regions and TMJ will be explored. Students will review the lumbar and sacro-iliac dysfunctions. Students are expected to critically review and investigate the literature relevant to the cervical, thoracic, and head-neck regions. Treatment for respective diagnoses will include therapeutic exercise, soft tissue stretching and manual therapy techniques. Clinical competence in manual evaluation and treatment procedures are to be developed.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

PTS 730. Pediatric Physical Therapy. 2 Credit Hours.

This course is designed to provide students with an entry level knowledge, attitudes and skills essential for working with children with movement dysfunction. Examination and evidence-based practices utilized by physical therapists in the treatment of children with musculoskeletal, neuromuscular, cardiopulmonary, integumentary and/or cognitive/affective issues will be emphasized.

Requisite: Physical Therapy Majors Only.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PTS 731. Geriatric Physical Therapy. 2 Credit Hours.

A case-based clinical approach to factors and issues related to examination, evaluation, diagnosis, prognosis, and intervention of aging adults by physical therapists. Topics covered include age-related versus activity related changes to body systems; use of standardized functional assessments appropriate for aging adults; successful aging; musculoskeletal, neuromuscular, cardiopulmonary, cognitive and psychiatric disorders in the elderly; fall risk assessment and fall prevention; home and environmental adaptations/modifications; health care delivery sites/systems; nutrition; polypharmacy; Medicare rules and regulation related to rehabilitation; frailty/sarcopenia; and strength training and exercise prescription in the aging adult. Focused discussion centers on clinical decision making across multiple geriatric settings.

Requisite: Physical Therapy Majors Only.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PTS 743. Measuring Health Outcomes. 3 Credit Hours.

An in depth analysis of the use and construction of health outcome measures. Topics covered include creating and selecting items, scaling responses, scale construction, response bias, reliability, validity, responsiveness and methods of administration.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PTS 744. Integrated Sports and Leisure. 3 Credit Hours.

Course promotes the integration of students with the physically challenged by working together to learn common recreational activities. Sailing and camping activities are used as an educational tool for students to learn the capabilities, physical resources, and assistance required by physically challenged individuals.

Requisite: Physical Therapy Majors Only.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PTS 745. Integumentary Disorders and Treatment. 2 Credit Hours.

The course will instruct students on the management of individuals with open wounds, burns, and other dermatologic pathology from a patient focused perspective. Emphasis is placed on clinical decision making as it relates to the principles of assessment, treatment, referral, and prevention. Topics covered include: wound assessment and documentation, debridement, electrical stimulation and ultrasound for wounds, dressing selection, skin breakdown and pressure ulcer prevention, support surface selection, burns, skin grafts and muscle flaps, evaluation of arterial and venous circulation, nutrition, and the identification of melanoma, basal cell and squamous carcinoma, psoriasis, impetigo, shingles and other dermatological pathology. The course includes labs for wound evaluation, measurement, debridement, dressing selection and application, pressure mapping and support surface selection.

Requisite: Physical Therapy Majors Only.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PTS 748. Musculoskeletal Examination and Treatment II. 3 Credit Hours.

Advanced examination, evaluation, functional assessment and treatment of patients in selected specialty areas of musculoskeletal physical therapy, with emphasis on functional outcomes and evidence based treatment throughout the life span.

Requisite: Physical Therapy Majors Only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PTS 755. Neuromuscular Basis of Movement. 3 Credit Hours.

Concepts of neuromuscular production and regulation of movement with emphasis on neurophysiologic substrates and mechanisms underlying motor behavior.

Requisite: Physical Therapy Majors Only.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PTS 760. Theories of Movement Science. 3 Credit Hours.

An in-depth review of classical theories and recent research in the movement sciences, to include the study and analysis of system theory and neurobiological substrates.

Requisite: Physical Therapy Majors Only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PTS 761. Motor Learning. 3 Credit Hours.

The factors relating to, and affecting, the acquisition and performance of motor skills. Qualification of skill acquisition and performance are explored.

Requisite: Physical Therapy Majors Only.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PTS 762. Advanced Topics in Neurodevelopment. 3 Credit Hours.

Classical research and systems models of neurodevelopment is reviewed, analyzed, and related to current research on various areas of human development throughout the lifespan.

Requisite: Physical Therapy PHD Majors Only.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PTS 764. Seminars in Neuroscience. 3 Credit Hours.

This course explores the role and organization of the key units of the central and peripheral nervous systems at the molecular and cellular levels. The integrated functional physiology of systems neuroscience and behavioral neuroscience will be studied with special emphasis on neural contributions to involuntary and voluntary motor functions, perception, cognition, and learning. PREREQUISITE: For Physical Therapy PhD students only.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PTS 765. Health Promotion and Disease Prevention. 2 Credit Hours.

The role of physical therapists in health promotion and disease prevention.

Requisite: Physical Therapy Majors Only.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

PTS 766. Rehabilitation of the Amputee. 3 Credit Hours.

This course examines the scientific evidence related to the evaluation, treatment and management of clients who require intervention for diabetic foot and/or dysvascular limb potentially leading to amputation, amputation surgery, prosthetic appliances, functional assessment and amputee rehabilitation. Upper limb prosthetic management will also be examined.

Requisite: Physical Therapy Majors Only.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PTS 767. Prosthetic Technology and Amputee Rehabilitation. 3 Credit Hours.

This course examines the current scientific evidence related to prosthetic devices with regard to evaluation, fabrication, materials, fitting and functional outcomes. Emphasis is on state-of-the-art technology and the future of prosthetic designs.

Requisite: Physical Therapy PHD Majors Only.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PTS 768. Rehabilitation Engineering and Assistive Technology. 3 Credit Hours.

This course is designed for graduate students interested in developing an understanding of complementary roles of clinicians and engineers in assisting individuals with disabilities in all areas of life.

Requisite: Physical Therapy Majors Only.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PTS 769. Seminars in Orthotics and Prosthetic Rehabilitation. 3 Credit Hours.

Examination of current scientific evidence and clinical issues related to upper and lower limb amputees, and prosthetic and orthotic componentry and related technology. Students will discuss case studies and design appropriate devices to address the needs of the individuals in the cases.

Requisite: Physical Therapy PHD Majors Only.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PTS 770. Education Principles in Physical Therapy. 1 Credit Hour.

Principles of education, as they apply to the educational setting, and in patient care. Students are instructed in basic educational principles and methods to prepare materials and instruct and evaluate learning for patients, families, caretakers, students, colleagues, and others, in the classroom, clinic and community.

Requisite: Physical Therapy Majors Only.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PTS 771. Complementary Therapies in Rehabilitation. 2 Credit Hours.

Historical development and evidence-based approach to complementary therapies in rehabilitation.

Requisite: Physical Therapy Majors Only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PTS 774. Role of Academic Faculty in Physical Therapy. 3 Credit Hours.

Introduction to the faculty roles in an institution of higher education, including faculty development and evaluation systems, educational leadership, and student advising, initiation of a research career and educational administration of physical therapy programs at the entry-level and post-graduate level.

Requisite: Physical Therapy PHD Majors Only.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PTS 775. Clinical Decision Making II. 3 Credit Hours.

This course will require the student to utilize: the patient management model, the ICF model, the role of disablement and enablement in the provision of physical therapy, all clinical and basic science course work, professional and third party documentation requirements, knowledge of healthcare delivery systems and legal/regulatory requirements, as well as the research literature to plan and document evidence-based care of patients in a variety of settings spanning the continuum of care. Cases will represent a sample of ages, diagnoses, and patient acuity and complexity.

Requisite: Physical Therapy Majors Only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PTS 777. Instructional Methods in Physical Therapy Education. 3 Credit Hours.

Overview of research in the professional education field, with specific applications to physical therapy academic and clinical education. Emphasis is placed on curriculum development, competency-based instructional design, testing, and instructional evaluation methods.

Requisite: Physical Therapy PHD Majors Only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PTS 778. Teaching Practicum. 1-3 Credit Hours.

Supervised instructional design, teaching and evaluation of entry level physical therapy students. Students participate as course instructors in entry-level master's degree physical therapy curriculum.

Requisite: Physical Therapy PHD Majors Only.

Components: PRA.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

PTS 784. Human Neuroanatomy. 3 Credit Hours.

Detailed exploration of the human nervous system with an emphasis on structure-function relationship and clinical applications. This course is designed for Physical Therapy graduate students with an interest in a professional career in teaching the anatomical sciences to students of the health professions including medical students.

Requisite: Physical Therapy Majors Only.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PTS 785. Medical Diagnostic Tests. 2 Credit Hours.

This course is designed to provide the Physical Therapy student with the basic skills in understanding and interpreting the imaging techniques of Plain film x-ray, Magnetic Resonance Imaging, Computed Tomography, Bone Scans, Real Time Ultrasound, Electrodiagnostic Tests, selected Laboratory Tests and Fluoroscopy. Special emphasis will be placed on the understanding of where the interpretation of these images falls in physical therapy Differential Diagnosis and evidence based practice.

Requisite: Physical Therapy Majors Only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PTS 790. Models of Physical Therapy Practice. 3 Credit Hours.

Study of the integration of didactic knowledge, clinical skills, clinical problem solving and the intuitive process into the formation of a clinical diagnosis which will direct treatment in physical therapy. Diagnosis as a process in physical therapy is compared to diagnosis in nursing, psychiatry and medicine, and is distinguished from similar processes such as assessment, examination and screening. Various models of physical therapy practice currently being taught and published will be explored, including the ICF model, the Patient/Client management model, and the Movement System. Recommendations for a Model of PT Diagnosis and Decision making will be made by students.

Requisite: Physical Therapy PHD Majors Only.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PTS 795. Clinical Research Methods I. 3 Credit Hours.

An overview of measurement and sampling research design relevant to clinical research in physical therapy.

Requisite: Physical Therapy PHD Majors Only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PTS 796. Applied Statistics in Physical Therapy. 3 Credit Hours.

Basic statistics taught from an applied perspective which includes statistical computing using SAS or SPSS and interpretation and presentation of data analysis.

Requisite: Physical Therapy PHD Majors Only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

PTS 798. Research Practicum. 3 Credit Hours.

Practicum designed to familiarize the student with an area of research, to implement a pilot study in an area of interest, and to develop working relationship with a sponsoring faculty member.

Requisite: Physical Therapy PHD Majors Only.

Components: RSC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

PTS 799. Independent Study in Physical Therapy. 1-3 Credit Hours.

Each course is designed to meet the needs of graduate students for in-depth study in a particular area of special interest.

Requisite: Physical Therapy Majors Only.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

PTS 802. Special Internship. 1-3 Credit Hours.

Supervised clinical education emphasizing clinical skills.

Requisite: Physical Therapy Majors Only.

Components: CLN.

Grading: SUS.

Typically Offered: Offered by Announcement Only.

PTS 803. Clinical Internship III. 2 Credit Hours.

Third in a series of supervised clinical education experiences emphasizing the mastery of clinical skills and professional behaviors across patient care settings. This is an 8-week clinical internship.

Components: CLN.

Grading: SUS.

Typically Offered: Spring.

PTS 804. Clinical Internship IV. 2 Credit Hours.

Fourth in a series of supervised clinical education experiences emphasizing the mastery of clinical skills and professional behaviors across patient care settings. This is an 8-week clinical internship.

Components: CLN.

Grading: SUS.

Typically Offered: Spring.

PTS 830. Pre-candidacy Dissertation.. 1-6 Credit Hours.

To be used for pre-candidacy PhD dissertation research.

Requisite: Physical Therapy PHD Majors Only.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

PTS 840. Post-candidacy Dissertation.. 1-12 Credit Hours.

The student will enroll for credits as determined by his/her advisor, but not for less than a total of 12. No more than six hours may be taken in a regular semester, nor more than three in a summer session. When a student has passed his/her qualifying exams and is engaged in an assistantship, he/she may still take the maximum allowable credit stated above.

Requisite: Physical Therapy PHD Majors Only.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

PTS 843. Measuring Health Outcomes. 3 Credit Hours.

An in depth analysis of the use and construction of instruments designed to measure health outcomes. Topics covered include creating and selecting items, scaling responses, scale construction, response bias, reliability, validity, measuring change, and methods of administration.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

PTS 850. Research in Residence. 1 Credit Hour.

To establish residence for the PhD, or DPT, after the student has been enrolled for the permissible cumulative total in appropriate doctoral research or clinical practice. Credit not granted, may be regarded as full-time residence as determined by the Dean of the Graduate School.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

Physics (PHY)

PHY 101. College Physics I. 4 Credit Hours.

Elementary mechanics, thermal phenomena, fluids, waves. Courses 101-102-106-108 provide a ten credit 'physics with lab' sequence for premedical students and others.

Prerequisite: MTH 105 or higher. Corequisite: PHY 106.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

PHY 102. College Physics II. 4 Credit Hours.

Electromagnetism, optics, and modern physics.

Pre-requisite: PHY 101 And Co-requisite: PHY 108.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

PHY 103. General Physics. 3 Credit Hours.

Mechanics, waves, electromagnetism.

ARCHITECTURE MAJORS.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PHY 106. College Physics Laboratory I. 1 Credit Hour.

Laboratory course to accompany PHY 101.

Pre-requisite: PHY 101 Or Co-requisite: PHY 101 Or Pre-requisite: 201 Or Co-requisite: 201.

Components: LAB.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

PHY 108. College Physics Laboratory II. 1 Credit Hour.

Laboratory course to accompany PHY 102.

Prerequisites: PHY 102 or PHY 202. Or Corequisites: PHY 102 or PHY 202.

Components: LAB.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

PHY 110. Descriptive Astronomy. 3 Credit Hours.

For students not majoring in Mathematics or a Physical Science. brief non-technical treatment of the universe and its contents. Mathematical requirements are minimal with emphasis on our present knowledge about energy and matter in space. Not for major or minor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

PHY 160. Physics of the Arts. 3 Credit Hours.

Newtonian mechanics, energy, wave motion, atoms, and electricity. Applications to music, art and communications.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PHY 201. University Physics I for the Sciences. 4 Credit Hours.

Calculus based introductory physics: mechanics, heat, fluids, waves, with applications from the physical and life sciences.

Pre-requisite: MTH 141 Or MTH 151 Or MTH 161 Or MTH 171 And MTH 162 Or MTH 172 Or Co-requisite: MTH 162 Or Co-requisite: MTH 172.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PHY 202. University Physics II for the Sciences. 4 Credit Hours.

Calculus based introductory physics: electromagnetism, optics, modern physics, with applications from the life sciences.

Prerequisite: PHY 201.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Summer.

PHY 205. University Physics I. 3 Credit Hours.

Mechanics through gravity and harmonic motion, intended for science and engineering students.

Prerequisites: MTH 151 or MTH 161 or MTH 171 or MTH 141. Or Corequisites: MTH 151 WITH a "B" IN MTH 105 or MTH 108 or Placement into Calculus by MTH Placement Exam. Or Corequisites: MTH 141 OR MTH 161.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

PHY 206. University Physics II. 3 Credit Hours.

Fluids, waves, optics, thermal phenomena.

Prerequisite: PHY 205 and MTH 162 or MTH 172. Or Co-requisite: MTH 162 or MTH 172.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

PHY 207. University Physics III. 3 Credit Hours.

Electromagnetism through Maxwell's equations.

Prerequisite: PHY 205, and MTH 162 or MTH 172.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

PHY 208. University Physics II Lab. 1 Credit Hour.

Laboratory to accompany PHY 206.

Prerequisite: PHY 206 or Corequisite: PHY 206.

Components: LAB.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

PHY 209. University Physics III Lab. 1 Credit Hour.

Lab to accompany PHY 207.

Pre-requisite: PHY 207 Or Co-requisite: PHY 207.

Components: LAB.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

PHY 210. Honors University Physics II-III. 5-6 Credit Hours.

Fluids, waves, optics, thermal phenomena, electromagnetism. Combines PHY 206 and 207.

Pre-requisite: PHY 205 And MTH 141 Or MTH 151 Or MTH 161 Or MTH 171 And MTH 162 Or MTH 172 Or Co-requisite: MTH 162 Or Co-requisite: MTH 172.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

PHY 295. Transfer Credits. 1-5 Credit Hours.

Special topics taken at other institutions but having no direct equivalents here.

Components: LEC.

Grading: GRD.

PHY 306. Intermediate Laboratory. 1 Credit Hour.

Laboratory: a review of some of the fundamental experiments in classical and modern physics.

Prerequisite: PHY 209 or PHY 360. Or Corequisite: PHY 360.

Components: LAB.

Grading: GRD.

Typically Offered: Spring.

PHY 315. Mathematical Tools for Physics. 3 Credit Hours.

How to use mathematics. Series, complex algebra, vector analysis, differential equations, etc.

Prerequisite: MTH 141 or MTH 151 or MTH 161 or MTH 171 and Pre/Corequisite: PHY 206 and Pre/Corequisite: MTH 162 or MTH 172.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PHY 321. Thermodynamics and Kinetic Theory. 3 Credit Hours.

An intermediate course in thermal phenomena, from both macroscopic and microscopic points of view.

Prerequisite: PHY 206 and MTH 211 or MTH 310 or PHY 315.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PHY 325. Biological Physics I. 3 Credit Hours.

Applications of fundamental principles from fluids, electrostatics, statistical physics to biological phenomena at molecular and neuronal levels; emphasis on quantitative picture of well-known biological systems; discussion of current research at the interface of biology and physics.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PHY 340. Classical Mechanics I. 3 Credit Hours.

Includes harmonic motion, orbit theory, coupled oscillations, rigid body motions.

Prerequisite: PHY 206 and PHY 207 and Pre/Corequisite: MTH 210 and Pre/Corequisite: MTH 311 or Prerequisite: PHY 315.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PHY 350. Intermediate Electricity and Magnetism. 3 Credit Hours.

Includes the integral and differential forms of Maxwell's equations, circuit theory, and boundary value problems.

Prerequisite: PHY 206 and PHY 207 and MTH 211 or MTH 310 and Pre/Corequisite: MTH 311 or Prerequisite: PHY 315.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PHY 351. Intermediate Electricity and Magnetism II. 3 Credit Hours.

A continuation of PHY 350. Includes further application of Maxwell's equations with emphasis on radiation theory.

Requisite: PHY 350.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PHY 360. Introduction to Modern Physics. 3 Credit Hours.

Emphasis on the experimental foundations of modern physics. Relativity, quantization, atomic structure, radiation, nuclei.

Prerequisite: PHY 206 and Pre/Corequisite: PHY 207 and Prerequisite: MTH 172 or PHY 315.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PHY 362. Modern Physics Honors Seminar. 1 Credit Hour.

Special Topics to accompany PHY 360. Co-requisite: PHY 360.

Pre-requisite: PHY 360 Or Co-requisite: PHY 360.

Components: SEM.

Grading: GRD.

Typically Offered: Fall.

PHY 401. Senior Thesis. 3 Credit Hours.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHY 402. Senior Thesis. 3 Credit Hours.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHY 500. Research. 1-3 Credit Hours.

Project course introducing methods of research, individual investigation of current problems.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHY 506. Advanced Laboratory. 1-2 Credit Hours.

Advanced experiments such as properties of the electron, optical spectra, electrical measurements, radioactive decay, absorption, etc.

Pre-requisite: PHY 209 And PHY 360 Or Co-requisite: PHY 360.

Components: LAB.

Grading: GRD.

Typically Offered: Spring.

PHY 513. Mathematical Techniques in Physics. 3 Credit Hours.

Complex variables and applications. Infinite series and their uses, particularly in differential equations. Multiple integrals and Fourier series.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHY 516. Readings in Physics. 1-3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHY 517. Readings in Physics. 1-3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHY 518. Readings in Physics. 1-3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHY 522. Solid State Physics. 3 Credit Hours.

Crystal structure, quantum theory of the electronic structure of solids, mechanical, electric, magnetic and optical properties of solids.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHY 530. Plasma Physics I. 3 Credit Hours.

Kinetic theory of plasmas, adiabatic motion of charged particles magneto fluid dynamics, transport properties of plasmas in electromagnetic fields.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHY 540. Classical Mechanics II. 3 Credit Hours.

Lagrangian formulation, rigid body dynamics. Topics selected from fluid dynamics, non-linear oscillations, normal modes, phase plane analysis.

Requisite: PHY 340.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PHY 545. Introduction to Astrophysics. 3 Credit Hours.

Celestial mechanics, solar models, galaxies, distance scales, instruments.

Pre-requisite: PHY 360.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHY 552. Optical Physics. 3 Credit Hours.

Geometric optics, interference and diffraction, polarized light, optical pumping, coherence phenomena, applications to modern physical research.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHY 560. Quantum Mechanics and Modern Physics I. 3 Credit Hours.

Introductory theory with applications to simple systems. Perturbation theory and atomic structure.

Pre-requisite: PHY 340 And PHY 350 Or Co-requisite: PHY 350.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PHY 561. Quantum Mechanics and Modern Physics II. 3 Credit Hours.

Applications of quantum mechanics to atomic and molecular spectroscopy, quantum statistical mechanics, and nuclear physics.

Pre-requisite: PHY 560.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PHY 606. Advanced Laboratory. 1-2 Credit Hours.

Advanced experiments such as properties of the electron, optical spectra, electrical measurements, radioactive decay, absorption, etc.

Components: LAB.

Grading: GRD.

Typically Offered: Spring.

PHY 613. Mathematical Techniques in Physics. 3 Credit Hours.

Complex variables and applications. Infinite series and their uses, particularly in differential equations. Multiple integrals and Fourier series.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHY 616. Readings in Physics. 1-3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHY 617. Readings in Physics. 1-3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHY 618. Readings in Physics. 1-3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHY 622. Solid State Physics. 3 Credit Hours.

Crystal structure, quantum theory of the electronic structure of solids, mechanical, electric, magnetic and optical properties of solids.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHY 630. Plasma Physics I. 3 Credit Hours.

Kinetic theory of plasmas, adiabatic motion of charged particles magneto fluid dynamics, transport properties of plasmas in electromagnetic fields.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHY 640. Classical Mechanics II. 3 Credit Hours.

Lagrangian formulation, rigid body dynamics. Topics selected from fluid dynamics, non-linear oscillations, normal modes, phase plane analysis.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PHY 645. Introduction to Astrophysics. 3 Credit Hours.

Celestial mechanics, solar models, galaxies, distance scales, instruments.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHY 652. Optical Physics. 3 Credit Hours.

Geometric optics, interference and diffraction, polarized light, optical pumping, coherence phenomena, applications to modern physical research.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHY 660. Quantum Mechanics and Modern Physics I. 3 Credit Hours.

Introductory theory with applications to simple systems. Perturbation theory and atomic structure.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PHY 661. Quantum Mechanics and Modern Physics II. 3 Credit Hours.

Applications of quantum mechanics to atomic and molecular spectroscopy, quantum statistical mechanics, and nuclear physics.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PHY 701. Condensed Matter Physics Seminar. 1 Credit Hour.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

PHY 713. Methods of Mathematical Physics I. 3 Credit Hours.

A continuation of PHY 515.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHY 717. Special Topics in Physics. 1-3 Credit Hours.

Topics are typically selected from fluid dynamics, applied mathematics, particle theory, nuclear physics.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHY 718. Special Topics in Physics. 1-3 Credit Hours.

Topics are typically selected from fluid dynamics, applied mathematics, particle theory, nuclear physics.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHY 722. Advanced Solid State Physics. 3 Credit Hours.

Electronic structure, electron-electron interactions, phonons, many-body problems, transport properties, magnetism, superconductivity.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHY 723. Statistical Mechanics I. 3 Credit Hours.

Equilibrium state, irreversibility, statistical description of an ensemble, entropy, partition functions.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHY 724. Statistical Mechanics II. 3 Credit Hours.

Statistical description of many body problems, specific heats, Brownian motion in liquids and fields, non-equilibrium states, super-conductivity.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHY 752. Electromagnetic Theory I. 3 Credit Hours.

Electrostatics, magnetostatics, Maxwell's equations, continuous media, waves, antennas, resonant cavities, wave guides.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHY 753. Electromagnetic Theory II. 3 Credit Hours.

Relativistic effects, interaction of radiation with matter, multiple radiation, radiation reaction.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHY 766. Elementary Particles. 3 Credit Hours.

The Standard Model of elementary particles. Classical theory of fields for spin 0, 1/2, 1; Feynman rules. The Standard Model Lagrangian is postulated, and some of its basic consequences are explored.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHY 770. Quantum Theory I. 3 Credit Hours.

Transformation theory, linear operators and vector spaces. Schrodinger's equation, rotation group and angular momentum, statistics (Bose-Einstein and Fermi-Dirac), isotopic spin, multiple structure of levels, approximation methods.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHY 771. Quantum Theory II. 3 Credit Hours.

One particle relativistic theory; Lorentz group; symmetries of particles; elementary scattering theory; many body problems; Green's function techniques; S-matrix.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHY 780. Directed Readings or Research. 1-4 Credit Hours.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

PHY 810. Master's Thesis. 1-6 Credit Hours.

The student working on his/her master's thesis enrolls for credit, in most departments not to exceed six, as determined by his/her advisor. Credit is not awarded until the thesis has been accepted.

Components: LEC.

Grading: SUS.

Typically Offered: Offered by Announcement Only.

PHY 820. Research in Residence. 1 Credit Hour.

Used to establish research in residence for the thesis for the master's degree after the student has enrolled for the permissible cumulative total in PHY 710 (usually six credits). Credit not granted. May be regarded as full time residence.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHY 825. Continuous Registration--Master's Study. 1 Credit Hour.

To establish residence for non-thesis master's students who are preparing for major examinations. Credit not granted. Regarded as full time residence.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHY 830. Pre-Candidacy Doctoral Dissertation. 1-12 Credit Hours.

Required of all candidates for the Ph.D. The student will enroll for credit as determined by his/her advisor, but not for less than a total of 12. Not more than 12 hours of PHY 730 may be taken in a regular semester, nor more than six in a summer session.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

PHY 840. Post-Candidacy Doctoral Dissertation. 1-12 Credit Hours.

Required of all candidates for the Ph.D. who have advanced to candidacy. The student will enroll for credit as determined by his/her advisor, but not for less than a total of 12. Not more than 12 hours of PHY 740 may be taken in a regular semester, nor more than six in a summer session.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

PHY 850. Research in Residence. 1 Credit Hour.

Used to establish research in residence for the Ph.D. and D.A., after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Credit not granted. May be regarded as full-time residence as determined by the Dean of the Graduate School.

Components: THI.

Grading: SUS.

Typically Offered: Fall & Spring.

Political Science (POL)

POL 201. Introduction to American National Government. 3 Credit Hours.

Examination of the principles, structures, and processes of the national government of the United States. Frequent comparisons made with others countries.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 202. Introduction to Comparative Politics. 3 Credit Hours.

This course introduces students to study of comparative and international politics by examining how conflicts over these issues have played out in several different countries around the world.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 203. Introduction to International Relations. 3 Credit Hours.

Introduction to the theory and practice of international relations. Areas covered include: diplomacy, conflict resolution, international institutions and law; great power politics, international political economy, environmental politics, political integration, the evolving state system, and new global challenges.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 214. Criminal Justice and Social Change. 3 Credit Hours.

The social impact of crime as a form of domestic terrorism, the police and courts as a deterrent, and incarceration as an attempt to prevent and punish violent social behavior. This course is only open to high school students participating in the Summer Scholars Program.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

POL 250. Scope and Methods of Political Science. 3 Credit Hours.

The basic skills needed in political science to critically read academic journal articles and books. The application of scientific methods to the study of public life, focusing on research design and introducing students to the various methodologies used by researchers to draw descriptive and causal inference about the political world. Some methods introduced include ethnography, experimentation, the case study, and survey research.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POL 301. The Science and Practice of Political Research. 3 Credit Hours.

Exposes students to the way in which scientific knowledge of political phenomena is currently created and evaluated.

Prerequisite: POL 201 or POL 202 or POL 203.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POL 302. Political Fiction and Film. 3 Credit Hours.

Politics as presented in films and in relevant texts such as novels and biographies.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 303. Refugees and Migrants. 3 Credit Hours.

The increase in movement of people across borders that have occurred around the world over the past decades, the challenges posed by global migration, and the political responses of national communities to this phenomenon.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 305. Introduction to Political Theory. 3 Credit Hours.

Politics is organized behavior shaped by power. This brief, stripped-down, and pragmatic definition is what we will use in gaining access to the political philosophers we will study in this course. Students will have a greater understanding of arguments and texts in political philosophy.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 306. Positive Political Theory. 3 Credit Hours.

Introduction to positive political theory as a study of politics using quantitative methods such as game theory, laboratory experiments, and computer simulation. The political agents involved in a given interaction are modeled as rational players guided by self-interest whose behavior can be formally explained or predicted.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POL 307. Political Ideologies. 3 Credit Hours.

Covers modern and contemporary political ideologies, such as Liberalism, Conservatism, and Marxism.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POL 309. American Political Thought. 3 Credit Hours.

This class traces the evolution of democratic thinking in America. Topics include the meaning of representation, citizenship, equality and liberty.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POL 310. God, Science, and Politics. 3 Credit Hours.

A study of morality and religion that addresses the competing influences of material and spiritual discourses on political regimes and practices. The talking points for the course include the various proofs and refutations offered throughout history of God's existence, the differences and similarities of scientific and religious approaches to experience, and the ways in which moral and religious principles enlighten politics as they fold into the vocabularies of natural law and right, and contaminate the political with religious violence in the name of God.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

POL 311. Conspiracy Theories and the Public. 3 Credit Hours.

Why do people believe in conspiracy theories? This inter-disciplinary course examines a variety of explanations for conspiratorial beliefs.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

POL 312. Politics, Society and Art. 3 Credit Hours.

Analysis of the relationship between narratives, aesthetics, (beauty) and the political/social world. By successfully completing this course, students will; understand how humans interpret the political, social, and physical world through narrative. Come to see how most/all political controversies involve competing narratives. How false narratives are deployed to manipulate the public. Realize that through art important analytical arguments are made, which impart substantial insight into social, political, and physical phenomena. See how philosophy is intelligently conveyed through art - including approaches to political legitimacy, justice, and how political stability is maintained. To analyze the relationship between art, society, and politics, we draw episodes of the Simpsons, renaissance art, and broadcast iterations of Star Trek.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

POL 313. The Constitution. 3 Credit Hours.

This course examines the US Constitution from a political and historical perspective. This is a writing intensive course.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

POL 314. Legislative Processes. 3 Credit Hours.

Examination and analysis of the United States Congress. Emphasis on internal structure and operations, congressional roles and procedures, party leadership, external influences on congress, and incentives for congressional behavior.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

POL 315. American Presidency. 3 Credit Hours.

Historic development of presidential power; sources of the powers of the modern presidency, institutional decision-making; how and to what degree presidential power should be controlled.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POL 318. Economics for Politics and Public Administration. 3 Credit Hours.

Principles of microeconomics to students for use when analyzing public policy for effective public administrator and planning. Considers basic concepts of microeconomic principles including market failure, public goods, supply and demand, pricing, and externalities. These concepts will be presented using practical examples involving the public sector, and students will practice application through problem solving.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 319. Politics of the Administrative Process. 3 Credit Hours.

The principles, structure, functions and processes of federal administrative agencies of the United States government. Particular emphasis will be placed on the legal, ethical, and political ramifications of agency actions in a political environment as well as interactions between the bureaucracy, other branches of the federal government, state and local governments, and interest groups. Special attention will also be given to bureaucratic power, democratic control, and accountability.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 320. Politics of Growth Management. 3 Credit Hours.

The purposes and techniques of managing growth in our urban areas. Conducted as a seminar with lectures by the instructor augmented by class discussion.

Prerequisite: POL 201.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POL 321. Introduction to Public Policy. 3 Credit Hours.

The purpose of this course is to instruct students in the problems and processes in the implementation of public policy at an introductory level.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 322. Environmental Politics and Policy. 3 Credit Hours.

Examines the federal government's policies toward the National Forests and public grasslands; water supply policies and politics of the Everglade and Far West; global warming; U.S. air and water pollution policies and politics as well as those related to waste management; U.S. energy policies; and trade and the environment.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 323. Global Warming, Politics and the European Union. 6 Credit Hours.

The European Union (EU), and especially France to ecologically modernize their advanced economies. The course will treat the EU effort to fashion an international agreement on climate change. This class is conducted in Paris, France.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

POL 332. Mass Media and Politics. 3 Credit Hours.

Role of media in American politics. Historical development of the media from newspapers, through radio, to television and new media such as the internet. Changing norms of news media reportage. The growth of political advertising both during and between elections; the effects of these developments on American government and on the public.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POL 334. Campaigns. 3 Credit Hours.

Students learn about political campaigns by becoming involved in an active campaign and studying the academic literature about elections and campaigns. Topics are media, campaign organization, voters, issues, political parties, elections, and the five elements of every campaign.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POL 335. Democracy in Action: Local Government Simulation. 3 Credit Hours.

Examination of city and county governments and politics. Focuses on structures, leadership, taxing and spending, the influence of state and federal governments, and "hot-button" issues of importance to South Florida communities.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 337. International Law and Organizations. 3 Credit Hours.

This course focuses on the interaction of states through various legal regimes. We will consider the role of international law and organizations in politics, and the political implications of both criminal and civil international law from the perspective of the state, the individual, and non-governmental actors. Readings, lectures, class discussions, and examinations will familiarize the students with the parameters and limitations as well as the policy and practice of international law.

Prerequisite: POL 203 or INS 101.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POL 340. Civil Wars. 3 Credit Hours.

Theories and empirical findings on the causes of civil wars, their termination and conduct. Questions addressed in the course include: Why do civil wars occur? Are economic or political causes more important? How do civil wars end? Are ethnic civil wars different from wars fought for political ideology or material gains? What role do natural resources play in civil wars? Why are civilians especially likely to be victimized in some civil wars but not in others? Why do warring parties resort to terrorism? How do civil wars end? What factors are more conducive to long-lasting peace?

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 341. Nationalism, Ethnicity, and Political Conflict. 3 Credit Hours.

Examines theories of ethnic and national conflict focusing on contemporary issues throughout the world.

Prerequisite: POL 203 or INS 101.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 342. State Government and Politics. 3 Credit Hours.

State constitutions, political parties, legislatures, executives court systems, administrative systems and services, financial problems, city and county governments, local-state, federal-state and interstate relations. Special emphasis on governments in Florida.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

POL 343. Government in Metropolitan Areas. 3 Credit Hours.

This course will introduce the student to the organization and functions of counties and municipalities in the United States. On occasion guest speakers will be featured. We will examine Miami-Dade County as a concrete example of the course content.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POL 344. Gender and Politics. 3 Credit Hours.

Compares the roles played by men and women in political systems worldwide; examines public policy outcomes with significant gender-based effects, including policies on sexuality & reproductive health, gender-based violence, work & the family, and access to education.

Prerequisite: POL 202.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

POL 345. The United States and Asia. 3 Credit Hours.

Political, economic, and security aspects of America's relations with the Asian-Pacific area. Trade and alliance relationships. Actions and interactions of Asian states, their alignments with each other; the impact of these alignments on their relationships with the United States and in the global balance of power.

Prerequisite: POL 203 or INS 101.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POL 346. U.S.-Latin American Relations. 3 Credit Hours.

Systematic survey of U.S.-Latin American relations highlighting contending paradigms in the study of hemispheric relations. Examines issues in East-West and North-South relations and political economy of Brazil, Mexico, and Argentina. Considers alternative U.S. foreign policies.

Prerequisite: POL 202 or POL 203 or INS 101.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 347. American Foreign Policy. 3 Credit Hours.

This course investigates how American primacy came to be, what its consequences are, and what will drive American foreign policy in the future. Students use social science to evaluate claims and understand the world, improve their ability to advance and defend arguments, and develop a broad base of knowledge about American foreign policy history and issues.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POL 348. United States Relations with the Middle East. 3 Credit Hours.

Evolution of American relations with the Middle East. Analysis of the motivations and calculations, including domestic and external sources of policy-making and implementation. Emphasis on post-World War II period, with particular attention to the current administration.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POL 349. U.S. Defense Policy. 3 Credit Hours.

Examination of key problems of national security in the post-Cold War environment. Emphasis on the structure and functioning of the U.S. defense establishment and its interactions with its most probable adversaries and allies. Consideration of the constraints on, and options open to, policy planners, and with the institutional elements of the decision making process.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

POL 351. Public Opinion. 3 Credit Hours.

Political functions of public opinion; opinion dynamics in the U.S.A.; quantitative analysis of elements in opinion change; principles of political control via mass media in the U.S.A.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

POL 352. Political Parties. 3 Credit Hours.

Analysis of political organizations and electoral processes in the United States: their history, current status, and present trends. Consideration of the organization, control, and finances of political parties and pressure groups, their characteristic practices, and their relationship to political democracy.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POL 353. Interest Groups and Lobbying. 3 Credit Hours.

Analysis of lobbying and political interest groups in the United States; history, current status, and present trends. The organizations, control, and finances of pressure groups, their characteristic practices, and their relationship to democracy. Also, lobbying by citizens and groups more broadly, including the role of campaign contributions.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POL 354. The CIA and the World of Intelligence. 3 Credit Hours.

What the CIA does, how it does it, and the ways in which the CIA works with other intelligence agencies. Topics explored include: notable intelligence successes and failures, key intelligence issues, and ethical debates about intelligence activities including covert action.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

POL 359. International Organizations. 3 Credit Hours.

International organizations which, in addition to contributing to the solution of international problems, also help to provide rules and structures to manage state-to-state relationships.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 360. Congressional Representation. 3 Credit Hours.

Examination of how and when citizens influence legislators' behavior. How legislators' floor behavior reflects citizens' preferences and how these preferences influence the formation of electoral coalitions.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

POL 361. Ending Wars and Building Peace. 3 Credit Hours.

How local and international actors build sustainable peace strategically through peacekeeping, peace accords, reconciliation, education, human rights, international law, and state-building.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 362. Social Movements. 3 Credit Hours.

Addresses questions central to social movement activists and researchers. Draws on examples from across the Americas and on current social movement research.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 367. The Historical Roots of American Imperialism. 3 Credit Hours.

Examines the assertive and exploitative aspects of U.S. foreign policy.

Prerequisite: POL 203 or INS 101.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 370. Global Energy Politics. 3 Credit Hours.

Energy use throughout history has shaped humanity's politics and economics; the politics of the depletion of fossil fuels; global warming; "green" alternative energies: solar; wind; waves; civilian nuclear power.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 372. Introduction to Criminal Justice. 3 Credit Hours.

Selected topics in criminal law with an emphasis on constitutional criminal procedure and post-9/11 developments in federal criminal law: constitutional principles covering investigation and arrest, racial profiling, warrant-less searches, controversial interrogation techniques, rights of "enemy combatants" and the imposition of capital punishment.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

POL 373. Constitutional Law I. 3 Credit Hours.

A study of the development of the principles of American Constitutional Law, with a course focus upon those constitutional principles developed from the original document. Areas of study include judicial review, separation of powers, the Commerce Clause, the Contract Clause, and the Due Process Clauses.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

POL 374. Constitutional Law II. 3 Credit Hours.

This course will cover some of the 27 amendments to the U.S. Constitution. It will mainly focus on the constitutional limits placed on the national and state governments by the Bill of Rights and the Fourteenth Amendment. This study of the historical, political and legal development of constitutional law in the area of civil liberties will be done in large part by reading and discussing the major U.S. Supreme Court opinions related to these amendments and others.

Prerequisite: POL 201.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 378. African Politics. 3 Credit Hours.

An opportunity for students to develop their own interests in African Politics through extensive research and analysis. Students critically evaluate the process of economic development in the region with respect to the interaction of politics and economics. Included within this evaluation is an understanding of the benefits and detractions of development strategies, a working knowledge of development policy and an appreciation of the complex processes leading to the success or failure of development efforts.

Prerequisite: POL 202.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 379. South East Asian Politics. 3 Credit Hours.

The politics, economics, and history of Southeast Asia. Provides the opportunity for students to develop their own interests in the topic through extensive research and analysis.

Prerequisite: POL 202.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 381. West European Politics (Previous Title: European Politics and Government). 3 Credit Hours.

Examination of political and economic developments in western European countries.

Prerequisite: POL 202.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

POL 382. Government and Politics of the Federal Republic of Germany. 3 Credit Hours.

An examination of Germany's political system, its political parties, and the country's economic, social and foreign policies.

Prerequisite: POL 202.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POL 383. Politics in China. 3 Credit Hours.

Development and nature of Chinese domestic politics in theory and practice; problems of political stability and conflict; the role of historical and cultural traditions, institutions, social, economic and personality factors in Chinese politics; process of change and problems of leadership succession; the significance of changes in the character and style of Chinese leadership.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 384. Postcommunist Russian Politics. 3 Credit Hours.

Examines the demise of the USSR and the tumultuous post-communist transition in Russia from Gorbachev to Putin and Medvedev. The foundations of state power, the political party system, civil society, petro-state capitalism, endemic corruption, current politics, and Russian nationalism are examined through the lens of western and Russian political science theories.

Prerequisite: POL 202.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

POL 385. Politics and Society in Latin America. 3 Credit Hours.

Introduction to the politics of Latin American countries focusing on 20th century history, the impact of the Cold War and home-grown social struggles, economic development models, the difficulties of democratic consolidation, U.S.- Latin America relations, the emergence of new political actors such as women's and indigenous movements, and current political constellations. The course combines a study of thematic issues with case studies.

Prerequisite: POL 202.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

POL 386. Democratic Consolidation. 3 Credit Hours.

Explore the general concept of "democratic consolidation" which has become a timely topic in the discourse of today's foreign policy. We will examine the central theoretical concepts that frame the discourse and then examine several case studies.

Prerequisite: POL 202.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POL 387. Politics of the Middle East. 3 Credit Hours.

Comparative analysis of the political development of the Middle East in terms of nations and as a region. Particular stress is on the relationships within the region and with other regions of the world.

Prerequisite: POL 202.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

POL 388. Politics of Israel. 3 Credit Hours.

It is the purpose of this course to examine the Israeli system. Three themes will structure this investigation. The first considers the complex, and evolving, identity questions and politics that attend Jewishness, Zionism and being Israeli; the second investigates legitimacy, the nature and dynamics of the Israeli political system; and the third engages the multidimensional nature of Israeli security.

Prerequisite: POL 202.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

POL 389. Special Topics in Comparative Politics. 3 Credit Hours.

A lecture course in Comparative Politics, designed to give the student a greater degree of knowledge of a particular subject within this subfield. This topic may be repeated for credit.

Prerequisite: POL 202.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 390. Special Topics in American Politics. 3 Credit Hours.

A lecture course in American Politics, designed to give the student a greater degree of knowledge of a particular subject within this subfield. This topic may be repeated for credit.

Prerequisite: POL 201.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 391. Special Topics in International Relations. 3 Credit Hours.

Introduction to the theory and practice of international relations. Analyzes the modern state system; globalization; diplomacy and negotiation, and balance of power considerations.

Prerequisite: POL 203 or INS 101.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 392. International Terrorism. 3 Credit Hours.

Study of phenomenon of low-intensity warfare known as international terrorism in all its variations: state, state-sponsored, state-supported, domestic revolutionary terrorism and counter-terrorism. Also examines governmental policies of countering terrorism.

Prerequisite: POL 202 or POL 203 or INS 101.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 393. Special Topics in Public Administration, Policy, and Law. 3 Credit Hours.

A lecture course in Public Administration, Policy, and Law, designed to give the student a greater degree of knowledge of a particular subject within this subfield. This topic may be repeated for credit.

Prerequisite: POL 201.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 394. Special Topics in Political Theory and Methods. 3 Credit Hours.

A lecture course in Political Theory and Methods, designed to give the student a greater degree of knowledge of a particular subject within this subfield. This topic may be repeated for credit.

Prerequisite: POL 201 or POL 202 or POL 203 or INS 101.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 395. Transfer Credit in Political Theory and Methods. 1-9 Credit Hours.

Course for which there is no direct UM equivalent.

Components: LEC.

Grading: GRD.

POL 396. Transfer Credit in Public Administration, Policy, and Law. 1-9 Credit Hours.

Interdisciplinary workshops will treat different policy issues with a view toward developing a theory of deliberate social change. The scenario will include the stance and role of the change agent and the institutional forms involved in changing urban settings.

Components: LEC.

Grading: GRD.

POL 397. Transfer Credits in International Relations. 1-9 Credit Hours.

Course for which there is no direct UM equivalent.

Components: LEC.

Grading: GRD.

POL 398. Transfer Credit in Comparative Politics. 1-9 Credit Hours.

Course for which there is no direct UM equivalent.

Components: LEC.

Grading: GRD.

POL 401. The Election. 3 Credit Hours.

In a democracy, the actions of the government are based on the wishes of the citizenry. We will examine the vital role that elections play in in this process, specifically focusing on the issues and events surrounding the on-going elections.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

POL 402. Latino Politics. 3 Credit Hours.

An examination of the impact of Latinos on domestic politics, the impact of transnational migration on hemispheric politics, and the impact of recent waves of immigration on U.S. society, Latin American Society, the economy, workforce, education, media, culture, healthcare, and law enforcement.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 491. Immigration Reform and the 2014 Election. 3 Credit Hours.

This is a unique experience that will include high-profile guest speakers. The course encourages active student participation through social media. We will examine the debate on immigration including both documented and undocumented workers. The course examines the impact of recent waves of immigration on U.S. society, market, workforce, education, media, culture, healthcare, and law enforcement.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

POL 499. Special Topics. 1-3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 501. Budget and Financial Management and Administration. 3 Credit Hours.

Role of the budget in shaping public policy; managing public revenues; budgetary theory, politics, and fiscal management. Examples from state, municipal and federal governments.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

POL 502. Politics of Civil Rights. 3 Credit Hours.

An examination of civil rights policy and politics from Reconstruction to the present, with a focus on the enactment of landmark civil rights bills in the 1960s.

Prerequisite: POL 201.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 503. Organizational Dynamics and Management. 3 Credit Hours.

Organizational dynamics and management in public and non-profit organizations. Focus on organizational theories, leadership, behavior, goals, effectiveness, and change, with an emphasis on the distinctiveness of public organizations, public-private partnerships, new public management, and digital governance.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 504. Biology and Politics. 3 Credit Hours.

Political scientists traditionally study political decision-making as a product of individual level characteristics. For example, a person's partisan identification is highly predictive of their vote choice. Political scientists have also begun to assess the influence of social forces on our politics. For example, it has been shown that everyday discussions about politics with friends, neighbors, and coworkers influence political attitudes and behaviors. More recently, political scientists have begun to examine the influence that our biology has on our politics. This seminar is a survey of this growing area of research.

Components: DIL.

Grading: GRD.

Typically Offered: Summer.

POL 506. From Plato Through Rawls. 3 Credit Hours.

Political thought of the past with more recent insights and concepts, often drawn from the work of theorists who question what is taken for granted in traditional political theory.

Prerequisite: POL 201 or POL 202 or POL 203 or INS 101.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 508. Equity and Diversity in Public Administration. 3 Credit Hours.

Federal and state policies, laws, and court decisions as means for helping public administrators develop policies and procedures that meet legal requirements and recognize the values of equity and diversity in the treatment of its citizenry and public employees.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 509. Issues in Judicial Pol.. 3 Credit Hours.

The Supreme Court of the United States (SCOTUS) through the lens of upcoming cases on the SCOTUS's docket and through recently decided cases that were of important legal precedent.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 510. Statistics for Politics and Public Administration. 3 Credit Hours.

This course focuses on the use of statistics to conduct quantitative research (i.e., statistics) in political science and public administration. The course emphasizes hands-on data work. Students will learn how to perform political analyses – and present findings in an appropriate manner – using SPSS statistical software.

Components: SEM.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 511. Security in the Arabian Peninsula. 3 Credit Hours.

Examines the security environment of the Arabian Peninsula.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 512. Advanced Political Analysis. 3 Credit Hours.

This course teaches students how to do social science research using the applied techniques of statistics and case study analysis while exposing them to research in the leading sub-fields of political science. Students will produce an original paper that evaluates an academic question using empirical social science evidence.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POL 513. Models of Politics. 3 Credit Hours.

Hands-on examination of the process by which quantitative and qualitative models are constructed in political science. The course focuses on the creative aspect of model building and diverse forms of theory construction.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POL 514. Art and Politics. 3 Credit Hours.

Explores the issues of, political legitimacy, international relations, and concepts of justice by examine the interrelatedness of works of art and politics.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

POL 515. Media Content Analysis. 3 Credit Hours.

There are few facets of our lives which are not directly affected by media content. From cell phones to televisions, the media is with us all the time. But what messages are contained in the mass media? What methods can we employ to study media content scientifically? This course will explore methods of analyzing media sources including movies, newspapers, magazines, and television Course topics will include political bias, campaign coverage, and news content. Students will design their own projects and implement their own coding strategies.

Components: SEM.

Grading: GRD.

Typically Offered: Fall.

POL 516. Experiments in Political Science. 3 Credit Hours.

Examines the experimental method in the study of politics.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

POL 517. Introductory Statistical Methods in Political Science. 3 Credit Hours.

The tools needed to manipulate and analyze quantitative data rigorously so you may answer questions of political interest. First in a two-course sequence (followed by POL 518).

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

POL 518. Advanced Statistical Methods in Political Science. 3 Credit Hours.

The maximum likelihood framework for statistical inference in the study of politics. Second in a two-course sequence (preceded by POL 517).

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

POL 519. Introduction to Game Theory for Political Science. 3 Credit Hours.

The rudiments of non-cooperative game theory. Mainly intended for political science students, but presents applications from other academic disciplines such as economics, business administration, sociology, and psychology.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

POL 520. Internship. 3 Credit Hours.

Provides advanced political science majors with an opportunity to participate in a structured, supervised internship. 25-35 page research paper required.

Requisite: Plan of Political Science.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 521. Public Affairs Internship. 3 Credit Hours.

Opportunity for the advanced student specializing in public administration to participate in an administrative capacity in an agency of state or local government. Periodic conferences with adviser and paper required.

Requisite: Plan of Political Science.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 522. Introduction to Graduate Public Administration. 3 Credit Hours.

Introduction to concepts, issues, problems, theories and process in the field of public administration and/or public management.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

POL 523. Problems in Public and Non-Profit Management. 3 Credit Hours.

Nature of the power vested in administrative bodies and problems involved in management procedures. Special emphasis on local or non-profit administration.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POL 524. Non-Profit Organizations: Law, Policy, and Management. 3 Credit Hours.

This course teaches students the essential requirements for creation and operation of tax-exempt nonprofit organization in accordance with state and federal law. The course covers a wide range of relevant topics including guidelines for charitable giving and charitable solicitation, pitfalls that can result in personal liability for officers and directors, and statutory constraints on legislative lobbying and political activities.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

POL 525. Comparative Public Policy and Administration. 3 Credit Hours.

Comparison and analysis of the organizational and managerial policy problems of developed and developing nations. The administrative process will be considered within the institutional and cultural framework of each nation. Case studies will be used to focus on transition from traditional to modern techniques of public management.

Prerequisite: POL 202.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 526. Administrative Law. 3 Credit Hours.

Administrative law is the study of the legal relationship of government agencies to legislatures, courts, and private parties. The course examines the legal dimensions of bureaucratic power and procedures as well as constitutional and statutory constraints on regulators and administrators. Topics include rule making, adjudication, investigation and enforcement, political controls on agencies, judicial review of agency decisions, governmental liability and immunity, public records and open meetings laws. Both federal law and Florida law are covered. The course assumes a basic knowledge of the American legal system, constitutional law and bureaucracy.

Components: SEM.

Grading: GRD.

Typically Offered: Fall.

POL 527. Comparative Political Institutions. 3 Credit Hours.

The concept of institutionalism by studying three major sets of democratic institutions: electoral systems, legislatures, and political regimes.

Prerequisite: POL 202.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 528. Advanced Seminar on Electoral Behavior. 3 Credit Hours.

This seminar examines the opinions that Americans have and how those opinions are expressed through participation in elections. At the end of the semester we will also examine other forms of political participation (e.g., interest groups).

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POL 529. Conducting U.S. Elections. 3 Credit Hours.

Fair and free democratic elections are the heart of US democracy. This course will examine who gets to vote, whether election laws and rules are fair (and fairly implemented), and proposals to reform the way elections are run.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

POL 530. Intelligence and National Security Decision Making. 3 Credit Hours.

This course will study the US national security community structure and decision making process. The course will look at the National Security Council, the principal national security agencies (such as the CIA, Defense Department, and State Department), how they interact, and their roles in dividing and executing policy. We will also examine the role and function of senior policy decision makers such as the President. We will study recent policy challenges such as Iraq and Afghanistan as examples of National Security policy.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POL 531. Global Environmental Politics. 3 Credit Hours.

Examination of the environment within the context of economic globalization. Contrasts the international trading regime and those regimes designed to protect the environment, with specific attention to the issues of global warming and bio-diversity.

Prerequisite: POL 203 or INS 101.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POL 532. Art and Politics in Paris. 3 Credit Hours.

Analysis of the relationship between narratives, aesthetics (beauty) and the political/social world. By successfully completing this course, students will; understand how humans interpret the political, social, and physical world through narrative. Come to see how most/all political controversies involve competing narratives. How false narratives are deployed to manipulate the public. Realize that through art important analytical arguments are made, which impart substantial insight into social, political, and physical phenomena. See how philosophy is intelligently conveyed through art - including approaches to political legitimacy, justice, and how important analytical arguments are made. To analyze the relationship between art and politics, we draw on renaissance, modern, contemporary, and indigenous art. Paris is arguably the center of the art world, with a number of museums holding a surfeit of socially and politically important works. We visit a number of these museums. After visits to these museums, time in class will be dedicated to discuss those works you, the students, find significant. A requirement for this class is a camera (a camera phone is acceptable), with which you photograph those works you'd like to discuss in class.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

POL 533. Courts and Controversy. 3 Credit Hours.

Course places the students in the role of advocate, justice, or court observer for the purposes of arguing and deciding current or recent Supreme Court cases.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POL 534. Applied Policy Analysis. 3 Credit Hours.

Examines a variety of policy problems through the framework of problem definition, formulation of alternatives, assessment of alternatives, and policy impact evaluation. Students will also be introduced to cost-benefit analysis and evaluation methods.

Components: DIS.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 536. U.S. Health Care Crisis: Politics and Policies. 3 Credit Hours.

This seminar will explore the politics and policies of healthcare in the United States. Our examination of the current crisis in cost and coverage will draw on experience from the debates on comprehensive and incremental reform over the past decade. In addition, we will explore the politics and policies of other health and science issues. Students will be expected to attend every class and be actively involved in class discussions. There will be two examinations, one at mid-term and a final based on readings and course discussions.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

POL 540. Human Resource Management in Public Service. 3 Credit Hours.

Topics include human resource management in public service: job analysis and design, evaluation and appraisal, recruitment and interviewing, training and development, wages and benefits, and health and safety. Unionization, regulation of wages, hours and working conditions, financial security for workers, manpower planning and job anti-discrimination legislation are considered.

Components: DIS.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 541. Philosophy of Law. 3 Credit Hours.

Case-based study of jurisprudence designed to illuminate and explain philosophies of law. Examination of theories of free expression; bio-ethical matters; theories of punishment and legal responsibility; and the placement of religious discourses in liberal systems of law. Special attention to cases involving fundamental rights and liberties; the role of the individual and the state in civil society; and the capacities of individual to be legally competent in contemporary systems of law.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POL 543. Congressional Representation. 3 Credit Hours.

How and when citizens influence legislators' behavior. Specifically, how legislators' floor behavior reflects citizens' preferences and how these preferences influence the manner in which legislators build electoral coalitions.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 544. Chinese Foreign Policy. 3 Credit Hours.

International relations of the People's Republic of China, in theory and in practice. Structure and context of foreign policy decision-making; domestic influences on the foreign policy making process. China as a global and regional actor.

Prerequisite: POL 203 or INS 101.

Components: SEM.

Grading: GRD.

Typically Offered: Fall.

POL 545. Environmental Policy Making. 3 Credit Hours.

Examination of different ethical approaches to the environment; the federal government's management of natural resources; selected environmental policies; international environmental policy issues. Topics include federal management of national grazing lands, national forests, and minerals in the public domain. Analyzes environmental policies such as air, water, toxic wastes, energy, and environmentally-related issues in international trade and national security.

Components: SEM.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 546. Public Policy Process and Implementation. 3 Credit Hours.

Examination of public policy issue areas including education, health, welfare, urban mass transit. Limits to effectiveness of federal, state and local governments in providing services. Techniques for analyzing the effectiveness of public policies; research techniques for the assessment of future policy alternatives.

Components: DIS.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 547. Congressional Representation. 3 Credit Hours.

This course examines how and when citizens influence legislators' behavior. More specifically, we examine how legislators' floor behavior reflects citizens' preferences and how these preferences influence the manner in which legislators build electoral coalitions.

Requisite: POL 201 Or POL 202 Or POL 203 Or INS 101.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 548. Civic Participation and Democracy. 3 Credit Hours.

Citizens participate in the governing process by communicating their preferences and pressuring the government to respond. In this course we examine these various mechanisms of "civic participation", and discuss the meaning and consequences of participatory democracy. The course focuses on the contemporary United States, but we will devote some time to discuss civic participation in other countries as well.

Components: SEM.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 550. Advanced Seminar on American Politics. 3 Credit Hours.

This seminar provides students with a survey of significant research on major topics in American Politics. We will read influential works of the past, as well as recent cutting-edge research. Particular attention will be paid to discussing the methods and theories used in the research we will read. The purpose of the course is to acquaint students with the literature on American Politics, while also providing an opportunity for students to develop skills in critically assessing and skillfully conducting social science research.

Components: SEM.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 551. Productivity in the Public and Non-Profit Sectors. 3 Credit Hours.

Definitions and measures of productivity. Evaluation of government programs, and methods of productivity improvement.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

POL 553. The Environmental Movement: Groups, Beliefs and Values. 3 Credit Hours.

Exploration of the origins and political impact of environmentalism in the United States and, to a lesser extent, in the global context. Impact of democratic participation on environmental politics.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 555. Total Quality Public Service Management: Achieving High Performance Government. 3 Credit Hours.

Examination of the theory and practice of Total Quality Management (TQM) in the government and non-profit sector. Focuses on budgetary, customer service, employee and process improvements that facilitate increased public and non-profit performance. Special emphasis to TQM's contribution to improved service delivery.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

POL 556. Politics and Ethics. 3 Credit Hours.

Personal, professional, organizational, and societal levels of ethical analysis. Ethical theories will be reviewed and applied to actual cases that focus on public policy and/or the officials who create and implement it. Profiles of moral exemplars in public life will be examined.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POL 557. Ethical and Managerial Issues in Government, Business and Non-Profit Organization.. 3 Credit Hours.

Governments at all levels in this country--national (Larry Craig, David Vitter, Mark Foley, Bill Clinton, Randy Cunningham, Tom DeLay, William Jefferson, James Traficant, Robert Torricelli, Jack Abramoff), state (former Illinois, Louisiana, New York, Ohio, and Arizona governors), and local (Miami, Providence city officials; Miami-Dade, Broward, and Palm Beach counties)--have encountered scandals involving ethical wrongdoing. Businesses (Enron, Worldcom) and nonprofit organizations (Boy Scouts, United Way) have faced similar problems. Countless less-visible examples of unethical and ethical behavior occur in organizations daily. This course examines the causes and consequences of such actions and the managerial strategies and competencies needed to effectively cope with the ethical issues confronting individuals and organizations.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POL 558. From Electronic Government to Digital Governance. 3 Credit Hours.

Graduate and advanced undergraduate seminar explores the transition from electronic government (e-gov) to digital or d-governance, emphasizing political participation, citizen-centric public administration and the proliferation of global information technologies and social media.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

POL 559. International Organizations. 3 Credit Hours.

International organizations which, in addition to contributing to the solution of international problems, also help to provide rules and structures to manage state-to-state relationships.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 561. Ending Wars and Building Peace. 3 Credit Hours.

How local and international actors build sustainable peace strategically through peacekeeping, peace accords, reconciliation, education, human rights, international law, and state-building.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 563. Senior Thesis. 3 Credit Hours.

General reading, preparation of research design and collection of information for senior thesis.

Requisite: Plan of Political Science.

Components: THI.

Grading: GRD.

Typically Offered: Fall.

POL 564. Senior Thesis II. 3 Credit Hours.

Continuation of POL 563: writing and defense of the theses.

Requisite: Plan of Political Science.

Components: THI.

Grading: GRD.

Typically Offered: Spring.

POL 565. The World Before European Domination. 3 Credit Hours.

Examines the historical roots of the contemporary international system, and questions the standard Eurocentric perspective on the rise of the West to a dominant position in the global system.

Prerequisite: POL 203 or INS 101.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 566. Activism. 3 Credit Hours.

Explores what activism is, the history and developments of activism around the world, and which activists strategies work best. Assignments will send students into the community to participate in local politics, work with local organizations, and engage in activism.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 569. LGBTI Politics. 3 Credit Hours.

Describes and explains global variance in government policies of interest to lesbian, gay, bisexual, transgender and intersex citizens including sodomy laws, anti-discrimination ordinances, same-sex marriage and adoption, military service, and the right to change one's sex or identify as neither male nor female. POL 344 or WGS 344 Strongly Recommended

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 570. Uniting States in International Perspective. 3 Credit Hours.

How states form and fragment; The main actors in nation formation; the elements of continuity and change; the impact outsiders can have on the process.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

POL 571. Sex, Babies, and the State. 3 Credit Hours.

In one of the most profound revolutions of the past century, gender roles have irreversibly changed and equal rights for women and men has become a stated goal in western societies, even if not the reality. This course examines policies on reproduction, work and the family in advanced industrialized countries including Latin American Countries.

Prerequisite: POL 202.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 572. Government and Business. 3 Credit Hours.

Government-business-society relations with emphasis on the social, economic, political, technological, ethical, and ecological environment.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 575. The Politics of Civil- Military Relations. 3 Credit Hours.

Course examines the relationship between states and their soldiers across various historical periods and regional contexts, and how this relationship has been altered in an era where the viability of old structures of state authority are no longer self-evident.

Prerequisite: POL 203 or INS 101.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

POL 576. On Violence: The Politics of Extremes. 3 Credit Hours.

Literary and theoretical treatments are considered for what they can tell us about the causes, characteristics and consequences of violence. These insights are enlisted to help us understand violence enacted by states against their societies, societies against states, and within society itself.

Prerequisite: POL 203 or INS 101.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

POL 577. Security in South Asia: The Conflicts of Afghanistan, Pakistan, and India. 3 Credit Hours.

The security system of South Asia's northern reaches and the current conflict involving Afghanistan, Pakistan, and India: considerations of sovereignty and the role of frontiers in world politics.

Prerequisite: POL 203 or INS 101.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

POL 578. Energy and Security in Eurasia. 3 Credit Hours.

Engages the intersection of energy and security within the contested space of Eurasia.

Prerequisite: POL 202 or POL 203 or INS 101.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 579. The politics of post-communist transactions. 3 Credit Hours.

Examination of the creation, breakdown, and aftermath of communist governments in Eastern Europe and the USSR. Develops a theoretical framework for understanding cross-national patterns of post-communist development in the context of country-specific experiences.

Prerequisite: POL 202.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 580. Ethnicity, Nationalism and Secession. 3 Credit Hours.

Examination of the creation, breakdown, and aftermath of communist governments in Eastern Europe and the Soviet Union. Using empirical evidence from four case studies, develops a theoretical framework for understanding cross-national patterns of post-communist development in the context of country-specific experiences.

Prerequisite: POL 202 or POL 203 or INS 101.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

POL 581. Comparative Political Economy of Post-Industrial Democracies. 3 Credit Hours.

This seminar examines four key turning points in the development of capitalism: the industrial revolution, the aftermath of the depression and world wars, the oil crisis of the 1970's, and today's "globalization". We will compare the relationships between government and the economy in Western Europe, Canada, the U.S., Australia, New Zealand, and Japan in each period, and attempt to evaluate why these countries react similarly or differently to identical changes in world economy.

Prerequisite: POL 202.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 582. Political Economy of Development. 3 Credit Hours.

Overview of the principal theoretical paradigms of the development process Comparative analysis of issues such as the role of the state, strategies of industrialization, changes in social structure, basic needs and the trade-offs between growth and equity.

Prerequisite: POL 202.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 584. Contemporary Latin American Politics. 3 Credit Hours.

This course assumes a basic knowledge of Latin American politics, and is designed to foster deeper understanding of political processes in the region and to provide an overview of key debates among political scientists specializing in Latin America. We discuss issues related to democratic consolidation, political participation, representation and governance.

Prerequisite: POL 202.

Components: SEM.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 585. Post-Communist Russian Foreign Policy. 3 Credit Hours.

Exploration of the various forms of political movements in Latin America, including parties, populists and radical groups. Examines diverse means of organizing and mobilizing support, the range of goals sought, and the conditions that give rise to the various movements. Special attention to the contemporary revival of populism in the region and its implications for democracy. Prerequisite: POL 211 and 212 or graduate standing.

Prerequisite: POL 202.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 586. Conflict in the Middle East and Africa. 3 Credit Hours.

Introduction to major paradigms for the explanation of war and conflict in two of the most unstable regions of the world. Reading and class discussions on select cases of current and past conflicts in each region in order to discern patterns of conflict within and across regions, gain a clearer understanding of what drives violent conflict, and assess strategies of resolution.

Prerequisite: POL 202 Or POL 203 Or INS 101.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 588. Politics in China. 3 Credit Hours.

Development and nature of Chinese domestic politics in theory and practice; problems of political stability and conflict; the role of historical and cultural traditions, institutions, social, economic and personality factors in Chinese politics; process of change and problems of leadership succession; the significance of changes in the character and style of Chinese leadership.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

POL 589. Directed Research. 1-3 Credit Hours.

Provides an opportunity for students to assist faculty members with research for course credit. A student may only sign up if s/he has found a professor who has agreed to work with him/her. Does not count for credit in a 500-level seminar.

Components: RSC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 590. Directed Reading. 1-3 Credit Hours.

Provides an opportunity for students to organize an independent study with a particular tenure-line faculty member. A student may only sign up if s/he has found a professor who has agreed to work with him/her. This course does not count for credit in a 500-level seminar.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POL 591. International Security. 3 Credit Hours.

Analysis and evaluation of approaches to international conflict, resolution, reduction and stabilization such as international organization, law, collective security, balance of power, functionalism, world government, morality, and conscience. Special emphasis on recent problems and efforts at institutionalizing social control.

Prerequisite: POL 203 or INS 101.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POL 592. International Political Economy. 3 Credit Hours.

This course introduces students to the study of International Political Economy (IPE). It combines a focus on the main theoretical and methodological approaches used in the study of IPE with the analysis of historical and contemporary issues.

Prerequisite: POL 203 or INS 101.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POL 593. International Relations of the Middle East. 3 Credit Hours.

Regional and inter-regional analysis of the foreign relations of Middle Eastern nations, domestic and geopolitical factors.

Prerequisite: POL 203 or INS 101, and POL 387.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POL 594. European Security. 3 Credit Hours.

Examines regional security in Europe, focusing on NATO expansion, EU expansion, Russian foreign policy, and related issues.

Prerequisite: POL 203 or INS 101.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 595. Special Topics in Political Theory and Methods. 3 Credit Hours.

A seminar in Political Theory and Methods; designed to give the student a greater degree of insight and knowledge of a particular subject and to develop ability in the techniques of individual research, group discussion and analysis. The senior seminars may be taken in any sequence.

Components: SEM.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 596. Special Topics in Public Administration, Policy, and Law. 3 Credit Hours.

A seminar in public policy, administration and law; designed to give the student a greater degree of insight and knowledge of a particular subject and to develop ability in the techniques of individual research, group discussion and analysis. The senior seminars may be taken in any sequence.

Components: SEM.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 597. Special Topics in International Relations. 3 Credit Hours.

A seminar in International Relations; designed to give the student a greater degree of insight and knowledge of a particular subject and to develop ability in the techniques of individual research, group discussion and analysis. The senior seminars may be taken in any sequence.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 598. Special Topics in Comparative Politics. 3 Credit Hours.

A seminar in Comparative Politics; designed to give the student a greater degree of insight and knowledge of a particular subject and to develop ability in the techniques of individual research, group discussion and analysis. The senior seminars may be taken in any sequence.

Prerequisite: POL 202.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 599. Special Topics in American Politics. 3 Credit Hours.

A seminar in Comparative Politics; designed to give the student a greater degree of insight and knowledge of a particular subject and to develop ability in the techniques of individual research, group discussion and analysis.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 601. Budget and Financial Management and Administration. 3 Credit Hours.

Role of the budget in shaping public policy; managing public revenues; budgetary theory, politics, and fiscal management. Examples from state, municipal and federal governments.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

POL 602. Congressional Representation. 3 Credit Hours.

Examination of how and when citizens influence legislators' behavior. How legislators' floor behavior reflects citizens' preferences and how these preferences influence the formation of electoral coalitions.

Requisite: Graduate Standing.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 603. Special Topics in Comparative Politics. 3 Credit Hours.

A seminar in comparative politics, designed to give students a greater degree of knowledge of a particular subject, and to develop ability in the techniques of individual research and group discussion.

Requisite: Graduate Standing.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 604. The World Before European Domination. 3 Credit Hours.

Examines the historical roots of the contemporary international system, and questions the standard Eurocentric perspective on the rise of the West to a dominant position in the global system.

Requisite: Graduate Standing.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 605. Sex, Babies, and the State. 3 Credit Hours.

Examines policies on reproduction, work, and the family in a variety of national, with specific emphasis on Latin America.

Requisite: Graduate Standing.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 606. Organizational Dynamics and Management. 3 Credit Hours.

A seminar on organizational dynamics and management in public and non-profit organizations. Focus on organizational theories, leadership, behavior, goals, effectiveness, and change, with an emphasis on the distinctiveness of public organizations, public-private partnerships, new public management, and digital governance.

Prerequisite: POL 201 or POL 202 or POL 203 or INS 101.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 607. Politics, Sociology, and Economy in Contemporary Brazil. 3 Credit Hours.

Examines the social, economic, and cultural transformations shaping contemporary Brazilian politics.

Requisite: Graduate Standing.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 608. Equity and Diversity in Public Administration. 3 Credit Hours.

Examines federal and state policies, laws, and court decisions as means for helping public administrators develop policies and procedures that meet legal requirements and recognize the values of equity and diversity in the treatment of its citizenry and public employees.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 609. Issues in Judicial Politics. 3 Credit Hours.

Examines the Supreme Court of the United States (SCOTUS) through the lens of upcoming cases on the SCOTUS's docket and through recently decided cases that were of important legal precedent.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 610. Statistics for Politics and Public Administration. 3 Credit Hours.

This course focuses on the use of statistics to conduct quantitative research (i.e., statistics) in political science and public administration. The course emphasizes hands-on data work. Students will learn how to perform political analyses – and present findings in an appropriate manner – using SPSS statistical software.

Components: SEM.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 611. Security in the Arabian Peninsula. 3 Credit Hours.

Examines the security environment of the Arabian Peninsula.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 614. Art and Politics. 3 Credit Hours.

Explores the relationship between narratives, aesthetics, and the political/social world.

Requisite: Graduate Standing.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 615. Media Content Analysis. 3 Credit Hours.

There are few facets of our lives which are not directly affected by media content. From cell phones to televisions, the media is with us all the time. But what messages are contained in the mass media? What methods can we employ to study media content scientifically? This course will explore methods of analyzing media sources including movies, newspapers, magazines, and television. Course topics will include political bias, campaign coverage, and news content. Students will design their own projects and implement their own coding strategies.

Components: SEM.

Grading: GRD.

Typically Offered: Fall.

POL 616. Experiments in Political Science. 3 Credit Hours.

Examines experimental method of hypothesis testing, with specific examples in the study of politics.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 617. Introductory Statistical Methods in Political Science. 3 Credit Hours.

The tools needed to manipulate and analyze quantitative data rigorously so you may answer questions of political interest. First in a two-course sequence (followed by POL 618).

Requisite: Graduate Standing.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 618. Advanced Statistical Methods in Political Science. 3 Credit Hours.

The maximum likelihood framework for statistical inference in the study of politics. Second in a two-course sequence (preceded by POL 617).

Requisite: Graduate Standing.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 619. Introduction to Game Theory for Political Science. 3 Credit Hours.

The rudiments of non-cooperative game theory. Mainly intended for political science students, but presents applications from other academic disciplines such as economics, business administration, sociology, and psychology.

Requisite: Graduate Standing.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 620. Internship. 3 Credit Hours.

Provides advanced political science majors with an opportunity to participate in a structured, supervised internship. 25-35 page research paper required.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 621. Public Affairs Internship. 3 Credit Hours.

Opportunity for the advanced student specializing in public administration to participate in an administrative capacity in an agency of state or local government. Periodic conferences with adviser and paper required.

Requisite: Graduate Standing.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 622. Introduction to Graduate Public Administration. 3 Credit Hours.

Introduction to concepts, issues, problems, theories and process in the field of public administration and/or public management.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

POL 624. Non-Profit Organizations: Law, Policy, and Management. 3 Credit Hours.

This course teaches students the essential requirements for creation and operation of tax-exempt nonprofit organization in accordance with state and federal law. The course covers a wide range of relevant topics including guidelines for charitable giving and charitable solicitation, pitfalls that can result in personal liability for officers and directors, and statutory constraints on legislative lobbying and political activities.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

POL 625. Comparative Public Policy and Administration. 3 Credit Hours.

Comparison and analysis of the organizational and managerial policy problems of developed and developing nations. The administrative process will be considered within the institutional and cultural framework of each nation. Case studies will be used to focus on transition from traditional to modern techniques of public management.

Requisite: Graduate Standing.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 626. Administrative Law. 3 Credit Hours.

Administrative law is the study of the legal relationship of government agencies to legislatures, courts, and private parties. The course examines the legal dimensions of bureaucratic power and procedures as well as constitutional and statutory constraints on regulators and administrators. Topics include rule making, adjudication, investigation and enforcement, political controls on agencies, judicial review of agency decisions, governmental liability and immunity, public records and open meetings laws. Both federal law and Florida law are covered. The course assumes a basic knowledge of the American legal system, constitutional law and bureaucracy.

Requisite: Graduate Standing.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 627. Comparative Political Institutions. 3 Credit Hours.

The concept of institutionalism by studying three major sets of democratic institutions: electoral systems, legislatures, and political regimes.

Requisite: Graduate Standing.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 629. Conducting U.S. Elections. 3 Credit Hours.

Fair and free democratic elections are the heart of U.S. democracy. This course will examine who gets to vote, whether election laws and rules are fair (and fairly implemented), and proposals to reform the way elections are run.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

POL 630. Intelligence and National Security. 3 Credit Hours.

This course will study the US national security community structure and decision making process. The course will look at the National Security Council, the principal national security agencies (such as the CIA, Defense Department, and State Department), how they interact, and their roles in dividing and executing policy. We will also examine the role and function of senior policy decision makers such as the President. We will study recent policy challenges such as Iraq and Afghanistan as examples of National Security policy.

Requisite: Graduate Standing.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 631. Global Environment Politics. 3 Credit Hours.

Examination of the environment within the context of economic globalization. Contrasts the international trading regime and those regimes designed to protect the environment, with specific attention to the issues of global warming and biodiversity.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 634. Applied Policy Analysis. 3 Credit Hours.

Examines a variety of policy problems through the framework of problem definition, formulation of alternatives, assessment of alternatives, and policy impact evaluation. Students will also be introduced to cost-benefit analysis and evaluation methods.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 635. Comparative Legal Systems. 3 Credit Hours.

Considers the institutional and political roles of Courts from a comparative perspective. With a focus on judicial independence and judicial review, will consider the juridical systems of a variety of countries and regions including the US, the EU, Germany, France, Great Britain, Chile, Argentina, Russia, The Asian-Pacific Rim, South Africa, Israel, Central America and the Middle East.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 636. U.S. Health Care Crisis: Politics and Policies. 3 Credit Hours.

This seminar will explore the politics and policies of healthcare in the United States. Our examination of the current crisis in cost and coverage will draw on experience from the debates on comprehensive and incremental reform over the past decade. In addition, we will explore the politics and policies of other health and science issues. Students will be expected to attend every class and be actively involved in class discussions. There will be two examinations, one at mid-term and a final based on readings and course discussions.

Requisite: Graduate Standing.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 641. Philosophy of Law. 3 Credit Hours.

Case-based study of jurisprudence designed to illuminate and explain philosophies of law. Examination of theories of free expression; bio-ethical matters; theories of punishment and legal responsibility; and the placement of religious discourses in liberal systems of law. Special attention to cases involving fundamental rights and liberties; the role of the individual and the state in civil society; and the capacities of individuals to be legally competent in contemporary systems of law.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 643. Urban Politics. 3 Credit Hours.

Examination of sources of political power in urban areas and how they influence the policies pursued in those areas. Analysis of the role of economic power, protest actions, neighborhood groups, and voting to evaluate whether there is a bias in urban politics that systematically favors some groups over other and, if so, how likely it is that the bias can be overcome.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 644. Chinese Foreign Policy. 3 Credit Hours.

International relations of the People's Republic of China, in theory and in practice. Structure and context of foreign policy decision-making; domestic influences on the foreign policy making process. China as a global and regional actor.

Requisite: Graduate Standing.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 645. Environmental Policy Making. 3 Credit Hours.

Examination of different ethical approaches to the environment; the federal government's management of natural resources; selected environmental policies; international environmental policy issues. Topics include federal management of national grazing lands, national forests, and minerals in the public domain. Analyzes environmental policies such as air, water, toxic wastes, energy, and environmentally-related issues in international trade and national security.

Components: SEM.

Grading: GRD.

Typically Offered: Spring.

POL 646. Public Policy Process and Implementation. 3 Credit Hours.

Examination of public policy issue areas including education, health, welfare, urban mass transit. Limits to effectiveness of federal, state and local governments in providing services. Techniques for analyzing the effectiveness of public policies; research techniques for the assessment of future policy alternatives.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 647. Human Resource Management in Public Service. 3 Credit Hours.

Topics include human resource management in public service: job analysis and design, evaluation and appraisal, recruitment and interviewing, training and development, wages and benefits, and health and safety. Unionization, regulation of wages, hours and working conditions, financial security for workers, manpower planning and job anti-discrimination legislation are considered.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 648. Civic Participation and Democracy. 3 Credit Hours.

Citizens participate in the governing process by communicating their preferences and pressuring the government to respond. In this course we examine these various mechanisms of "civic participation", and discuss the meaning and consequences of participatory democracy. The course focuses on the contemporary United States, but we will devote some time to discuss civic participation in other countries as well.

Requisite: Graduate Standing.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 650. Advanced Seminar On American Politics. 3 Credit Hours.

This seminar provides students with a survey of significant research on major topics in American Politics. We will read influential works of the past, as well as recent cutting-edge research. Particular attention will be paid to discussing the methods and theories used in the research we will read. The purpose of the course is to acquaint students with the literature on American Politics, while also providing an opportunity for students to develop skills in critically assessing and skillfully conducting social science research.

Requisite: Graduate Standing.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 651. Productivity in the Public and Non-Profit Sectors. 3 Credit Hours.

Definitions and measures of productivity. Evaluation of government programs, and methods of productivity improvement.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

POL 652. Total Quality Public Service Management: Achieving High Performance Government. 3 Credit Hours.

Examination of the theory and practice of Total Quality Management (TQM) in the government and non-profit sector. Focuses on budgetary, customer service, employee and process improvements that facilitate increased public and non-profit performance. Special emphasis to TQM's contribution to improved service delivery.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

POL 653. The Environmental Movement: Groups, Beliefs and Values. 3 Credit Hours.

Exploration of the origins and political impact of environmentalism in the United States and, to a lesser extent, in the global context. Impact of democratic participation on environmental politics.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

POL 654. Politics and Ethics. 3 Credit Hours.

Personal, professional, organizational, and societal levels of ethical analysis. Ethical theories will be reviewed and applied to actual cases that focus on public policy and/or the officials who create and implement it. Profiles of moral exemplars in public life will be examined.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POL 655. Public Policy and Health. 3 Credit Hours.

Development of public policy at the federal, state and local level. Policy process, models of policy analysis, policy development in several government service areas, and plans for policy change. Special emphasis on health policy formulation, implementation and the use of epidemiological tools in health policy analysis.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

POL 656. Public Service Internship. 3-6 Credit Hours.

Individual on-the-job work experience; arranged and monitored by a faculty member.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 657. Ethical and Managerial Issues in Government, Business and Non-Profit Organization.. 3 Credit Hours.

Governments at all levels in this country—national (Larry Craig, David Vitter, Mark Foley, Bill Clinton, Randy Cunningham, Tom DeLay, William Jefferson, James Traficant, Robert Torricelli, Jack Abramoff), state (former Illinois, Louisiana, New York, Ohio, and Arizona governors), and local (Miami, Providence city officials; Miami-Dade, Broward, and Palm Beach counties)—have encountered scandals involving ethical wrongdoing. Businesses (Enron, Worldcom) and nonprofit organizations (Boy Scouts, United Way) have faced similar problems. Countless less visible examples of unethical and ethical behavior occur in organizations daily. This course examines the causes and consequences of such actions and the managerial strategies and competencies needed to effectively cope with the ethical issues confronting individuals and organizations.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POL 658. From Electronic Government to Digital Governance. 3 Credit Hours.

Graduate and advanced undergraduate seminar explores the transition from electronic government (e-gov) to digital or d-governance, emphasizing political participation, citizen-centric public administration and the proliferation of global information technologies and social media.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

POL 659. International Organizations. 3 Credit Hours.

Examines international organizations which, in addition to contributing to the solution of international problems, also help to provide rules and structures to manage state-to-state relationships.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 661. Ending Wars and Building Peace. 3 Credit Hours.

Examines how local and international actors build sustainable peace strategically through peace-keeping, peace accords, reconciliation, education, human rights, international law, and state-building.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 669. LGBTI Politics. 3 Credit Hours.

Describes and explains global variance in government policies of interest to lesbian, gay, bisexual, transgender and intersex citizens including sodomy laws, anti-discrimination ordinances, same-sex marriage and adoption, military service, and the right to change one's sex or identify as neither male nor female.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 670. Uniting States in International Perspective. 3 Credit Hours.

How states form and fragment; the main actors in nation formation; the elements of continuity and change; the impact outsiders can have on the process.

Requisite: Graduate Standing.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 671. Government and Business. 3 Credit Hours.

Examines government-business-society relations with emphasis on the social, economic, political, technological, ethical, and ecological environment.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 672. Program Planning, Research and Evaluation in Criminal Justice and Corrections, I. 3 Credit Hours.

Identification of long-term goals and intermediate objectives in the criminal justice process. Formulation of operations, evaluation techniques and the relationships among research, evaluation and management decisions.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POL 673. Program Planning, Research and Evaluation in Criminal Justice and Corrections, II. 3 Credit Hours.

Continuation of POL 672. Topics include types of evaluation and the design of evaluative studies. POL 672 and POL 673 are designed to facilitate the formulation and execution of a thesis.

Prerequisite: POL 672.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POL 675. The Politics of Civil- Military Relations. 3 Credit Hours.

Course examines the relationship between states and their soldiers across various historical periods and regional contexts, and how this relationship has been altered in an era where the viability of old structures of state authority are no longer self-evident.

Requisite: Graduate Standing.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 676. On Violence: The Politics of Extremes. 3 Credit Hours.

Literary and theoretical treatments are considered for what they can tell us about the causes, characteristics and consequences of violence. These insights are enlisted to help us understand violence enacted by states against their societies, societies against states, and within society itself.

Requisite: Graduate Standing.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 677. Security in South Asia. 3 Credit Hours.

The security system of South Asia's northern reaches and the current conflict involving Afghanistan, Pakistan, and India: considerations of sovereignty and the role of frontiers in world politics.

Requisite: Graduate Standing.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 678. Energy and Security in Eurasia. 3 Credit Hours.

Engages intersection of energy and security within the contested space of Eurasia.

Requisite: Graduate Standing.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 680. Ethnicity, Nationalism, and Secession. 3 Credit Hours.

Examination of the creation, breakdown, and aftermath of communist governments in Eastern Europe and the Soviet Union. Using empirical evidence from four case studies, develops a theoretical framework for understanding cross-national patterns of post-communist development in the context of country specific experiences.

Requisite: Graduate Standing.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 681. Comparative Political Economy of Post-Industrial Democracies. 3 Credit Hours.

This seminar examines four key turning points in the development of capitalism: the industrial revolution, the aftermath of the depression and world wars, the oil crisis of the 1970's, and today's "globalization". We will compare the relationships between government and the economy in Western Europe, Canada, the U.S., Australia, New Zealand, and Japan in each period, and attempt to evaluate why these countries react similarly or differently to identical changes in world economy.

Requisite: Graduate Standing.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 682. Political Economy of Development. 3 Credit Hours.

Overview of the principal theoretical paradigms of the development process Comparative analysis of issues such as the role of the state, strategies of industrialization, changes in social structure, basic needs and the trade-offs between growth and equity.

Requisite: Graduate Standing.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 683. Seminar: Topics in the Comparative Study of the Foreign Policy of China. 3 Credit Hours.**Components:** LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**POL 684. Contemporary Latin American Politics. 3 Credit Hours.**

This course assumes a basic knowledge of Latin American politics, and is designed to foster deeper understanding of political processes in the region and to provide an overview of key debates among political scientists specializing in Latin America. We discuss issues related to democratic consolidation, political participation, representation and governance.

Requisite: Graduate Standing.

Components: LEC.**Grading:** GRD.**Typically Offered:** Fall, Spring, & Summer.**POL 685. Seminar in the Dynamics of Soviet Society. 3 Credit Hours.**

Forces and factors that shape and continue to influence the development of social, political and economic institutions in the Former Soviet Union and their evolving role in decision making.

Components: LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**POL 686. Conflict in the Middle East and Africa. 3 Credit Hours.**

Introduction to major paradigms for the explanation of war and conflict in two of the most unstable regions of the world. Reading and class discussions on select cases of current and past conflicts in each region in order to discern patterns of conflict within and across regions, gain a clearer understanding of what drives violent conflict, and assess strategies of resolution.

Requisite: Graduate Standing.

Components: LEC.**Grading:** GRD.**Typically Offered:** Fall, Spring, & Summer.**POL 688. Politics in China. 3 Credit Hours.**

Development and nature of Chinese domestic politics in theory and practice; problems of political stability and conflict; the role of historical and cultural traditions, institutions, social, economic and personality factors in Chinese politics; process of change and problems of leadership succession; the significance of changes in the character and style of Chinese leadership.

Requisite: Graduate Standing.

Components: LEC.**Grading:** GRD.**Typically Offered:** Fall, Spring, & Summer.**POL 689. Directed Research. 1-3 Credit Hours.**

An opportunity for graduate students to assist faculty members with research for course credit. A student may only sign up if s/he has found a professor who has agreed to work with him/her.

Components: RSC.**Grading:** GRD.**Typically Offered:** Fall, Spring, & Summer.**POL 690. Directed Readings. 3 Credit Hours.**

Provides an opportunity for students to organize an independent study with a particular tenure-line faculty member. A student may only sign up if s/he has found a professor who has agreed to work with him/her.

Requisite: Graduate Standing.

Components: LEC.**Grading:** GRD.**Typically Offered:** Fall, Spring, & Summer.**POL 691. International Security. 3 Credit Hours.**

Analysis and evaluation of approaches to international conflict, resolution, reduction and stabilization such as international organization, law, collective security, balance of power, functionalism, world government, morality, and conscience. Special emphasis on recent problems and efforts at institutionalizing social control.

Requisite: Graduate Standing.

Components: LEC.**Grading:** GRD.**Typically Offered:** Fall, Spring, & Summer.

POL 692. International Political Economy. 3 Credit Hours.

This course introduces students to the study of International Political Economy (IPE). It combines a focus on the main theoretical and methodological approaches used in the study of IPE with the analysis of historical and contemporary issues.

Requisite: Graduate Standing.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 693. International Relations of the Middle East. 3 Credit Hours.

Regional and inter-regional analysis of the foreign relations of Middle Eastern nations, domestic and geopolitical factors.

Requisite: Graduate Standing.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 694. European Security. 3 Credit Hours.

Examines regional security in Europe, focusing on NATO expansion, EU expansion, Russian foreign policy and related issues.

Requisite: Graduate Standing.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 695. Special Topics in Political Theory and Methods. 1-3 Credit Hours.

A seminar in Political Theory and Methods; designed to give the student a greater degree of insight and knowledge of a particular subject and to develop ability in the techniques of individual research, group discussion and analysis. The senior seminars may be taken in any sequence.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POL 696. Special Topics in Public Administration, Policy, and Law. 1-3 Credit Hours.

A seminar in public policy, administration and law; designed to give the student a greater degree of insight and knowledge of a particular subject and to develop ability in the techniques of individual research, group discussion and analysis.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

POL 697. Special Topics in International Relations. 3 Credit Hours.

A seminar in international relations; designed to give the student a greater degree of insight and knowledge of a particular subject and to develop ability in the techniques of individual research, group discussion and analysis. The senior seminars may be taken in any sequence.

Requisite: Graduate Standing.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 698. Special Topic in American Politics. 3 Credit Hours.

A graduate seminar in American Politics designed to give the student a greater degree of insight and knowledge of a particular subject and to develop ability in the techniques of individual research, group discussion, and analysis.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 699. Directed Readings. 1-3 Credit Hours.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 810. Master's Thesis. 3-6 Credit Hours.

Designed for student working on masters' theses. Not to exceed six credit hours, as determined by student's advisor. Credit is not awarded until the thesis has been accepted.

POL 810 MPA Program.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POL 820. Research in Residence. 1 Credit Hour.

Research in residence for thesis or master's degree after the student has enrolled for the permissible cumulative total in POL 710 (usually six credits). Credit not granted; regarded as full time residence.

Components: THI.

Grading: SUS.

Typically Offered: Offered by Announcement Only.

Portuguese (POR)

POR 101. Elementary Portuguese I. 3 Credit Hours.

Drill in pronunciation, fundamental grammatical principles, simple reading and translation, oral and written exercises. Normally, not open to students who have completed two years of Portuguese. Closed to native speakers.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POR 102. Elementary Portuguese II. 3 Credit Hours.

Continuation of POR 101. Closed to native speakers.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POR 105. Beginning Portuguese for Spanish Speakers. 3 Credit Hours.

The equivalent of one year of beginning-level college Portuguese, this course is specifically intended for students who have completed three or more years of high school Spanish or one year of Spanish at another university. Also intended for heritage and native speakers of Romance Languages, or students with one or more years of college study of Spanish, Italian, or French. Closed to native speakers of Portuguese.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POR 195. Transfer Credit. 1-3 Credit Hours.

Awarded for 100-level course work at another institution for which UM has no direct equivalent.

Components: LEC.

Grading: CNC.

Typically Offered: Fall, Spring, & Summer.

POR 201. Intermediate Portuguese I. 3 Credit Hours.

Integrated grammar review. Diverse selection of readings: stories, plays, essays, interviews. Practice in speaking and in writing. Class conducted in Portuguese. Not open to native speakers.

Prerequisite: POR 102 or POR 105.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

POR 202. Intermediate Portuguese II. 3 Credit Hours.

Intensive preparation for 300-level work through various genres (portraits, descriptions, short stories, film reviews, magazines, a novel). Workshop format, the course also develops conversational skills. Students complete a number of written projects (including an analytic paper). Class conducted in Portuguese. Closed to native speakers.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

POR 295. Transfer Credit. 1-3 Credit Hours.

Awarded for 200-level course work at another institution for which UM has no direct equivalent.

Components: LEC.

Grading: CNC.

Typically Offered: Fall, Spring, & Summer.

POR 301. Interpreting Literary and Cultural Texts in Portuguese. 3 Credit Hours.

Tools for the interpretation and analysis of literary and cultural materials from the Portuguese-speaking world. Acquisition of terminology and theories through the study of the main literary genres (prose, poetry, and drama) and a complementary genre of cultural analysis (e.g., film studies, cultural studies, etc.). Emphasis on critical writing skills. Closed to native speakers formally educated in Portuguese.

Prerequisite: POR 202.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POR 310. Brazilian Women Writers in Translation. 3 Credit Hours.

Selected contemporary Brazilian women writers. Conducted in English. Emphasis on representations of nationality, race, class, ethnicity, gender, and sexuality. May be used to fulfill the humanities literature requirement.

Prerequisite: ENG 106.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POR 321. Studies in Luso-Brazilian Literary Themes. 3 Credit Hours.

The study of literature through thematic readings. May be repeated for credit if topics vary.

Prerequisite: POR 202.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

POR 322. Topics in Luso-Brazilian Cultures. 3 Credit Hours.

Cultural issues in the Portuguese-speaking world. Topics include media, religion, language in society, popular and mass culture, the arts, immigration, social movements, race, ethnicity, and gender. May be repeated for credit if topics vary.

Prerequisite: POR 202.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

POR 353. Brazilian Poetry. 3 Credit Hours.

Brazilian poetry from colonial times to the present. Emphasis on major figures. Taught in Portuguese. Humanities literature credit.

Prerequisite: POR 202.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POR 354. The Modern Brazilian Novel. 3 Credit Hours.

The Brazilian novel since 1865. Emphasis on major works. Conducted in Portuguese. POR minors must complete all written assignments in Portuguese. Others may opt to write in English, Portuguese, or Spanish. Fulfills humanities literature requirement.

Prerequisite: POR 202.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POR 363. Contemporary Luso-Brazilian Film. 3 Credit Hours.

Portuguese, Brazilian, and Lusophone African cinema from the 1950s to the present. POR minors must complete all written assignments in Portuguese; Others may opt to write in English, Portuguese, or Spanish. Conducted in Portuguese. Fulfills Humanities literature requirement.

Prerequisite: POR 202.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POR 364. The Brazilian Short Story. 3 Credit Hours.

The Brazilian short story since 1890. Conducted in Portuguese. POR minors must complete all written assignments in Portuguese. Others may opt to write in English, Portuguese, or Spanish. Fulfills Humanities literature requirement.

Prerequisite: POR 202.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POR 391. Directed Readings. 1-3 Credit Hours.

Individual work on a topic not covered in the regular curriculum. May be repeated on a different topic.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POR 394. Internshp. 3 Credit Hours.

The internship is intended to provide the student with an opportunity to apply analytical, interpretive, expressive, and creative skills developed in coursework. Internships ordinarily take place outside the University. They involve UM-faculty supervision as well as supervised on-site experience in an Portuguese-speaking cultural, business, or not-for-profit organization. Student needs to fill out the internship application form. Normally 40 internship hours are required per credit earned (the host will supply documentary evidence of hours worked).

Prerequisite: POR 202.

Components: PRA.

Grading: GRD.

Typically Offered: Fall & Spring.

POR 395. Transfer Credits. 1-3 Credit Hours.

Awarded for 300-level course work at another institution for which UM has no direct equivalent.

Components: LEC.

Grading: CNC.

Typically Offered: Fall, Spring, & Summer.

POR 396. Transfer Credits. 1-3 Credit Hours.

Awarded for course work at another institution for which UM has no direct equivalent.

Components: LEC.

Grading: GRD.

POR 397. Transfer Credits. 1-3 Credit Hours.

Awarded for course work at another institution for which UM has no direct equivalent.

Components: LEC.

Grading: GRD.

POR 398. Transfer Credits. 1-3 Credit Hours.

Awarded for course work at another institution for which UM has no direct equivalent.

Components: LEC.

Grading: GRD.

POR 399. Transfer Credits. 1-3 Credit Hours.

Awarded for course work at another institution for which UM has no direct equivalent.

Components: LEC.

Grading: GRD.

POR 495. Transfer Credit. 1-3 Credit Hours.

Awarded for 400-level course work at another institution for which UM has no direct equivalent.

Components: LEC.

Grading: CNC.

Typically Offered: Fall, Spring, & Summer.

POR 591. Directed Readings in Portuguese. 1-3 Credit Hours.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POR 592. Directed Readings in Portuguese. 1-3 Credit Hours.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POR 593. Directed Readings in Portuguese. 1-3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POR 641. Elementary POR I for Graduate Students. 0 Credit Hours. 0 Credit Hours.

Designed to develop graduate students' communicative abilities in speaking, reading, writing, and comprehending Portuguese, and to provide an introduction to the Lusophone world.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POR 642. Elementary Portuguese II for Grad Students. 0 Credit Hours.

Continuation of POR 641. Designed to develop graduate students communicative abilities in speaking, reading, writing, and comprehending, Portuguese, and continued engagement with the Portuguese-speaking world. 0 Credit Hours.

Pre-Requisite: POR 641.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POR 645. Beginning Portuguese for Graduate Research (0 Credits). 0 Credit Hours.

The equivalent of one year of beginning-level college Portuguese, in preparation for study of Portuguese at the intermediate level. Designed to develop graduate students' communicative abilities in speaking, reading, writing, and comprehending Portuguese, and continued engagement with the Portuguese speaking world.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POR 651. Intermediate POR I for Graduate Research. 0 Credit Hours.

For graduate students with previous study of elementary-level Portuguese who will carry out research related to the Portuguese-speaking world. Designed to enhance graduate students' communication skills at the intermediate level of proficiency.

Pre-Requisite: POR 642.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POR 652. Intermediate Portuguese II for Graduate Research (0 Credit). 0 Credit Hours.

For students with previous study of Portuguese at the intermediate level who will carry out research related to the Portuguese-speaking world. Designed to enhance graduate students' communication skills at the intermediate-high level of proficiency.

Pre-Requisite: POR 651.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POR 691. Topics in Luso-Brazilian Studies. 3 Credit Hours.

Graduate equivalent of POR courses listed at the 300-level.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POR 692. Directed Readings in Portuguese. 1-3 Credit Hours.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

Program In Biomedical Sciences (PIB)

PIB 700. Journal Club. 1 Credit Hour.

All PIBS students are required to attend one journal club or seminar each week.

Components: SEM.

Grading: SUS.

Typically Offered: Fall & Spring.

PIB 701. Introduction to Biomedical Sciences. 5 Credit Hours.

This course surveys fundamentals of molecular and cellular biology that underly all modern biomedical research. Lectures are organized into modules that cover Proteins and DNA, Gene Expression, Signaling and Membranes, Cells, and Development. A final module covers immunology, organ systems, and genetics. Experimental techniques are emphasized throughout, with the first week of the course devoted to a bootcamp on common biomedical methods.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PIB 702. Scientific Reasoning. 3 Credit Hours.

This course teaches scientific reasoning by critical reading of primary research papers in a small-group setting. Multiple small groups are offered every week and students can choose from different topics related to lectures in the companion PIB 701 course. Research papers are discussed in two 1-hour sessions each week.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PIB 705. Biostatistics for the Biosciences. 3 Credit Hours.

This is an introductory course that will cover the basics of applied statistics. The course will emphasize a practical understanding of statistical concepts: the goal is to prepare you to be able to properly analyze and interpret data from your research, not to turn you into a statistician. As such, the structure of the course is designed to give you lots of hands-on experience with data and statistical software, and to teach you how to proceed when you encounter novel problems in the future (e.g., data that you're not quite sure how to analyze). An overall goal of the course is to prepare you to be able to intelligently assess the statistics commonly encountered in journal articles within your field and provide you with the fundamental skills required for more advanced statistical methods when you later encounter the need.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PIB 706. Bioinformatics for the Biomedical Sciences. 2-4 Credit Hours.

PIBS 706 introduces graduate students to Bioinformatics in two parts. The first half of the course (7 weeks) covers introductory python programming for the bioscientist with hands-on coding and a programming project. The second half of the course covers analysis of biological data from primary sequences (1D), secondary and tertiary structures (2D/3D), and transcriptomic, functional and pathway analysis (4D). The course will be case-based and students will be graded on assignments rather than exams.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PIB 731. Laboratory Research. 1-6 Credit Hours.

Laboratory rotations familiarize students with a variety of modern techniques in biomedicine and potential mentors for their dissertation projects. One credit is awarded per rotation.

Components: LAB.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

PIB 780. Research Ethics. 1 Credit Hour.

The NIH Guide for Grants and Contracts stipulates that Institutions receiving support for National Research Service Award Training Grants are required to develop a program in the principles of scientific integrity. This program should be an integral part of the proposed training effort.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PIB 782. Professional Development: Skills for Success I. 1 Credit Hour.

This workshop will teach students the basics on how to: manage your career, choose a rotation lab / mentor, read a scientific paper, write a lab report and present in the journal club and lab meetings.

Components: LEC.

Grading: SUS.

Typically Offered: Fall.

PIB 783. Professional Development: Skills for Success II. 1 Credit Hour.

This workshop will teach students the basics on how to: write a fellowship and scientific paper as well as the proper and ethical handling of research data.

Components: LEC.

Grading: SUS.

Typically Offered: Spring.

PIB 784. Practical Graduate Teaching. 1 Credit Hour.

Senior graduate students have the opportunity to participate in Graduate School teaching by evaluating presentations, teaching in small groups, and mentoring first-year graduate students in the Program in Biomedical Sciences. The overarching goal is to prepare future academicians in the complex process of training accomplished, well-rounded scientists. The activities required from the students would be: Participate in the mentoring program; read and evaluate abstracts of PIBS student rotations; participate of PIBS rotation presentations, ask questions; provide feedback of rotation presentations (abstracts and oral) to PIBS students within small groups; and provide mentoring to PIBS students in PIB701 topics.

Prerequisite: PIB 701.

Components: FLD.

Grading: SUS.

Typically Offered: Fall & Spring.

PIB 785. PIBS Bioinformatics Workshop. 1 Credit Hour.

The aim of this workshop is to introduce graduate students to basic bioinformatics data retrieval and analysis as relevant to bio-medical research. The sessions will include discussion on focused topics and hands-on, project-based exercises. Only publicly available databases and web-tools will be used, no programming will be taught.

Components: WKS.

Grading: SUS.

Typically Offered: Summer.

PIB 830. Doctoral Dissertation. 1-12 Credit Hours.

Required for all PhD candidates. First-year students generally take one credit of doctoral dissertation in their first summer semester then continue in program specific dissertation credit through graduation.

Components: THI.

Grading: SUS.

Typically Offered: Summer.

Psychology (PSY)

PSY 106. Freshman Advising Contact Term (Fact). 1 Credit Hour.

Educates students about the structure and function of a research university, introduces them to the academic rules and regulations of the University of Miami and the Department of Psychology, enables them to think critically about their own graduation plan, and prepares them to enter the professional world.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PSY 110. Introduction to Psychology. 3 Credit Hours.

A survey of modern scientific psychology. Topics include learning, memory, perception, cognition, personality, motivation, emotion, development, abnormal psychology, and social psychology. Participation in a small number of experiments is required to ensure that students become acquainted first hand with the experimental laboratory methods used in Psychology. Students may choose to satisfy this requirement by writing a small number of methodology papers instead.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

PSY 175. Special Topics. 1-3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PSY 190. Faculty Overview of Research and Undergraduate Mentoring (FORUM). 1 Credit Hour.

Critical discussion of research reports in psychology.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PSY 206. Transfer to the University of Miami (TUMS). 1 Credit Hour.

Educates students about the structure and function of a research university, introduces them to the academic rules and regulations of the University of Miami and the Department of Psychology, enables them to think critically about their own graduation plan, integrates them into the social atmosphere of the University, and prepares them to enter the professional world.

Requisite: Permission of a UASP advisor, C- or higher in PSY 110.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

PSY 210. Social Psychology. 3 Credit Hours.

The major theories, methods and research findings in social psychology. Attitude formation and change, person perception, interpersonal attraction, aggression, group structure, leadership, conformity and mass phenomena. Emphasizes the individual as the basic unit of analysis (compare SOC 302). Prerequisite: C- or higher in PSY 110.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

PSY 220. Psychobiology. 3 Credit Hours.

Behavior viewed from a biological perspective. Survey of biological factors subserving sensation, perception, sleep, emotions, motivation, learning, memory, and development

Prerequisite: C- or higher in PSY 110.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

PSY 230. Child and Adolescent Development. 3 Credit Hours.

Survey of significant aspects of growth and development throughout the lifespan. Emphasis placed on childhood and adolescence.

Prerequisite: C- or higher in PSY 110.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

PSY 240. Abnormal Psychology. 3 Credit Hours.

Diagnostic formulations of the clinical syndromes; theories of psychopathological states.

Prerequisite: C- or higher in PSY 110.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

PSY 250. Cognitive Psychology. 3 Credit Hours.

Survey of theory and research on human information processing and cognitive processes.

Prerequisite: C- or higher in PSY 110.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

PSY 260. Personality Psychology. 3 Credit Hours.

A survey of the area of personality, including the relation of personality to general psychology, history of theory and research in the field, definition, assessment, and research findings in major substantive areas.

Prerequisite: C- or higher in PSY 110.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

PSY 270. Industrial and Organizational Psychology. 3 Credit Hours.

Applications of psychology in business, industry, and to organizational effectiveness in general. Supervisory, leadership, morale, personnel selection, training, human factors engineering, and consumer psychology.

Prerequisite: C- or higher in PSY 110.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

PSY 275. Special Topics. 3 Credit Hours.

This course focuses on the features that characterize science and the ways that pseudoscience (e.g., ESP, astrology, energy therapy, aliens, ghosts) deviates from these. Students will learn about the factors that influence human thinking, decision making, and behavior as well as how to critically evaluate the credibility of claims and arguments. This course will help students improve their analytical and reasoning skills, support their arguments and evaluate the arguments made by others, and become better consumers of information.

Prerequisite: C- or higher in PSY 110.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

PSY 280. Introduction to Research Projects I. 1-3 Credit Hours.

Students assist on a research project in psychology under supervision of a faculty member. Activities include library research, data collection and management, and attendance at research team meetings.

Prerequisite: PSY 110. Requisite: Permission of a UASP advisor.

Components: IND.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

PSY 290. Introduction to Research Methods. 3 Credit Hours.

An introduction to research methods in psychology. We will discuss the scientific concepts, principles, and ways of thinking that are central to the study of psychology. Topics to be covered include the goals of psychological research, ethical issues in the design and implementation of research studies, research design strategies and types of measurement, and methods of presenting data. A variety of in-class assignments will provide students with the opportunity to reflect upon the ways in which research is conducted, presented, and interpreted.

Prerequisite: PSY 110 and MTH 101 or mathematics placement above MTH 101. Corequisite: PSY 291. Requisite: PSY or NEU major.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

PSY 291. Introduction to Biobehavioral Statistics. 3 Credit Hours.

The basics of descriptive and inferential statistics, but the focus will be on the latter. We will cover only enough descriptive statistics to enable us to introduce the inferential concepts of regression, t-tests ANOVA and Chi Square.

Prerequisite: PSY 110 and MTH 101 or mathematics placement above MTH 101. Co-requisite: PSY 290. Requisite: PSY or NEU Major.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

PSY 292. Introduction to Biobehavioral Statistics for Non-Majors. 3 Credit Hours.

The basics of descriptive and inferential statistics, but the focus will be on the latter. Descriptive statistics to introduce the inferential concepts of regression, t-tests ANOVA and Chi Square.

Prerequisite: PSY 110 and MTH 101 or math placement above MTH 101.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

PSY 305. Introduction to Research and Graduate School. 1 Credit Hour.

Introduction to research and graduate school in psychology and psychology-related fields. The course will focus on different opportunities available to students at the University and on the graduate school application process.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PSY 306. Introduction to Research and Graduate School. 1 Credit Hour.

Introduction to research and graduate school in psychology and psychology-related fields. The course will focus on different opportunities available to students at tile University and on the graduate school application process.

Requisite: Permission of a UASP advisor, 2.5 PSY GPA and 12 credits in PSY courses including PSY 291 or PSY 292.

Components: LEC.

Grading: GRD.

PSY 310. Attitudes and Persuasion. 3 Credit Hours.

An analysis of the major theories and research findings relating to attitude formation and change, including a review of widely used persuasion techniques.

Requisite: 2.5 PSY GPA and 12 credits in PSY courses including PSY 291 or PSY 292 or 2.5 PSY GPA, 9 credits in PSY courses including PSY 291 or PSY 292, and 3 credits in MKT, CAD, COM, COS, CNJ, CPR, or CVJ courses.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PSY 311. Emotion. 3 Credit Hours.

Theory and research concerning the development, arousal, and expression of emotional reaction.

Requisite: 2.5 PSY GPA, 12 credits in PSY courses including PSY 291 or PSY 292 or 2.5 PSY GPA, 9 credits in PSY courses including PSY 291 or PSY 292, and 3 credits in BIL courses.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

PSY 312. Psychology of Gender. 3 Credit Hours.

Psychological theories and research related to understanding issues of gender across the lifespan.

Requisite: 2.5 GPA, 12 Credits in PSY including PSY 291 or PSY 292.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

PSY 313. Romantic Relations. 3 Credit Hours.

An introduction to how social scientists think about, study, and intervene with romantic relationships.

Requisite: 2.5 GPA, 12 Credits in PSY including PSY 291 or PSY 292.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PSY 320. Psychology of Drugs and Behavior. 3 Credit Hours.

The psychological and physiological effects of drugs. Includes psychosocial aspects of drug use and the treatment and prevention of abuse. An introduction to psychopharmacology.

Requisite: 2.5 PSY GPA, 12 credits in PSY courses including PSY 220 and PSY 291 or PSY 292 or 2.5 PSY GPA, 9 credits in PSY courses including PSY 291 or PSY 292, and 3 credits in BIL 150 or higher or CHM 111 or higher.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PSY 330. Psychology of Language Development. 3 Credit Hours.

The study of language acquisition, primarily focusing on infancy through 5 years. Topics covered include biological bases of language, sound discrimination abilities, babbling and speech production.

Requisite: 2.5 GPA and 12 Credits in PSY courses including PSY 230, PSY 291 or PSY 292.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PSY 331. Psychology of Adulthood and Aging. 3 Credit Hours.

Major developments during the middle and later years of adulthood including changes in family and peer relationships, cognitive changes, physical changes, and psychological aspects of death and dying.

Requisite: 2.5 GPA and 12 Credits in PSY courses including PSY 230, PSY 291 or PSY 292.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PSY 345. Abnormal Child Psychology. 3 Credit Hours.

Reviews definitions, theories, and causes of mental and cognitive disorders in youth, including anxiety, depression, conduct problems, and learning and intellectual disabilities.

Requisite: 2.5 GPA and 12 Credits in PSY courses including PSY 230, PSY 291 or PSY 292.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

PSY 355. Psychology of Thinking and Learning in Children. 3 Credit Hours.

Development of perceptions, thought, and language processes throughout the lifespan with an emphasis on early and middle childhood.

Requisite: 2.5 GPA and 12 Credits in PSY courses including PSY 230, PSY 291 or PSY 292.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

PSY 356. Psychology of Intellectual and Developmental Disabilities. 3 Credit Hours.

The etiological, social, and psychological aspects of intellectual and developmental disabilities.

Requisite: 2.5 PSY GPA and 12 credits in PSY courses including PSY 230 and PSY 291 or PSY 292 or 2.5 PSY GPA, 9 credits in PSY courses including PSY 230 and PSY 291 or PSY 292, and 3 credits in BIL or TAL courses.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PSY 360. Personality Theory. 3 Credit Hours.

The role of structure, development, dynamics, individual differences, assessments, and deviations.

Requisite: 2.5 GPA, 12 Credits in PSY including PSY 291 or PSY 292.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

PSY 370. Psychology of Human Sexual Behavior. 3 Credit Hours.

Interaction of biological and social factors in normal sexual development, and behavior patterns; etiologies of dysfunctions, paraphilias and gender-identity disorders; assessment and intervention procedures.

Requisite: 2.5 PSY GPA and 12 credits in PSY courses including PSY 291 or PSY 292 or 2.5 PSY GPA, 9 credits in PSY courses including PSY 291 or PSY 292, and 3 credits in BIL 150 or higher, CHM 103 or higher or HCS 212.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PSY 371. Stress Management. 3 Credit Hours.

Physiology and psychology of stress, with emphasis on mind-body (stress-health) connection. Integrates scientific knowledge with practice techniques such as muscle relaxation, cognitive restructuring, meditation, anger management, yoga, exercise, assertiveness training, and social support.

2.5 PSY GPA and 12 credits in PSY courses including PSY 291 or PSY 292.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

PSY 372. Applied Behavioral Analysis. 3 Credit Hours.

The concepts, methods, and procedures used in behavior analytic research and clinical work. In this course, students will become familiar with the scientific foundations of behavioral science and the basic concepts and principles of behavior analysis. The course will emphasize terminology and definitions of behavioral concepts, as well as introduce the application of those concepts to bring about behavior change.

2.5 PSY GPA and 12 credits in PSY courses including PSY 291 or PSY 292.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PSY 375. Special Topics. 1-3 Credit Hours.

Requisite: 2.5 GPA, 12 Credits in PSY including PSY 291 or PSY 292.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PSY 380. Introduction to Research Projects II. 1-3 Credit Hours.

Students assist on a research project in psychology under supervision of a faculty member. Activities include library research, data collection and management, and attendance at research team meetings.

Requisite: Permission of a UASP advisor, 2.5 PSY GPA, and 12 credits in PSY courses including PSY 291 or PSY 292.

Components: IND.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

PSY 390. Intermediate Research Methods and Biobehavioral Statistics. 3 Credit Hours.

Students will conduct two (or more) pre-planned experiments. For each experiment, students will analyze the data and write up the components of a research report. In addition, students will receive detailed feedback on the assignments they submit, as an aid to improving their writing skills, reinforcing and reviewing their knowledge of research design and methodology, and expanding their understanding of statistical analyses as well as their interpretation and presentation.

Requisite: 2.5 GPA and 12 Credits in PSY including PSY 290 and PSY 291 or PSY 292 or 9 credits in PSY including PSY 290, and PSY 291 or PSY 292, BIL 268 or NEU 280, NEU 380 or NEU 480.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

PSY 391. Tests and Measurements. 3 Credit Hours.

Theory and principles of construction, use, evaluation, and interpretation of psychological tests and testing procedures.

Requisite: 2.5 GPA, 12 Credits in PSY including PSY 291 or PSY 292.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

PSY 410. Social Interaction Processes. 3 Credit Hours.

An in-depth analysis of variables leading to, and processes involved in, human social interactions ranging from superficial encounters to intimate relationships.

Requisite: 2.5 PSY GPA and 15 credits in PSY courses including PSY 210, PSY 291 or PSY 292 and PSY 390.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PSY 411. Relationships and Health. 3 Credit Hours.

Interpersonal processes that play out in the course of chronic physical illnesses. An integrated foundation on theories and concepts of interpersonal relationships in psychology and a comprehensive introduction to how these theories and concepts can be applied to relationships among family members dealing with physical illnesses. Students will be introduced to diverse perspectives on interpersonal relationships and to a broad perspective on physical illnesses as “family” diseases, across the illness trajectory.

Requisite: 2.5 PSY GPA and 15 credits in PSY courses including PSY 291 or PSY 292 and PSY 390.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PSY 412. Social and Cultural Neuroscience. 3 Credit Hours.

Human neuroimaging research on social behavior (e.g., person perception, intergroup relations, and social learning), and the relationships between culture and the brain (e.g., cultural learning and neural mechanisms underlying cross-cultural differences). The course will also cover foundations of social and cultural neuroscience (e.g., shared and unique aspects of human culture and social behavior, and techniques for studying culture and social behavior using neuroscience methods).

2.5 PSY GPA and 12 credits in PSY courses including PSY 291 or PSY 292.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

PSY 413. Cultural Diversity in Psychology. 3 Credit Hours.

An evaluation of psychology from cultural perspectives and promote critical thinking about various topics within psychology. The first half of this course will cover topics such as research methods, enculturation, developmental processes, cognition, gender, sexuality, health, emotion, language, and communication from a cultural perspective. During the second half of the course we will discuss the role of culture in personality, abnormal psychology, treatment of abnormal behavior, social behavior and organizations.

2.5 PSY GPA and 12 credits in PSY courses including PSY 291 or PSY 292.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PSY 425. Psychobiology. 3 Credit Hours.

Basic neuroanatomy, neurophysiology, and neurochemistry followed by an introduction to the physiological bases of sensation, motor systems, motivation, emotion, learning and memory.

Requisite: 2.5 PSY GPA, 15 PSY credits including PSY 220, PSY 290, PSY 291 or PSY 292 or 2.5 PSY GPA, 12 Credits in PSY including PSY 290, and PSY 291 or PSY 292, BIL 150.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

PSY 426. Health Psychology. 3 Credit Hours.

The psychosomatic and biopsychosocial models of illness.

Requisite: 2.5 PSY GPA, 15 credits in PSY courses including PSY 220, PSY 290, and PSY 291 or PSY 292.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PSY 427. Psychoneuroimmunology. 3 Credit Hours.

The most current literature in psychoneuroimmunology (PNI) allowing students to connect psychological, neuroendocrine and immunological processes and mechanisms. Students will apply this information within the context of chronic disease prevention, progression and intervention.

2.5 PSY GPA and 12 credits in PSY courses including PSY 291 or PSY 292.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PSY 430. Psychology of Infancy. 3 Credit Hours.

Perceptual, motor, cognitive and social development during the first two years of life. Specialized research methods and assessment procedures.

Requisite: 2.5 PSY GPA; 15 PSY credits, including PSY 230, PSY 291 or PSY 292, PSY 390.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PSY 431. Psychology of Social and Emotional Development. 3 Credit Hours.

Social and emotional growth; topics include family and peer relationships, sex roles, self-control, and moral development.

Requisite: 2.5 PSY GPA; 15 PSY credits, including PSY 230, PSY 291 or PSY 292, PSY 390.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

PSY 432. Prenatal Development. 3 Credit Hours.

A detailed understanding of prenatal development including conception, embryonic and fetal development, and birth. The effects and interplay of genetic and environmental factors on the health and well-being of the developing baby will be discussed throughout the course. The important role of preconception and prenatal care will also be discussed.

Prerequisite: GPA of 3.0 or higher; PSY 230.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PSY 445. Cultural, Values, Religiosity, and Mental Illness. 3 Credit Hours.

Cultural differences in the manifestations, course, and outcome of severe mental illness (those in which psychosis is likely to occur). This seminar also explores the growing body of research on the relationship between chronic mental disorders and the following socio-cultural factors: ethnicity, religious values, family cohesion, attributions of control, and world-view. Finally, we will explore cultural differences in societies' reactions to, and treatment of mentally ill patients.

2.5 PSY GPA and 12 credits in PSY courses including PSY 291 or PSY 292.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

PSY 446. Issues in Clinical Psychology. 3 Credit Hours.

The scientific and theoretical bases of psychotherapy. The course has three distinct components: (1) An introduction to the concept of psychotherapy, including its historical context and the research evidence supporting its efficacy and effectiveness; (2) An interactive overview of major theories underpinning the practice of psychotherapy; and (3) A brief review of evidence-based treatment models for varying forms of psychopathology and clinical conditions.

2.5 PSY GPA and 12 credits in PSY courses including PSY 291 or PSY 292.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PSY 455. Evolution and Sex. 3 Credit Hours.

A biological/evolutionary approach to the study of human sexuality and cognition. The evolution of sexual reproduction and the evolution of the two sexes. Initial discussions will introduce the theory of evolution by natural selection and address the different levels at which selection operates. Building on this foundation, the class will focus on why sex evolved and the myriad physiological and psychological adaptations that evolved as a consequence. Topics to be covered include sexual selection, mate selection, pregnancy, and parent-offspring conflict.

Requisite: 2.5 PSY GPA, 15 credits in PSY courses including PSY 290 and PSY 291 or PSY 292.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PSY 456. Genetic and Developmental Disorders. 3 Credit Hours.

The diagnostic, etiological, and intervention issues in genetic and developmental disorders with a particular emphasis on the current state-of-the-science with regard to empirically supported concepts. The course will present information that will allow students a greater understanding of specific disorders and strategies for understanding developmental problems. Current research will be placed within a contemporary context that seeks to integrate educational, psychological and biomedical disciplines.

2.5 PSY GPA and 12 credits in PSY courses including PSY 291 or PSY 292.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PSY 471. Positive Psychology. 3 Credit Hours.

Presents an introduction to the core assumptions and research findings in the field of positive psychology; explores interventions and applications informed by this field as applied to personal well-being, social relationships, and psychotherapy.

2.5 PSY GPA and 12 credits in PSY courses including PSY 291 or PSY 292.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

PSY 472. Evolutionary Psychology. 3 Credit Hours.

Evolutionary psychology integrates concepts and evidence from evolutionary biology, behavioral ecology, anthropology, and cognitive science to better understand the evolved cognitive underpinnings of human behavior. The course covers topics such as natural selection, inclusive fitness, life history theory, emotions, aggression, cooperation, mating, morality, and religion.

2.5 PSY GPA and 12 credits in PSY courses including PSY 291 or PSY 292.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

PSY 474. Special Topics. 1-3 Credit Hours.

Requisite: 2.5 PSY GPA, 15 credits in PSY courses including PSY 290 and PSY 291 or PSY 292.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PSY 480. Research with Writing Credit. 1-3 Credit Hours.

Students assist on a research project in psychology under supervision of a faculty member. Activities include library research, data collection and management, and attendance at research team meetings. Students are also expected to complete a writing component that fulfills the University's criteria to receive writing credit.

Requisite: Permission of a UASP advisor, 2.5 PSY GPA and 15 credits in PSY courses including PSY 291 or PSY 292, PSY 390.

Components: IND.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

PSY 490. Advanced Research Methods. 3 Credit Hours.

Students will develop, conduct and write up two research projects: (i) a project that uses descriptive methods and associated statistical techniques and (ii) a project that uses experimental methods and associated statistical techniques. These projects will integrate the concepts and skills learned in the Introductory and Intermediate Methods courses as well as the Introductory and Intermediate Statistics courses. Students will be asked to select a research topic and first develop a survey to examine the relationship between two predictor variables and an outcome variable. They will collect and analyze their data using correlational techniques (e.g., regression analyses) and will write up a methods and results section. Next, students will turn their descriptive study into an experiment. They will collect and analyze their data and write up a publishable research report that includes the findings from both the descriptive and experimental studies. The project will serve as a capstone, requiring them to find and critically evaluate relevant literature on their topic of choice, design a study taking into account time demands, sample characteristics and their effect on the hypotheses they are able to test, decide on instrument selection, consider potential extraneous and confounding variables (and how they will handle them if at all), select appropriate analyses for their data and hypotheses, and then present the results of their work in both poster and research report format.

Requisite: 2.5 PSY GPA, 15 PSY credits including PSY 291 or PSY 292, and PSY 390, Senior Status, BS in Psychology major.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

PSY 491. Advanced Biobehavioral Statistics. 3 Credit Hours.

This course builds upon the material covered in PSY 390. After a brief review, analysis of variance and multiple regression will be covered using a general linear model (GLM) approach. The goal is to prepare students for graduate level work in applied statistics.

Requisite: 2.5 PSY GPA and 15 credits in PSY courses, including PSY 291 or PSY 292, PSY 390.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PSY 520. Psychoneuroimmunology. 3 Credit Hours.

This course is designed to present some of the basic information necessary to interpret the current literature in psychoneuroimmunology (PNI) and to design research in this area.

Requisite: 2.8 PSY GPA; 18 credits in PSY, including PSY 390.

Components: LEC.

Grading: GRD.

PSY 540. Culture, Values, Religiosity, and Mental Illness. 3 Credit Hours.

Cultural differences in the manifestation, course, and outcome of serious mental disorders; the relationship between chronic mental disorders and ethnicity, religious values, family cohesion, attributions of control, and world view; cultural differences in societies' reactions to and treatment of mentally ill patients.

Components: LEC.

Grading: GRD.

PSY 575. Special Topics. 1-3 Credit Hours.

Requisite: 2.8 PSY GPA, 18 PSY credits including PSY 390.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PSY 580. Senior Honors in Psychology I. 3 Credit Hours.

Students work closely with a faculty member to design a unique research study and write a scientific paper to report on the results. Limited to undergraduate students only.

Requisite: Permission of UASP and faculty required, 3.5 Major GPA, 3.3 Combined GPA, PSY or NEU major, 18 PSY credits, including PSY 390.

Components: IND.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

PSY 581. Senior Honors in Psychology II. 3 Credit Hours.

Students work closely with a faculty member to design a unique research study and write a scientific paper to report on the results. Limited to undergraduate students only.

Requisite: Permission of UASP and faculty required, 18 PSY credits including PSY 580.

Components: IND.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

PSY 601. Issues in Professional Development and Research.. 1 Credit Hour.

Seminar addressing issues such as structure of academic systems and progress through them, time management, library search systems, professional journals, how to structure curriculum vitae, procedures and rules in human subject research, professional meetings and presentations, extramural funding opportunities, professional writing style, ethical issues.

Requisite: Plan of Graduate Psychology.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PSY 602. Scientific writing and grantsmanship. 3 Credit Hours.

Writing and organizational skills for professional development in social and behavioral sciences. Mechanism of extramural funding and grant review, including grantsmanship.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PSY 603. Neuroanatomy. 3 Credit Hours.

Functional neuroanatomy for individuals engaged in basic neuroscience and psychological research. Gross anatomy, identification of pathways and circuits, and physiological functions of neuroanatomical systems. Clinical examples and case histories of neuroanatomical disorders. Laboratory exercises including brain dissections, examination of brain models and atlases, and internet neuroanatomy websites.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PSY 604. Cognition and Emotion. 3 Credit Hours.

Study of basic cognitive processes of attention and memory, the function of emotions, and the role of cognitive mechanisms in the processing of affective information.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PSY 605. Cognitive Neuroscience. 3 Credit Hours.

Brain mechanisms in cognition and behavior, including sensory encoding and perception, attention, motivation, emotion, learning/memory, language, executive functions, and mental disorders.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PSY 606. Biobehavioral Processes and Disease in Health Psychology. 3 Credit Hours.

Central nervous system, cardiovascular, endocrine, immune, and other biological processes examined in the context of behavioral medicine and health psychology research. Discussion of basic mechanisms in physiological regulation and dysregulation of the cardiovascular and immune systems, with specific reference to cardiovascular behavioral medicine and psychoneuroimmunology.

Prerequisite: PSY 610.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PSY 609. Psychopharmacology. 3 Credit Hours.

Basic methods and current issues in psychopharmacology.

Prerequisite: PSY 605.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PSY 610. Behavioral Medicine: Overview of Basic Science, Public Health, and Clinical Trial Approaches. 3 Credit Hours.

Overview of biobehavioral, psychosocial and sociocultural factors in pathogenesis, prevention and treatment of physical disorders.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PSY 613. Psychoneuroimmunology. 3 Credit Hours.

Structural and functional aspects of the immune system that are sensitive to neural and psychological processes. Interactions between the nervous and immune systems are examined in relation to empirical associations between psychological factors (i.e., stress) and immune-mediated processes in diseases such as cancer and AIDS.

Prerequisite: PSY 605.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PSY 614. Diversity issues in psychology. 3 Credit Hours.

Overview of diversity issues including race, religion, gender, age, sexual orientation, physical disability and socioeconomic status as they relate to psychological research and clinical practice.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PSY 615. Foundations of neuropsychology. 3 Credit Hours.

Mechanisms of neurological and psychiatric disorders, including developmental disorders, dementia, aphasia, amnesia, stroke, traumatic brain injury, and loss of general intelligence. Clinical tools for neuropsychological assessment, forensics, and genetic screening.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PSY 616. Biobehavioral Processes and Clinical Research Applications in Health Psychology. 3 Credit Hours.

Conduct of clinical research and examination of biobehavioral processes in health psychology. Lectures, readings and assignments deal with clinical research involving pathology, assessment and intervention-based functions with applications focused on health and disease conceptualized at multiple levels of prevention.

Prerequisite: PSY 606 and PSY 610.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PSY 620. Advanced Developmental Psychology. 3 Credit Hours.

Mechanisms underlying continuity and change over the lifespan. Topics include developmental theories and methods; specific domains of development (perceptual, cognitive, social/emotional); socialization processes; and emerging adulthood, parenting, and aging.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PSY 621. Theories of Development. 3 Credit Hours.

Theoretical aspects of psychological development throughout the life span.

Prerequisite: PSY 620.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PSY 622. Cognitive Development. 3 Credit Hours.

Theories of cognitive development across infancy, childhood, and adolescence. Topics include measurement approaches, normative development, individual differences, etiological factors and contextual influences.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PSY 623. Language Development. 3 Credit Hours.

The study of language acquisition, primarily focusing on infancy through 5 years. Topics covered include biological bases of language, sound discrimination abilities, babbling and speech production, word learning, acquisition of grammar, bilingualism, and development in atypical populations.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PSY 624. Social Development. 3 Credit Hours.

The theoretical and empirical literature on typical and atypical social development-including emotional development and social cognition-in infants, children, and adolescents. Topics include measurement approaches, individual differences and contextual influences.

Prerequisite: PSY 620.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PSY 625. Social Psychology. 3 Credit Hours.

The major substantive areas and theories of social psychology. Emphasis on applications to students' own research field.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PSY 631. Psychological Statistics, Research Methods, and Design. 3 Credit Hours.

Statistics for experimental design with uncorrelated independent variables. Review of t-tests; designs and applications of analysis of variance; including one-way, factorial, repeated-measures, and mixed designs; post hoc comparisons among means.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PSY 632. Multiple Regression and Multivariate Statistics. 3 Credit Hours.

Analysis of the general linear model. Computer application of these techniques to the behavioral sciences.

Prerequisite: PSY 630. Or EPS 568. And EPS 653.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PSY 633. Structural Equation Modeling. 3 Credit Hours.

Structural models, path analysis, measurement models, and confirmatory factor analysis, particularly related to hypotheses about causal relations, change over time, and comparisons across diverse populations.

Prerequisite: PSY 632.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PSY 634. Hierarchical Linear Modeling. 3 Credit Hours.

Multi-level modeling of nested and non-independent data. Application of multilevel modeling to social science and behavioral data, including computer laboratory exercises.

Prerequisite: PSY 632.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PSY 636. Research Methods with Children and Adolescents. 3 Credit Hours.

Concepts and research design approaches for the measurement and analysis of data across developmental stages from infancy through adolescence.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PSY 638. Psychology of Infant Development. 3 Credit Hours.

Theory, research, and methodology pertaining to psychological development in the first three years of life. Emphasis on both general developmental processes, and individual differences in cognitive, social, and emotional development.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PSY 639. Autism and Developmental Disabilities. 3 Credit Hours.

Developmental disabilities with an emphasis on autism. Biological, social, cognitive and emotional concomitants. History, etiology, assessment, and individual differences.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PSY 640. Adult Psychopathology. 3 Credit Hours.

Theories, models, history, and research relevant to various patterns of problematic behavior, with a focus on adults. The influences of family systems as well as cultural and other diversity factors (e.g., ethnicity, sexual orientation) are included.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PSY 641. Child and Adolescent Psychopathology. 3 Credit Hours.

Theories, models, and research relevant to the development and the course of behavioral disorders and other problems (e.g., maltreatment, exposure to violence and poverty) that emerge in childhood and adolescence. The influences of family and peer systems as well as cultural and other diversity factors (e.g., ethnicity, sexual orientation) are included.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PSY 642. Advanced Adult Psychopathology. 3 Credit Hours.

Theory and research on risk factors and etiological models of mental disorders. Socioenvironmental (cultural, social support, life events), psychological (temperament, cognitive biases), and biological (genes, neurotransmitters) models of risk, research methodology, and design are discussed.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PSY 643. Behavioral Medicine and Developmental Disabilities. 3 Credit Hours.

Processes influencing diagnosis and management of developmental disabilities: genetics, embryology/fetology, physical growth and development, nutrition, hearing and speech pathology, family dynamics, cognition and psycho-educational assessment.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

PSY 645. Introduction to Psychological Evaluation. 3 Credit Hours.

Measurement theory; introduction to the administration and interpretation of widely-used intelligence and personality tests, with attention to issues of ethics and diversity.

Requisite: Plan of Graduate Psychology.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PSY 646. Psychological Evaluation of Adults. 3 Credit Hours.

Issues of diversity, ethics, and personality theory as they pertain to psychological evaluation of adults. Emphases on the use of projective and objective personality assessment methods.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PSY 647. Psychological Evaluation of Children and Families. 3 Credit Hours.

Clinical and developmental theory and methods pertaining to the evaluation of children, adolescents, and families including intelligence tests, structured diagnostic instruments, personality and behavioral check lists, observational formats, interviewing, and projective assessment. Attention to issues of ethics and diversity.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PSY 648. Psychological Evaluation in Physical Disorders. 3 Credit Hours.

Administration, interpretation, and psychometric evaluation of psychological tools and procedures used in the evaluation of physical disorders. Attention to issues of ethics and diversity.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PSY 650. Laboratory in Clinical Psychology. 0 Credit Hours.

Practical training in clinical skills such as assessment, interviewing, and case conceptualization. Laboratory to be used in conjunction with courses such as PSY 640 and PSY 645

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

PSY 655. Evolution and Sex. 3 Credit Hours.

A biological/evolutionary approach to the study of human sexuality and cognition. The evolution of sexual reproduction and the evolution of the two sexes. Initial discussions will introduce the theory of evolution by natural selection and address the different levels at which selection operates. Building on this foundation, the class will focus on why sex evolved and the myriad physiological and psychological adaptations that evolved as a consequence. Topics to be covered include sexual selection, mate selection, pregnancy, and parent-offspring conflict.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

PSY 656. Introduction to Evidence-Based Psychological Treatments. 3 Credit Hours.

Theories, history, and techniques of psychological and behavioral therapies, with emphasis on evidence-based approaches.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PSY 657. Introduction to Psychotherapy, Ethics, and Professional Issues. 3 Credit Hours.

Introductory experience in clinical interviewing, therapeutic communication, ethics, and case conceptualization. Consideration of client-and-therapist culture, gender, and diversity are also emphasized.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PSY 660. Evidence-Based Psychological Intervention with Children and Families. 3 Credit Hours.

Theories, history, and techniques of psychological and behavioral therapies, with emphasis on evidence-based approaches with children, adolescents, and families. Understanding normative and deviant development, with attention to issues of diversity, ethics, and domestic violence.

Prerequisite: PSY 656.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PSY 661. Interventions in Pediatric Psychology. 3 Credit Hours.

Pediatric psychology and basic learning theory. Medical and behavioral aspects of child and adolescent health disorders, psychological assessment, and evidence-based treatment approaches.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PSY 662. Health Psychology Interventions. 3 Credit Hours.

Clinical interventions and research relevant to health problems and lifestyle, with emphasis on critical evaluations of past research and the design and implementation of intervention protocols. The origins of health psychology and the role of the health psychologist in medical systems.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PSY 664. Ethics and Professional Conduct in Behavior Analysis. 3 Credit Hours.

This course provides an overview of ethics and professional conduct in the field of behavior analysis. The course will provide in-depth information on the BACB Professional and Ethical Compliance Code for Behavior Analysts. The course will cover professional issues related to responsible conduct of behavior analysts, behavior analysts' ethical responsibility to clients and colleagues, including issues related to assessment of behavior, development and implementation of behavior change programs, clinical supervision and mentoring, the profession of behavior analysis and the BACB, and the conducting and reporting of research. In accordance with the Behavior Analysis Certification Board (BACB), this course meets criteria for 30 instructional hours in the area of Ethical and Professional Conduct, 5 hours in the area of Intervention and Behavior Change Consideration 5 hours in the area of Behavior Change Systems and 5 hours in the area of Implementation, Management and Supervision.

Prerequisite: PSY 666. And must pass with a GPA 3.2.

Components: DIS.

Grading: GRD.

Typically Offered: Fall.

PSY 665. Advanced Topics in Applied Behavior Analysis. 3 Credit Hours.

This course covers a number of advanced research and clinical issues relevant to the field of applied behavior analysis including, particularly as they relate to the field of developmental disabilities. The course will provide in-depth information related to the selection of appropriate interventions, including staying abreast of current research, critically interpreting research, considering individual client needs and developing treatment programs that are consistent with the science of applied behavior analysis. The course will additionally cover issues related to the implementation and management of clinical service provisions, including ensuring appropriate and accurate data collection, maintaining procedural fidelity and providing supervision and training. In accordance with the Behavior Analysis Certification Board (BACB), this course meets criteria for 15 instructional hours in the area of Measurement, 15 hours in the area of Experimental Design and 15 hours in the area of discretionary.

Prerequisite: PSY 666. And must pass with a GPA 3.2.

Components: DIS.

Grading: GRD.

Typically Offered: Fall.

PSY 666. Concepts and Principles of Applied Behavior Analysis. 3 Credit Hours.

This course provides an introduction to Applied Behavior Analysis (ABA), which is the clinical application of behavioral science and learning theory towards the treatment of problematic behavioral and behavioral deficits. In this course, students will become familiar with the scientific foundations of behavioral science and the basic concepts and principles of behavior analysis. The course will emphasize terminology and definitions of behavioral concepts, as well as introduce the application of those concepts across a range of clinical scenarios. In accordance with the Behavior Analysis Certification Board (BACB), this course meets criteria for 45 instructional hours in the area of Concepts and Principles of Behavior Analysis.

Requisite: PSY 666 OR PSY 676 OR PSY 677 AND Bachelor's degree AND GPS>=3.2.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PSY 667. Assessment and Treatment of Language Learning. 3 Credit Hours.

This course focuses on the application of behavior analysis toward the treatment of individuals exhibiting behavioral deficits or developmental delays. Throughout this course, students will acquire in-depth knowledge of behavioral analytic approaches for promoting the development of new skills and for supporting and maintaining those skills over time. Students will learn to prioritize target behaviors for clinical intervention as well as how to use applied behavior analytic techniques and procedures to develop effective treatment plans. Clinical and professional issues (e.g., fidelity of implementation, monitoring effectiveness) will also be discussed. In accordance with the Behavior Analysis Certification Board (BACB), this course meets criteria for 10 instructional hours in the area of Identification of the Problem and Assessment, 30 instructional hours in the area of Fundamental Elements of Behavior Change and Specific Behavior Change Procedures, and 5 instructional hours in the area of Behavior Change Systems.

Requisite: PSY 666 OR PSY 676 OR PSY 677 AND Bachelor's degree AND GPS>=3.2.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PSY 668. Functional Assessment and Treatment of Aberrant Behavior. 3 Credit Hours.

This course will focus on the application of behavior analysis toward the treatment of aberrant behavior. Throughout this course, students will acquire in-depth knowledge of behavior analytic approaches toward the assessment of aberrant behavior (e.g., functional behavioral assessment (FBA) and functional analysis). In addition, the course will focus on how behavior analysis use the results of a behavioral assessment to develop effective and ethical behavioral interventions to reduce aberrant behavior. Clinical and professional issues (e.g., fidelity of implementation, monitoring effectiveness) will also be discussed. In accordance with the Behavior Analysis Certification Board (BACB), this course meets criteria for 25 instructional hours in the area of Identification of the Problem & Assessment, 15 instructional hours in the area of Fundamental Elements of Behavior Changes and Specific Behavior Change Procedures and 5 instructional hours in the area of Intervention of Behavior Change Considerations.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PSY 669. Professional Issues in Designing and Monitoring Interventions. 3 Credit Hours.

This course covers a number of professional issues related to the competent and ethical delivery of applied behavior analysis services. The course will provide in-depth information related to the selection of appropriate interventions, including staying abreast of current research, critically interpreting research, considering individual client needs and developing treatment programs that are consistent with the science of applied behavior analysis. The course will additionally cover issues related to the implementation and management of clinical service provisions, including ensuring appropriate and accurate data collection, maintaining procedural fidelity and providing supervision and training. Finally, the course will provide information about the professional and ethical compliance code for behavior analysis, as outlined by the Behavior Analysis Certification Board (BACB). In accordance with the Behavior Analysis Certification Board (BACB), this course meets criteria for 15 instructional hours in the area of Ethical and Professional Conduct, 10 hours in the area of Measurement, 10 hours in the area of Experimental Design and 10 hours in the area of Implementation, Management and Supervision.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PSY 670. Practicum in Clinical Psychology. 1-3 Credit Hours.

Supervised experience in evaluating and treating psychological problems of children, adolescents, families, and/or adults behavior. For students placed at the U.M. Psychological Services Clinic there is a weekly case conference that focuses on ethics case conceptualization. Course may be repeated for credit.

Components: PRA.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

PSY 671. Practicum in Clinical Psychology II. 0 Credit Hours.

Continuation of PSY 670.

Corequisite: PSY 645.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

PSY 672. Advanced Practicum in Clinical Psychology. 1-3 Credit Hours.

Advanced experience in special clinical techniques and clinical supervision. Primarily for post-internship clinical students. The advisor may direct that PSY 672 be repeated, but no more than six credits may be applied toward a degree.

Components: PRA.

Grading: GRD.

Typically Offered: Fall & Spring.

PSY 674. Applications of ABA in Development Disabilities. 3 Credit Hours.

The purpose of this course is to provide students with supervised clinical experience in the application of behavior analysis toward the treatment of individuals with autism and developmental disabilities who exhibit problematic behavior, behavioral deficits or developmental delays participating in ABA therapy. During this course, students will provide direct ABA services aimed at reducing problematic behavior or and promoting the development and maintenance of new skills. Experiential activities provided during this practicum course focus on functional assessment, the identification of meaningful treatment goals, identification of reinforcers via systematic assessment, and the implementation of ABA intervention techniques and programs to treat problematic behavior and behavioral and language deficits. In accordance with the Behavior Analysis Certification Board (BA.CB), this course meets criteria for 168 hours of practicum experience.

Prerequisite: PSY 666. And must pass with a GPA 3.2.

Components: PRA.

Grading: GRD.

Typically Offered: Summer.

PSY 675. Advanced Applications of Applied Behavior Analysis II. 3 Credit Hours.

The purpose of this course is to provide students with supervised clinical experience in selecting, and developing applied behavior analytic procedures and techniques for individuals with autism and developmental delay and providing clinical supervision to those implementing behavioral procedures. During this course, students will assist instructors in providing supervision to individuals who provide direct ABA services for individuals participating in ABA therapy. Experiential activities provided during this practicum course additionally focus on advanced professional issues in the design and implementation of ABA programs, so as to facilitate appropriate treatment selection, collection of data related to fidelity of implementation and systematic monitoring of treatment efficacy. In accordance with the Behavior Analysis Certification Board (BACB), this course meets criteria for 168 hours of practicum experience.

Prerequisite: PSY 666. And must pass with a GPA 3.2.

Components: PRA.

Grading: GRD.

Typically Offered: Fall.

PSY 676. Application of ABA: Principles and Concepts. 3 Credit Hours.

The purpose of this course is to provide students with supervised clinical experience in selecting, developing and implementing applied behavior analysis procedures and techniques. During this course, students will provide direct ABA services aimed at improving the behavioral functioning of individuals participating in ABA therapy. Experiential activities provided during this practicum course focus on the application of basic principles and concepts in ABA, including the identification of behavioral targets, measuring behavioral, monitoring changes in behavior over time, and implementing reinforcement-based interventions. In accordance with the Behavior Analysis Certification Board (BACB), this course meets criteria for 168 hours of practicum experience.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PSY 677. Application of the Assessment and Treatment of Language and Learning. 3 Credit Hours.

The purpose of this course is to provide students with supervised clinical experience in the application of behavior analysis toward the treatment of individuals who exhibit behavioral deficits or developmental delays. During this course, students will provide direct ABA services aimed at promoting the development and maintenance of new skills. Experiential activities provided during this practicum course focus on the identification of meaningful treatment goals, identification of reinforcers via systematic assessment, and the implementation of ABA intervention techniques and programs to treat behavioral and language deficits. In accordance with the Behavior Analysis Certification Board (BACB), this course meets criteria for 168 hours of practicum experience.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PSY 678. Application of the Assessment and Treatment of Learning. 3 Credit Hours.

The purpose of this course is to provide students with supervised clinical experience in the application of behavior analysis towards the treatment of individuals with aberrant behavior. During this course, students will provide direct ABA services aimed at reducing and eliminating the occurrences of aberrant behavior. Experiential activities provided during this practicum course include conducting functional behavioral assessments as well as developing and implementing behavioral plans to treat aberrant behavior. In accordance with the Behavior Analysis Certification Board (BACB), this course meets criteria for 168 hours of practicum experience.

Components: PRA.

Grading: GRD.

Typically Offered: Spring.

PSY 679. Advanced Application of ABA. 3 Credit Hours.

The purpose of this course is to provide students with supervised clinical experience in selecting, development and implementing applied behavior procedure and techniques. During this course, student will provide direct ABA services aimed at improving the behavioral functioning of individuals participation in ABA therapy. Experiential activities provided during this practicum course additionally focus on advanced professional issues in the design and implementation of ABA programs, so as to facilitate appropriate treatment selection, fidelity of implementation and systematic monitoring of treatment efficacy. In accordance with the Behavior Analysis Certification Board (BACB), this course meets criteria for 168 hours of practicum experience.

Components: PRA.

Grading: GRD.

Typically Offered: Spring.

PSY 680. Research. 1-4 Credit Hours.

Investigation of an original problem.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

PSY 681. Research. 1-4 Credit Hours.

Investigation of an original problem.

Components: IND.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

PSY 683. Special Topics. 3 Credit Hours.

Topics in selected areas of specialization.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

PSY 684. Readings in Psychology. 3 Credit Hours.

Supervised readings in selected topics.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

PSY 685. Seminar in Clinical Psychology. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

PSY 687. Seminar in Clinical Psychology. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PSY 688. Seminar in Developmental Psychology. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PSY 690. Seminar in Developmental Psychology. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PSY 692. Seminar in Personality. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PSY 693. Seminar in Behavioral Medicine. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PSY 694. Seminar in Behavioral Medicine. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PSY 697. Seminar in Biological Psychology. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PSY 698. Seminar in Quantitative Psychology. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PSY 803. Internship in Clinical Psychology. 1 Credit Hour.

Supervised internship in clinical psychology. May not be counted as part of the 90 hours required for the Ph.D. degree.

Components: CLN.

Grading: GRD.

Typically Offered: Fall & Spring.

PSY 804. APA Accredited Internship in Clinical Psychology. 1 Credit Hour.

Supervised internship in clinical psychology. May not be counted as part of the 90 hours required for the Ph.D. degree.

Components: CLN.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

PSY 805. Postdoctoral Practicum. 1-3 Credit Hours.

Advanced clinical psychology training for individuals who have completed a clinical psychology Ph.D. or PsyD. from an APA-accredited doctoral program. Supervision of clinical activity by licensed faculty members.

Components: THI.

Grading: GRD.

Typically Offered: Fall.

PSY 806. Summer Research Practicum. 1 Credit Hour.

Faculty-supervised research during the summer for students in the Psychology Ph.D. Program.

Components: THI.

Grading: GRD.

Typically Offered: Summer.

PSY 810. Master's Thesis. 1-6 Credit Hours.

The student working on his/her master's thesis enrolls for credit, in most departments not to exceed six, as determined by his/her advisor. Credit is not awarded until the thesis has been accepted.

Components: THI.

Grading: SUS.

Typically Offered: Fall & Spring.

PSY 820. Research in Residence. 1 Credit Hour.

Research in residence for the thesis for the master's degree after the student has enrolled for the permissible cumulative total in PSY 810 (usually six credits). Credit not granted. May be regarded as full time residence.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

PSY 825. Continuous Registration--Master's Study. 1 Credit Hour.

To establish residence for non-thesis master's students who are preparing for major examinations. Credit not granted. Regarded as full time residence.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

PSY 830. Doctoral Dissertation. 1-12 Credit Hours.

Required of all candidates for the Ph.D. The student will enroll for credit as determined by his/her advisor, but for not less than a total of 12 hours. Up to 12 hours may be taken in a regular semester, but not more than six in a summer session.

Components: THI.

Grading: SUS.

Typically Offered: Fall & Spring.

PSY 840. Post-Candidacy Doctoral Dissertation. 1-12 Credit Hours.

Required of all candidates for the Ph.D. who have advanced to candidacy. The student will enroll for credit as determined by his/her advisor, but not for less than a total of 12. Not more than 12 hours of PSY 740 may be taken in a regular semester, nor more than six in a summer session.

Components: THI.

Grading: SUS.

Typically Offered: Fall & Spring.

PSY 850. Research in Residence. 1 Credit Hour.

Used to establish research in residence for the Ph.D., after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Credit not granted. May be regarded as full-time residence as determined by the Dean of the Graduate School.

Components: THI.

Grading: SUS.

Typically Offered: Fall & Spring.

Public Health (BPH)

BPH 200. Basic Concepts Public Health. 3 Credit Hours.

This course focuses on current health care issues and the health care system as well as the future direction of health care.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

BPH 202. Introductory Statistics in Health Care. 3 Credit Hours.

Application of descriptive and inferential statistics. Principles and methods of summarizing data including tables, graphs, percentile ranks, central tendency, variability, normal distribution. Basic concepts of probability, hypothesis testing, and analysis of variance. Examples and problems from nursing, health sciences, and public health.

Corequisite: MTH 101. Or Requisite: ALEKS > or = 55 or SAT Score > or = 630 or ACT > or = 28.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BPH 206. Introduction to Public Health. 3 Credit Hours.

Introduction to all aspects of public health, including health services administration, and policy.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BPH 208. Introductory Epidemiology. 3 Credit Hours.

This course is a general introduction to epidemiology, definition of concepts and natural history of disease and levels of prevention. It also covers measures of morbidity and mortality. Epidemiologic aspects of infectious and chronic diseases.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BPH 217. Medical Terminology. 1 Credit Hour.

This course will assist the student in understanding the principles of medical word building in order to develop the extensive medical vocabulary used in health care professions. Students receive a thorough grounding in basic medical terminology through the study of root words, prefixes and suffixes. The course emphasizes correct pronunciation, spelling and use of medical terms.

Prerequisite: BIL 150.

Components: CLN.

Grading: GRD.

Typically Offered: Fall.

BPH 301. Human Sexuality and Vulnerable Populations. 3 Credit Hours.

The study of human sexuality via multidisciplinary theoretical perspectives and research. Students will examine the complex relationships of the physiological, psychological, cultural, gender, religious, historical, and political aspects of human sexuality. Human sexuality in the context of health disparities will form the foundation for the course. WRITING COURSE.

Prerequisite: BPH 206 or Requisite: Nursing Clinical Major.

Components: LEC.

Grading: GRD.

BPH 303. HIV/AIDS and Health Maintenance for Health Care Providers. 3 Credit Hours.

Definition, diagnosis, management and care of diverse patient populations with HIV infection and AIDS. Presented and discussed from an interdisciplinary health care perspective.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BPH 305. Issues in Health Disparities. 3 Credit Hours.

This course will be an introduction to the general research on health systems and health disparities. Emphasis will be placed on social, biological, economic, and social policy issues that impact on the health of minority populations. Concepts associated with epidemiology, poverty, racism, public policy, and international politics will be explored. WRITING COURSE.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BPH 306. Principles of Nutrition. 3 Credit Hours.

Principles of nutrition integrated with cultural dietary patterns for client adaptation across the lifespan.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BPH 309. Health and Environment. 3 Credit Hours.

This course examines health issues, scientific understanding of causes and possible future approaches to control of the major environmental health problems. Topics include how the body reacts to environmental pollutants; physical, chemical, and biological agents of environmental contamination; vectors for dissemination; susceptible populations; the scientific bases for policy decisions and emerging global environmental health problems.

Prerequisite: BPH 206.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

BPH 310. Global Health. 3 Credit Hours.

Introduction to the concepts of global health and the critical links between public health and social and economic development. Determinants of health and patterns of disease and health outcomes across the globe are critically examined. The course reviews the determinants of health status in terms of biology, demography, epidemiology, culture, sociology, economics, and politics. Key concerns regarding reproductive health, child survival, nutrition, communicable diseases, and chronic diseases are examined. Health care delivery in developed vs. undeveloped regions of the world are emphasized.

Prerequisite: BPH 206.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BPH 317. Theories in Growth and Development. 3 Credit Hours.

Application of growth and development theories through the lifespan with a case study approach to issues commonly encountered nursing practice in a variety of clinical settings.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BPH 319. Contemporary Issues in Bioethics for Health Care. 3 Credit Hours.

The course will cover bioethical issues in the health care environment including ethical principles, theories and decision making strategies.

Prerequisite: BPH 206.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BPH 321. Health Promotion and Disease Prevention. 3 Credit Hours.

The focus of this course is on the understanding and implementation of strategies aimed at promoting health and preventing disease. It also focuses on optimal health maintenance and wellness support for individuals, families, and communities. The content of the course includes health across the lifespan and resources associated with health promotion. Common health alternations will be discussed, as well as socio-cultural perceptions of health and illness.

Prerequisite: BPH 206.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BPH 322. Introduction to Health Policy. 3 Credit Hours.

This course provides an introduction to the organization, delivery, and financing of health care in the United States. We will consider policy challenges created by the structure of the health care system, including access to care, quality of care, and cost growth. Major areas of focus will include public insurance programs, private insurance, the uninsured, health disparities, and implementation of health care reform legislation.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

BPH 352. Biological Principles of Public Health. 3 Credit Hours.

This course examines the biological basis and pathogenesis of diseases from a public health perspective and describes the impact on populations. This course also presents the basic scientific and biomedical concepts of modern public health problems and explores in depth mechanisms and models of the major categories of disease. The biologic principles presented in this course are foundations to developing and implementing public health disease prevention, control, or management programs.

Prerequisites: BPH 206 and BIL 150 and BIL 151 and CHM 103 or CHM 111 or CHM 121 and CHM 105 or CHM 113.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BPH 355. Global Nutrition. 3 Credit Hours.

This course examines nutrition related public health issues in the global setting. Nutrition related morbidity and mortality, etiologic factors, and population-focused strategies to address these issues are covered. Food relief and nutrition policies and programs at the local, national and international levels are examined. Current scientific research in international nutrition is reviewed from an epidemiological perspective.

Prerequisite: BPH 206.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BPH 365. Research Methods in Public Health. 3 Credit Hours.

This course utilizes fundamental epidemiological skills to apply concepts and practical issues related to conducting public health research. It covers key processes of research investigations such as the identification of gaps in the field, critical thinking, study design selection, research proposal development, quantitative and qualitative research methods, and best practices for the dissemination of research findings.

Prerequisite: BPH 202 or BPH 206 or BPH 208.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BPH 402. Global Health Disparities Research. 3 Credit Hours.

This is a 4 week intensive educational experience that prepares students to be successful conducting supervised health disparities research as part of the MHIRT program at a foreign institution, disseminating findings, and applying to graduate school. The training program is broken into a preparation phase (3 weeks prior to leaving to their host country), and a dissemination phase (1 week after they return). Students will be working as a research assistant at a foreign site for eight weeks in between the preparation and dissemination phases of this training program. Students will learn about the influence of culture and healthcare policy on health and health disparities, research design, statistics, communicating research findings and careers in health disparities research.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BPH 419. Contemporary Health Issues in South Florida. 3 Credit Hours.

This course will provide students with an in-depth look at public health topics relevant to communities in South Florida. Emphasis will be placed on the social, cultural, and policy issues that impact the health of vulnerable populations in our community. Interdisciplinary researcher knowledge and practice from the University of Miami and other relevant institutions will be highlighted.

Prerequisite: BPH 206.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

BPH 461. Practicum in Health Disparities Research. 1-4 Credit Hours.

This course is designed to provide opportunities for students across all levels of higher education to participate in health disparities research. Students will be mentored by a health disparities researcher with an active research project. Objectives will be established by the research mentor and the student according to educational level, interests and opportunities. Students will be incorporated into the research team and expected to attend project meetings. They will also be expected to participate in scholarly work that could contribute to the success of the project. Examples of scholarly work include co-authoring research papers and presentations, developing recruitment materials, assisting in compiling/developing data collection measures, or any other product deemed appropriate by the mentor.

Components: PRA.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BPH 465. Public Health Statistics and Data Management. 3 Credit Hours.

This course is designed to give students an opportunity to apply basic principles of statistics and data management in public health. Students will learn to use statistical techniques to answer questions relating to the morbidity and mortality of health conditions and the efficacy and effectiveness of public health interventions.

Prerequisites: BPH/HCS/NUR 202 and BPH 206.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BPH 487. Global Health Practicum. 3 Credit Hours.

Collaborative clinical venture between UM/SON and an International School of Nursing. Students will exchange supervised western clinical experiences, knowledge and skills for the care of clients and families in specialty areas, including MedSurg, ICU and/or Emergency nursing units. Students will apply and synthesize basic science knowledge and skills that foster ethical, legal, and culturally specific health care.

Components: PRA.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BPH 490. Field Practicum in Community Health. 3 Credit Hours.

This course provides students with field experiences in community health. During the didactic portion of the course, students will be introduced to the basic principles and methods used in community health assessment, program development, program implementation, and evaluation. During the field experience component of the course students will work under the supervision of lead faculty to apply the knowledge and skills they obtained during their course of study to address a public health issue.

Prerequisite: BPH 206 and 208 and 321 and 465.

Components: PRA.

Grading: GRD.

Typically Offered: Spring.

BPH 499. Selected Topics. 6.00 Credit Hours.

Offerings will vary by semester based upon student demand and availability of faculty.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

Radiology (RAD)

RAD 101. Survey. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

Real Estate Development (RED)

RED 601. Introduction to Real Estate Development and Urbanism. 3 Credit Hours.

Fundamentals of real estate development of urban places, including the many challenges of the development process such as analyzing market sectors and development opportunities, comprehending the development context of regulation, public policy and politics, raising investment capital, assembling land, program formulation, building types, construction management, marketing, and sales.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

RED 610. Financing Urban Real Estate Development. 3 Credit Hours.

Concepts and techniques for analyzing financial decisions in property development and investment including: real estate economics and investment performance measurement, leasing and property income streams, pro forma analysis, basics of equity and debt valuation, income tax and leverage considerations, mortgages, and deal structures. Emphasis financing individual projects.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

RED 620. Real Estate Law. 3 Credit Hours.

Fundamentals of law and the entitlement process, including contractual aspects of real estate development, finance, management and ethical issues and a real-world overview of the review and approvals process.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

RED 630. Real Estate Market Analysis. 3 Credit Hours.

Identification of critical market factors that determine development opportunities. Topics include business and construction cycles, regional and urban growth trends, commercial and industrial location theories, and advanced demographic analysis and projection techniques to project and analyze occupancy, rental growth, absorption, and competitive supply.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

RED 640. National Charrette Institute (NCI). 1 Credit Hour.

Participants learn practical skills, tools and techniques through new interactive, hands-on exercises practiced on four case study types for all aspects of public participation in community planning. The purpose of this training is to teach the tools and techniques for planning and running a successful design and development project using a NCI charrette and to give participants a practical understanding of the power of the NCI Charrette System to create sustainable communities. In addition to completing the NCI charrette planner certification program students learn about case studies and apply their learning to prepare for their Capstone Workshop.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

RED 650. Complex Urban Real Estate Transactions. 3 Credit Hours.

Real estate transactions and deal structuring from the development perspective. Using the case study method, the course explores the key components and the disciplines needed for successful real estate transactions and projects.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

RED 660. Urban Infill, Preservation, and Mixed Use Development. 3 Credit Hours.

Builds students' competencies for infill and redevelopment practice focusing on: mixed-use development, transit oriented development, barriers and solutions for urban infill development, urban site analysis, repositioning of urban land, vacant and underutilized properties, long-term land leases, tax incentives, historic preservation, public-private partnerships, business improvement districts, tax increment financing, community (re)development districts, parking strategies, and urban housing types.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

RED 670. Construction and Project Management. 3 Credit Hours.

Management of construction projects including legal considerations and techniques of management science applied to construction. Includes engineering methods of cost and time estimating, and exercises in applications of engineering economics, flow charts, tracking progress, construction contracts, indemnity agreements, and network planning techniques including CPM and PERT.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

RED 680. Entrepreneurship in Real Estate Development. 3 Credit Hours.

Focuses on management and business practices for building new urban real estate firms capable of leading the industry and assuming competitive advantages over conventional models.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

RED 690. Case Studies in Real Estate Development. 3 Credit Hours.

Students integrate and apply their learning and skills to complex problem-solving involving a series of intensive real world cases of urban real estate development. Focuses on project feasibility and helps hone the required set of development skills.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

RED 699. Capstone: Real Estate Development and Urbanism Charrette. 1-3 Credit Hours.

An intensive real estate development and urban design studio in which students are part of a multi-disciplinary team on an urban development project. Focuses on comprehensive analysis, project planning, feasibility and program development through the application of advanced development skills in an urban context.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

Real Property Development

RPD 134. Real Property and Government. 2 Credit Hours.

Requisite: Plan of Real Property.

Components: LEC.

Grading: GRD.

RPD 178. Mortgage Law. 2 Credit Hours.

Requisite: Plan of Real Property.

Components: LEC.

Grading: GRD.

RPD 257. Construction Law. 3 Credit Hours.

Components: LEC.

Grading: GRD.

RPD 647. Introduction to ARGUS. 1 Credit Hour.

Requisite: Plan of Real Property.

Components: LEC.

Grading: GRD.

RPD 648. ARGUS II. 1 Credit Hour.

Requisite: Plan of Real Property.

Components: LEC.

Grading: GRD.

RPD 823. Real Property Internship. 1 Credit Hour.

Requisite: Plan of Real Property.

Components: LEC.

Grading: GRD.

RPD 900. Basic Real Estate Tax. 2 Credit Hours.

Requisite: Plan of Real Property.

Components: LEC.

Grading: GRD.

RPD 901. Planning and Zoning. 2 Credit Hours.

Requisite: Plan of Real Property.

Components: LEC.**Grading:** GRD.**RPD 904. Land Securities and Finance. 2 Credit Hours.**

Requisite: Plan of Real Property.

Components: LEC.**Grading:** GRD.**RPD 920. Hospitality. 1 Credit Hour.**

Requisite: Plan of Real Property.

Components: LEC.**Grading:** GRD.**RPD 921. Negotiation Skills. 1 Credit Hour.**

Requisite: Plan of Real Property.

Components: LEC.**Grading:** GRD.**RPD 923. Introduction to Real Estate Development. 2 Credit Hours.**

Requisite: Plan of Real Property.

Components: LEC.**Grading:** GRD.**RPD 924. Real Estate Documents Workshop. 2 Credit Hours.**

Requisite: Plan of Real Property.

Components: LEC.**Grading:** GRD.**RPD 925. Re Doc W/S II. 1 Credit Hour.**

Requisite: Plan of Real Property.

Components: LEC.**Grading:** GRD.**RPD 926. Problem-Solving in Real Property Development. 2 Credit Hours.**

Requisite: Plan of Real Property.

Components: LEC.**Grading:** GRD.**RPD 932. Basic Condos, Coops, and Planned Unit Development. 2 Credit Hours.**

Requisite: Plan of Real Property.

Components: LEC.**Grading:** GRD.**RPD 934. Financial Analysis of Real Estate Transactions. 1 Credit Hour.**

Requisite: Plan of Real Property.

Components: LEC.**Grading:** GRD.**RPD 935. Introduction to Affordable Housing. 1 Credit Hour.**

Requisite: Plan of Real Property.

Components: LEC.**Grading:** GRD.**RPD 945. Affordable Housing II and Practicum. 2 Credit Hours.**

Requisite: Plan of Real Property.

Components: PRA.**Grading:** GRD.**RPD 953. Real Estate Transactions. 2 Credit Hours.**

Requisite: Plan of Real Property.

Components: LEC.**Grading:** GRD.**RPD 956. Securitization of Real Estate. 1 Credit Hour.**

Requisite: Plan of Real Property.

Components: LEC.**Grading:** GRD.

RPD 961. Commercial Real Estate Leasing. 2 Credit Hours.

Requisite: Plan of Real Property.

Components: LEC.

Grading: GRD.

RPD 963. Distressed Property Workouts. 2 Credit Hours.

Requisite: Plan of Real Property.

Components: LEC.

Grading: GRD.

RPD 965. Real Estate Project Development. 2 Credit Hours.

Requisite: Plan of Real Property.

Components: LEC.

Grading: GRD.

RPD 966. Advanced Condos, Coops, and Planned Development. 2 Credit Hours.

Requisite: Plan of Real Property.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

RPD 967. Drafting, Design, and Construction Documents. 1 Credit Hour.

Requisite: Plan of Real Property.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

RPD 969. Law of Green Buildings. 1 Credit Hour.

Requisite: Plan of Real Property.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

RPD 971. Environmental Regulation of Real Property. 1 Credit Hour.

Requisite: Plan of Real Property.

Components: LEC.

Grading: GRD.

RPD 975. Title Insurance. 1 Credit Hour.

Requisite: Plan of Real Property.

Components: LEC.

Grading: GRD.

Religious Studies (REL)

REL 100. Introduction to Hinduism. 3 Credit Hours.

Introduces academic ways of studying religious traditions, and, in particular the tradition(s) of Hindu practice. A religious tradition with contested dates of origins, Indic religious practices that now fall under the term "Hindu" are documented as early as 1500 BCE. The ideas, philosophies and practices that are called Hinduism today grew and diversified through periods of regional empire in the Indian subcontinent, through Indian expansion into the Indian Ocean region, during the arrival and colonization of Persian and European powers in India, and into the modern period of Indian democracy - and beyond. Today, Hindu practices are part of the landscape not only in India, but in Europe, Africa, the Middle East, Southeast Asia and the Americas, too.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

REL 101. Introduction to Religion. 3 Credit Hours.

An overview of religious perspectives concerning ultimate reality, humankind, and the world, with special attention to major Asian and Abrahamic religions.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

REL 102. Problem of God. 3 Credit Hours.

Contemporary religious issues related to the concept of God. Foundational to this course is an examination of the religious dimension of human experience and consciousness in relation to a number of historical and contemporary problems and challenges. This course approaches the problem of God from the angle of human experience, focusing on the various historical, social, and existential determinants of belief. Topics include: globalized religion, the challenge of atheism and humanism, the impact of secularization on religion, and an exploration of the historical, social, and theological images of creation and the divine.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

REL 103. One God: Judaism, Christianity, Islam. 3 Credit Hours.

Monotheism is one of the most important ideas in human history. This course examines how Judaism, Christianity, and Islam have lived it, understood it and interpreted it. The basic structures of all three religions and explore their similarities, differences and interactions on a set of critical issues, both contemporary and classical. The course will encourage students' conversation and active participation.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

REL 105. One Goal: Transforming the Self in Asian Religions. 3 Credit Hours.

A selective survey of some of the continent's major religious traditions that attempts to provide a sense of their diversity, including a hint of their internal diversity. We will encounter major figures, doctrines, and ethical precepts, but special attention will be paid to one key element shared that distinguishes them from their Abrahamic counterparts (Judaism, Christianity, and Islam): the one goal of self-transformation and the techniques for achieving it. Here we will find the differences among traditions thrown into stark relief even as we encounter surprising parallels and continuities. Along the way students will be exposed to major concepts and approaches to the academic study of religion.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

REL 109. Anthropology of Religion. 3 Credit Hours.

Through themes such as myth, word and text, symbol, gender, pilgrimage, embodiment, and ritual, students learn about lived religion through anthropological research and field methods. The course also exposes introductory-level students to diverse world religious traditions: Korean folk religion, Indonesian Islam, Hinduism in diaspora, Judaism across cultures, Japanese temple Shinto traditions, and more.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

REL 111. Introduction to the Old Testament / Hebrew Scriptures. 3 Credit Hours.

The history and literature of ancient Israel and early Judaism.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

REL 119. Courses taken at other institutions with no direct equivalents.. 1-4 Credit Hours.

Awarded for course work at another institution for which LTM has no direct equivalent.

Components: LEC.

Grading: GRD.

REL 121. Introduction to the New Testament. 3 Credit Hours.

The history and literature of the early Christian movement.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

REL 131. Religion in America. 3 Credit Hours.

The history of religion in the U.S. from the pre-colonial period to the present. Includes study of the religion of Native Americans, African Americans, Asian Americans, women, Protestants, Catholics, Jews, and cults.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

REL 139. Course taken at other institutions with no direct equivalents. 1-4 Credit Hours.

Awarded for course work at another institution for which UM has no direct equivalent.

Components: LEC.

Grading: GRD.

REL 151. Religion and Moral Choices. 3 Credit Hours.

Religious responses to dilemmas raised by issues such as capital punishment, biotechnology, abortion, euthanasia, and war.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

REL 159. Courses taken at other institutions with no direct equivalents. 1-4 Credit Hours.

Awarded for course work at another institution for which UM has no direct equivalent.

Components: LEC.

Grading: GRD.

REL 161. Religion and Medicine: Health Care as Spiritual Practice. 3 Credit Hours.

An exploration of the history of medical care and the history of medicine as calling, as well as the changing professionalism of health care; the role of virtue ethics in the practice of medicine; the tensions between religion and medicine; the place of personal religious beliefs in health care; and the changing landscape of health, holism, healing, faith, and the science of medicine.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

REL 181. Asian Religions. 3 Credit Hours.

The religions of Asia loom large in American popular consciousness, yet are at best dimly understood. This course will peel back the platitudes of fortune cookies and "Eastern wisdom" to reveal the richness of Asian religious traditions in their cultural contexts. Students in this highly selective survey will be exposed to some of the major traditions of South and East Asia, gaining a familiarity with their ideas, practices, and sacred figures as well as certain key issues and categories in the academic study of religion.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

REL 219. Courses taken at other institutions with no direct equivalent. 1-4 Credit Hours.

Awarded for course work at another institution for which UM has no direct equivalent.

Components: LEC.

Grading: GRD.

REL 231. Jewish Civilization and Being Jewish. 3 Credit Hours.

Introduction to Jewish Civilization from Abraham to present.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

REL 232. A Global History of Christianity. 3 Credit Hours.

A survey of the historical development of Christianity from the first century to the present, focusing on the major theological and institutional issues considered in their social and cultural contexts.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

REL 236. Cults and New Religious Movements in America. 3 Credit Hours.

Twentieth and twenty-first century religious groups in America, so-called "cults" or new religious movements (NRM's), located on the periphery of "mainstream" religion. An examination of the origins, beliefs, attraction, and interaction of the NRMs from a variety of disciplinary perspectives (historical, psychological, sociological) as well as from another variety of disciplinary perspectives (potential for violence, "brainwashing", involvement of women, and charismatic leadership). The goal is to increase our understanding of certain aspects of contemporary religious activity and the general societal response to them, and hence, of religion in general. The task is not to commend or condemn particular religious' groups, but rather to attempt to reach some understanding of them, first on their terms, then on ours in the appropriate disciplinary contexts.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

REL 238. Holy War and Toleration in Western Religious Traditions. 3 Credit Hours.

An exploration of concepts of Holy War and Just War and of traditions of tolerance and intolerance in Judaism, Christianity, and Islam, from ancient times to the present.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

REL 239. Transfer Credits. 1-4 Credit Hours.

Courses taken at other institutions with no direct equivalents (Religious or Historical Traditions subject area).

Components: LEC.

Grading: GRD.

REL 240. Pilgrims, Shrines, Crusades and Saint in Spain. 3 Credit Hours.

The diversity and complexity of the unique kind of Catholic culture which developed in Spain. The focus is on the formative period from 700 to 1700 CE and the major trends in both formal Spanish Catholic thought and everyday lived religion. Themes of pilgrimage, shrines, religious wars, and sainthood are examined. Because Spain in effect exported this particular form of Catholicism to the Americas beginning in 1492, an appreciation of Spanish Catholicism ought to have particular resonance for students interested in Latin America today.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

REL 242. Religion in Revolutionary History. 3 Credit Hours.

Explores the pivotal role of religion in the revolutions that have shaped the modern Western world: the Puritan Revolt in 17th-century England, the American/French Revolutions of 1776 and 1789, and the Russian (Communist) Revolution of 1917.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Summer.

REL 250. Spiritual, Not Religious: Spirituality in the 21st Century. 3 Credit Hours.

An examination of the spiritual outlets and the fabric of religious life in the 21st century, including the New Age movement, the rise of yoga as a spiritual practice, the growth of the self-help phenomenon, the influence of spiritually-oriented figures like Oprah, and the adaptation of religious practice to spiritual seeking. In particular, we will filter this discussion through the experience of the growing percentage of relatively young Americans have no affiliation with religious institutions, many of whom feel attracted to an uncoordinated and decentralized spirituality directed by an individual's life and practice, rather than a church or particular religion.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

REL 252. Religion and Human Sexuality. 3 Credit Hours.

The relationship between religious concepts and sexual values as the religious traditions of the United States confront contemporary sexual ethics and behavior.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

REL 255. Religion and Sports: From the Ancients to the Present. 3 Credit Hours.

The intersection of sports and religion from the ancient Greeks to the present, with attention given to the role of religion and sports in American culture. It examines the functions and significance of sport, play, ritual, and religion, recognizing both the dialectical and intimate relationship between sports and religion. Religion has not only influenced sports and sports has influenced religion; in some cases; the two have merged: sports has become a religion. Through various media we will study the topics of religion and sports, the spirituality of sports, and sports as a religion.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

REL 259. Transfer Credits. 1-4 Credit Hours.

Courses taken at other institutions with no direct equivalents (Religious Issues or Problems subject area).

Components: LEC.

Grading: GRD.

REL 268. Religion in Modern Israel. 3 Credit Hours.

The role of religious values and institutions in modern Israel, with particular attention to religious elements in nationalism, legal traditions, and the political and educational systems.

Components: LEC.

Grading: GRD.

REL 271. Introduction to Islam. 3 Credit Hours.

History of Islam, the Qur'an, and the systematization of Islamic law. Emergence of the theological schools, the mystical and philosophical traditions, and the spread of Islamic civilization.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

REL 281. Introduction to Buddhism. 3 Credit Hours.

The Buddhist tradition from a variety of angles and in several cultural contexts. We will attend to the ideas for which Buddhism is famous, while situating Buddhist practitioners in their social contexts at key historical moments. Throughout we will give attention to the issue of our own perspective and what it means to think across the porous borders of culture in an interrelated world.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

REL 288. Chinese Religions. 3 Credit Hours.

Over the last generation, China has largely thrown off communist ideology, becoming an economic powerhouse that will shape the 21st century. Alongside economic growth has come a rediscovery and revitalization of its religious heritage. But what is this religious heritage? What makes it unique? What does it offer? And how does this heritage shape China's religious scene today? This course addresses these questions through a survey of Chinese religion focusing on the "Three Teachings"—Confucianism, Daoism, and Buddhism—as well as popular religion. We will examine their development and mutual interaction, attending to their thought and practice as well as their historical and social context. Students will gain not only a familiarity with the religious traditions of China, but also cultivate their ability to think historically and to balance sympathetic and critical understanding.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

REL 291. Introduction to Hinduism. 3 Credit Hours.

Sources of Hindu belief and practice date back as early as 1500 BCE, but the mythologies of India harken to time immemorial. The tradition that is now known as Hinduism developed through the rise and fall of empires, the evolution of social hierarchies, and the telling and retelling of colorful stories about heroes and divinities. Today, Hindu practices are part of the landscape not only in India, but in Europe, Africa and the Middle East, Southeast Asia and the Americas, too. Through readings, images and films, this course will introduce the rich and layered diversity of Hindu traditions as well as provide exposure to the methods and theories of Religious studies.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

REL 301. Ancient Greece. 3 Credit Hours.

Greek civilization from the Late Bronze Age to the end of Greek independence at the battle of Chaeronea in 338 B.C.E.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

REL 302. The Hellenistic Age. 3 Credit Hours.

Conquests of Alexander the Great and the spread of Greek culture in the Near East under Alexander's successors until the death of Cleopatra in 31 B.C.E.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

REL 303. The Roman Republic. 3 Credit Hours.

Roman civilization from the establishment of the Republic until the Battle of Actium in 31 B.C.E.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

REL 304. The Roman Empire. 3 Credit Hours.

Roman civilization from the reign of Augustus in 27 B.C.E. to the Fall of Rome in 476 C.E.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

REL 305. The Ancient Near East: Religion and Culture. 3 Credit Hours.

Historical and cultural forces in the major religions of the ancient Near East, from 3000 to 300 B. C. E. Cultural achievements such as the Epic of Gilgamesh, the pyramids and the Bible.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

REL 306. Religion and Culture in Ancient Egypt. 3 Credit Hours.

A survey of religion and culture in Ancient Egypt from pre-dynastic times to the Roman era.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

REL 307. Religion and Culture in Pre-Islamic Arabia. 3 Credit Hours.

A survey of religion and culture in Arabia from prehistory to the coming of Islam.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

REL 308. The Greco-Roman Context of Early Christianity. 3 Credit Hours.

The Greco-Roman world in which the first Christians lived, with particular emphasis given to the historical, moral, political, religious, rhetorical, and social contexts of early Christianity.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

REL 311. Prophecy and Prophetic Literature in the Hebrew Bible. 3 Credit Hours.

Prophecy in ancient Israel and Judah and the prophetic literature of the Hebrew Bible in relation to its ancient near-eastern historical, religious, and social context.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

REL 312. The Torah and Ancient Law. 3 Credit Hours.

The first five books of the Hebrew Bible (Genesis, Exodus, Leviticus, Numbers, Deuteronomy) in relation to their ancient Near Eastern historical, cultural, and religious context.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

REL 314. The Rise of Judaism. 3 Credit Hours.

The history and literature of early Judaism, covering the period from the fall of Jerusalem in 587/586 BCE to the beginnings of rabbinic Judaism and the formation of the Mishnah (ca.200 CE).

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

REL 315. Jewish Mysticism. 3 Credit Hours.

A survey of the major ideas and texts dealing with Jewish Mysticism (Kabbalah, Hassidism).

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

REL 319. Transfer Credits. 1-4 Credit Hours.

Courses taken at other institutions with no direct equivalents (Religious Literature or Texts subject area).

Components: LEC.

Grading: GRD.

REL 321. Jesus and the Gospels. 3 Credit Hours.

An examination of the Jesus tradition, focusing on the formative period of the first two centuries. Special emphasis on the four New Testament Gospels, with a survey of the treatment of Jesus in other documents, both Christian and non-Christian.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

REL 322. The Apostle Paul: Letters, Controversies, and Philosophy. 3 Credit Hours.

The heritage, writings, and legacy of the apostle Paul. Careful analysis of the Pauline corpus (especially Romans), with particular attention given to the radically different interpretations of Paul in both ancient and modern thought.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

REL 324. The Bible and Modern Film. 3 Credit Hours.

The diverse ways in which contemporary cinematic arts interpret and depict narratives from the Bible and the ancient Mediterranean world.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

REL 325. Jesus in Myth and History. 3 Credit Hours.

Changing concepts of Jesus in Western culture, as they emerge in literature, art, and films.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

REL 326. The Bible in History. 3 Credit Hours.

The use of key biblical texts in the history of Christianity. First, it gives general attention to the ways in which Christians have understood the Bible through two thousand years of history. Second, it explores the relationship between the Bible and important historical developments in Christianity with close attention to particular episodes. We seek to answer the question of why biblical texts lie dormant or are largely ignored and then spring to life, become the focus of attention, and transform the way people think and live.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

REL 330. Caribbean Religion. 3 Credit Hours.

Caribbean Religion with an emphasis on African Diaspora and Creole religions. The religious traditions we will cover include: Rastafarianism, Regla de Ocha (Santeria), Voodoo, Espiritismo, Regla de Palo, and Obeah.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

REL 331. Religions of Asia. 3 Credit Hours.

The major religions of South and East Asia including Hinduism, Buddhism, Confucianism, Taoism, and Shinto.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

REL 332. Judaism, Christianity, and Islam. 3 Credit Hours.

Completes the study of world religions begun in REL 331, but emphasizes the religions of the West. Religions studied: Zoroastrianism, Sikhism, Judaism, Christianity, and Islam. May be taken without having had REL 331.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

REL 334. The American Jewish Experience: Hollywood and Popular Culture. 3 Credit Hours.

Analysis and interpretation of the image of the Jew and the Jewish experience in American cinema, with emphasis on how the experience and attitudes of Americans in general and the American Jewish community in particular have been reflected on the screen from the pre-World War II period until the present and on the tension between maintaining an ethnic identity and assimilating.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

REL 335. American Religion in Modern Film. 3 Credit Hours.

A study of the role of religion (primarily Christianity) in popular culture and the way in which religion becomes the vehicle for aesthetic, social, political, and other cultural purposes. Exploration of contemporary American religious life with special attention given to groups and issues depicted through the medium of film. We focus on how film uses religion rather than on how religion uses film. That is, we analyze how mainstream movies (both directly religious and essentially secular) appropriate religious imagery and themes, rather than how religions use film to communicate their beliefs and practices.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

REL 336. The American Encounter with Asian Religions. 3 Credit Hours.

A study of inter-cultural interaction and inter-religious encounter focusing on the history of American responses to Asian religions from 1784 to the present.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

REL 338. Latin American and U.S. Latino/a Religion. 3 Credit Hours.

The roots of Latino/a religion in Indigenous, African, and Spanish culture and religiosity. Issues of race, identity, politics, and culture will feature prominently throughout the course.

Components: SEM.

Grading: GRD.

Typically Offered: Fall.

REL 339. Transfer Credits. 1-4 Credit Hours.

Courses taken at other institutions with no direct equivalents (Religious or Historical Traditions subject area).

Components: LEC.

Grading: GRD.

REL 341. Modern Religious Thought I. 3 Credit Hours.

The main currents and major figures in Western religious thought from the beginnings of the Enlightenment to the middle of the nineteenth century.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

REL 342. Modern Religious Thought II. 3 Credit Hours.

Western religious thought from the middle of the nineteenth century to the present.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

REL 343. Saints and Sinners: Introduction to Catholicism. 3 Credit Hours.

This course considers contemporary forms of Catholic piety, social ethics, political action, and theology.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

REL 345. Religion and Gender. 3 Credit Hours.

Examination of what we know about the lives of woman (and men) from the classical period through modernity, with an emphasis on sexuality and gender in ancient Greece and Rome. Using cross-cultural analysis and a variety of ancient literature, scholarship and material culture, together we will reconstruct and (re)examine the socio-cultural environments and practices that have fostered Western discourses on sexual difference and gender identity over time, paying particular attention to how religion and religious practices are integral to understandings of the natural world, natural law and the self. Some of the questions we will ask include: What does it mean to be male or female? What can we discover about ourselves from the way(s) we have sex? How are all these things related to life, love, power?

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

REL 347. Experiencing Religion: Conversion. 3 Credit Hours.

The phenomenon of religious conversion from a multi-disciplinary (anthropological, historical, psychological, sociological) perspective in a variety of religious traditions, which address the following questions: What is religious conversion? What are the factors that make religious conversion viable for some people? How do we describe, explain, and evaluate religious conversion? Special emphasis is given to the history of Christian conversion.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

REL 348. Reformation Europe. 3 Credit Hours.

The religious, political, cultural, social, and economic forces that produced a schism in 16th-century Western Christendom. Note: May be taken for credit in only one department as REL 348 or HIS 328.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

REL 349. All Roads Lead to Rome: A Multi-Disciplinary Approach to Religion and Rome. 3 Credit Hours.

This course examines Rome's role as importer, exporter, cultivator, and transformer of religion and the religious life, giving attention to both the past and the present. Students will increase their awareness of the important elements of the major religions discussed in class—their myths, symbols, rituals, doctrines, moral codes, and artistic expressions—and the ways in which Rome has influenced them.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

REL 350. Current Issues in Religion. 3 Credit Hours.

Individual study and group discussion of the relevance of religion to contemporary issues such as race conflict, women's rights, intermarriage, refugees, media, prejudice, and counter culture groups.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

REL 351. Death and Dying. 3 Credit Hours.

For as long as we have documented history on the subject, human beings have debated issues about what it means to be mortal, what it means to live well, how to die well and whether death is truly the end of life. This course surveys discourses about death and death rituals from the ancient Mediterranean (ancient Egypt, Greece and Rome) to the present day. Some of the issues we will discuss include (but are not limited to): the history of certain perspectives on illness, death and burial; the relationship between organized religious systems and death and dying; personhood; theodicy; euthanasia; suicide; and the afterlife.

Components: SEM.

Grading: GRD.

Typically Offered: Fall.

REL 352. Religion and Science. 3 Credit Hours.

The religious and ethical issues created by modern science and technology.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

REL 353. Religion and American Politics. 3 Credit Hours.

Religious and ethical issues at debate in the American political scene.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

REL 354. Religion and the Problem of Evil. 3 Credit Hours.

Major religious perspectives on the origin and nature of evil and human suffering.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

REL 355. Religion and Its Interpreters. 3 Credit Hours.

Nineteenth and twentieth century Western interpretations of religion including anthropological, sociological, psychological, theological, literary, and feminist approaches.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

REL 356. Myth and Religion. 3 Credit Hours.

How humans use language to form and communicate conceptions of reality, focusing on the highly elusive concept "myth"; special attention to the concept's usefulness for thinking about religion.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

REL 357. Gender, Power, Gods. 3 Credit Hours.

The relationship between sex, gender, and ethics in Judaism, Christianity, Islam and Hinduism. Topics covered include feminism, race and ethnicity, homosexuality, transsexuality, and masculinity.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

REL 358. The Color of God: Race and Religion. 3 Credit Hours.

This course will examine the role of race and ethnicity within the discipline of religious studies. We will emphasize the manner in which racial and ethnic identity have contributed to religious identity, and the way in which religion has functioned within the struggles of racially and ethnically marginalized peoples. This course will focus on the Americas and draw from diverse racial, ethnic, and religious traditions.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

REL 359. Transfer Credits. 1-4 Credit Hours.

Courses taken at other institutions with no direct equivalents (Religious Issues or Problems subject area).

Components: LEC.

Grading: GRD.

REL 360. Religion and Bioethics. 3 Credit Hours.

The implications of religious thought for contemporary problems of biomedical ethics.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

REL 361. Religion and Youth in Contemporary America. 3 Credit Hours.

An interdisciplinary examination of the role of religion in the lives of teenagers and college students in contemporary America.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

REL 362. The Sanctity of Life: Selected Themes From the Ancient World to the Present. 3 Credit Hours.

This course examines the religious foundation of the idea that human life is "sacred" and considers a wide range of historical and ethical issues associated with this central concept of Western thought. It explores the meaning of the multi-faceted phrase "sanctity of life," including its implications for such ethical and legal concerns as conception, birth, and termination of life; human dignity and human rights; the quality of life; and social justice. Some of the issues considered will include bigotry and prejudice; economic and social injustice; euthanasia, infanticide, and suicide; genocide, holy war, jihad, terrorism, and violence; health care and its cost; human trafficking and slavery; martyrdom and self-martyrdom; social-stratification; aging, death, disposal of the body; and the afterlife, especially in Dante's *Inferno*. We will examine how "life" is defined and described in different cultures at different times in history, and how various religions have influenced these matters.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

REL 363. Religion and Science Fiction: Dystopia, Faith, and the Future. 3 Credit Hours.

Issues surrounding "dystopia" and religion. We will study sustainability movements, authentic vs. synthetic nature, bioethics, technology, and their effects on modern spirituality and the future of religion. In order to discuss these topics, we will examine the intersections between the cultural significance of various dystopic science fiction novels, short stories, video games, television shows, and films with religion.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

REL 364. Spiritual Healing in the Americas from Controversy to Cure. 3 Credit Hours.

Miraculous and nonmedical healing is often accused of being superstitious and bogus, particularly when it comes in conflict with scientific knowledge, biomedical practices, and government regulation. In spite of this religious healing today has garnered increasing visibility and legitimacy. This course explores an interdisciplinary discussion of religious healing in the Americas with an emphasis on healing practices in numerous religious traditions and controversies surrounding faith healing.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

REL 370. Islam in the Modern World. 3 Credit Hours.

Islam's encounter with the west, the impact of modernization on the Muslim World, and the rise of Islamic Fundamentalism. Islam in America and the Afro-American Islamic movements will also be discussed.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

REL 371. Women, Gender, and Islam. 3 Credit Hours.

An examination of issues related to women and gender with an emphasis upon themes pertaining to the Muslim world. We will study the contributions of progressive/feminist Muslim writers in addition to secular academic research on the subject. Topics include Qur'anic revelations concerning women; gendered ideals that developed after the founder's death; understanding how Islamic texts, rituals, and doctrines have both reinforced and challenged certain gender categories; and the experience of Muslims living in the U.S. and the Middle East, addressing racial as well as gendered hierarchies.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

REL 372. Islam and the United States: The Politics of Race, Media, and Terrorism. 3 Credit Hours.

A critical review of the cultural and political history of U.S. relations with various Muslim communities both domestic and foreign. Major themes include the experience of Muslims in North America, xenophobia, racism, national security, law enforcement and violence.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

REL 375. Democracy and Religion in Israel and Palestine. 3 Credit Hours.

Israel's evolution as a nation and a society by focusing on the impact of religion on ethnicity, culture, and democracy.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

REL 376. Shi'ism: Religion, Culture, and History. 3 Credit Hours.

The religious, cultural, and historical aspects of Twelver Shi'ism. The course has a film component.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

REL 377. Sufism: Islamic Mysticism. 3 Credit Hours.

The doctrines, practices, teachings, and history of Sufism, the mystical dimension of Islam.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

REL 378. Religion and Civic Engagement. 3 Credit Hours.

The role of religion within civic engagement, the manner in which religion is a driving force behind civic engagement in the United States. Issues that will be covered include: immigration, gender, law, youth, religious pluralism, and racism. Emphasis will be placed on the relationship between critical thinking and concrete action, as well as the intersection of belief and social transformation. This is a service-learning course that will integrate course material with student service placements. Students will be required to do service learning throughout the semester.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

REL 380. Archaeology of Palestine from Prehistory to Islam. 3 Credit Hours.

A survey and analysis of the major archaeological excavations and surveys of Palestine.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

REL 383. Activist Bodhisattvas: Buddhist Ethics and Social Engagement. 3 Credit Hours.

One of the most important developments in modern Buddhism has been the turn toward social engagement and activism. Across Asia and beyond, Buddhist organizations and movements have emerged that consider improving society to be an intrinsic Buddhist concern alongside the classic focus on perfecting the self. Where does this development come from? To what degree is it a departure from previous tradition? How do these movements reconceive and rearticulate Buddhist teachings and practices to address the problems of their societies and the global community? What perspectives does socially engaged Buddhism offer to others movements seeking to address the ills of our time? This course will explore these questions through a consideration of selected examples drawn from several Buddhist traditions

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

REL 384. Karma. 3 Credit Hours.

Karma is one of the most central doctrines of Buddhism and by far the most viral. Through lip jars, pop songs, and TV shows, the concept has become familiar to many. But what is karma? How does it work? What does it mean to live in a karmic universe? This course will examine these questions through a consideration of Buddhist doctrine, ritual, ethics, and narrative.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

REL 388. Living Stories: Narrative in Asian Traditions. 3 Credit Hours.

In popular culture, Asian religions are referred to as "Eastern Philosophy." Yet, philosophical doctrine is only one part of Asian religious traditions and for many not the most prominent. Oftentimes narrative, key stories or modes of storytelling, occupies a more central role. But what is that role? How do narratives transmit religious ideas and values and inform ritual life? How do they evolve over time? And how do religious individuals and communities drawn upon them to work in the world? This course will address these questions through a focus on a few narratives selected Asian religions, such as Hinduism, Buddhism, and Confucianism. We will attend to these stories as living phenomena that evolve over time and play a vital role in their communities and also as something that those communities live with as they make their way through the world.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

REL 391. Bollywood and Beyond: Religion, Gender and Politics in South Asian Film. 3 Credit Hours.

Themes in Indian society through the lens of Indian cinema – both Bollywood and the regional film industry. The course consists of five modules each lasting between two to three weeks. Module one will situate and frame the entire semester's readings with a discussion of a brief history of Bollywood and regional cinema, their respective reach, influence and limits in framing, valorizing or even critiquing societal and cultural norms. Each subsequent module will open to lecture and discussion with the screening of either a Bollywood film (often an excerpt), regional cinema or a documentary. The important themes that will be covered in the four modules will relate to a) the significance, centrality, fluidity and perversion of caste in Indian society; b) the multiple cinematic and popular representations and framing of the religious epic - the Ramayana. Using multiple visual and textual narratives of the Ramayana we will discuss the place of myths in the construction of politics and society; c) issues of gender and sexuality - studying the shaping of celluloid goddesses and real lives of women, consumption of sex, queering of it and its depiction in film and reception in society; d) Colonial and post-colonial engagement with modernity in India – through the lens of the nation state and its women, as well as the nation and its "others": identity politics based on religious exclusivity, communal and secular anxieties in modern India; and e) Diaspora identities and cultural appropriation of Bollywood cinematic frames and references outside India.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

REL 401. Supervised Reading in Religious Literature or Texts. 1-3 Credit Hours.

Independent study to enable students to read extensively in an area of personal interest in religious literature or texts.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

REL 402. Supervised Reading in Religious or Historical Traditions. 1-3 Credit Hours.

Independent study to enable students to read extensively in an area of personal interest in religious or historical traditions.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

REL 403. Supervised Reading in Religious Issues or Problems. 1-3 Credit Hours.

Independent study to enable students to read extensively in an area of personal interest in religious issues or problems.

Components: THI.

Grading: GRD.

Typically Offered: Spring.

REL 404. Special Topics in Religious Literature or Texts. 3 Credit Hours.

Selected topics in religious literature or texts.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

REL 405. Special Topics in Religious or Historical Traditions. 3 Credit Hours.

Selected topics in religious or historical traditions.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

REL 406. Special Topics in Religious Issues or Problems. 3 Credit Hours.

Selected topics in religious issues or problems.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

REL 407. Special Projects in Religious Literature or Texts. 3 Credit Hours.

Selected projects in religious literature or texts.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

REL 408. Special Projects in Religious or Historical Traditions. 3 Credit Hours.

Selected projects in religious or historical traditions.

Components: DIS.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

REL 409. Special Projects in Religious Issues or Problems. 3 Credit Hours.

Selected projects in religious issues or problems.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

REL 419. Transfer Credits. 1-4 Credit Hours.

Courses taken at other institutions with no direct equivalents (Religious Literature or Texts subject area).

Components: LEC.

Grading: GRD.

REL 439. Transfer Credits. 1-4 Credit Hours.

Courses taken at other institutions with no direct equivalents (Religious or Historical Traditions subject area).

Components: LEC.

Grading: GRD.

REL 450. Psychology of Religion. 3 Credit Hours.

Contemporary psychological theory and research on religious belief, experience, and behavior. Topics include the biological bases of religion, religious development, and the links of religion to health and well-being.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

REL 451. Ethics and Genetics. 3 Credit Hours.

Pressing social, ethical, and legal issues raised by our constantly increasing knowledge of genetics, and the applications of this knowledge already available or being proposed. Access to and use of personal genetic information; race and genetics; the diagnosis and treatment of inherited diseases; new modalities of healthcare delivery becoming available through genetics; the current state of stem cell research; genetically modified animals and plants as sources of food, medicines, and fuel; and the use of genomics.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

REL 459. Transfer Credits. 1-4 Credit Hours.

Courses taken at other institutions with no direct equivalents (Religious Issues or Problems subject area).

Components: LEC.

Grading: GRD.

REL 491. Sr. Honors Thesis. 3 Credit Hours.

Directed honors thesis.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

REL 492. Sr. Honors Thesis II. 3 Credit Hours.

Directed honors thesis.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

REL 499. Method and Theory in the Study of Religion. 3 Credit Hours.

An examination of central issues and texts in the academic study of religion, with special focus on the rise of the discipline, its axioms, and its several schools of interpretation.

Requisite: Must be in a Plan of Religious Studies or Religious Studies and Health Care.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

REL 501. Supervised Reading in Religious Literature or Texts. 1-3 Credit Hours.

Independent study to enable students to read extensively in an area of personal interest in religious literature or texts.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

REL 502. Supervised Reading in Religious or Historical Traditions. 1-3 Credit Hours.

Independent study to enable students to read extensively in an area of personal interest in religious or historical traditions.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

REL 503. Supervised Reading in Religious Issues or Problems. 1-3 Credit Hours.

Independent study to enable students to read extensively in an area of personal interest in religious issues or problems.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

REL 505. Seminar in Ancient Studies. 3 Credit Hours.

Various topics in Greek and Roman Studies.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

REL 510. Seminar in Hebrew Bible and Ancient Judaism. 3 Credit Hours.

Selected topics in Hebrew Bible and Ancient Judaism.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

REL 520. Seminar in New Testament and Early Christianity. 3 Credit Hours.

Selected topics in New Testament and Early Christianity.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

REL 530. Seminar in Religious or Historical Traditions. 1-3 Credit Hours.

Selected topics in religious or historical traditions.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

REL 550. Seminar in Religious Ethics. 3 Credit Hours.

Selected issues in religious ethics and their social implications.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

REL 560. Seminar in Contemporary Religious Issues. 1-3 Credit Hours.

Selected topics in contemporary religious issues.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

REL 601. Supervised Reading in Religious Literature or Texts. 1-3 Credit Hours.

Independent study to enable students to read extensively in an area of personal interest in religious literature or texts.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

REL 602. Supervised Reading in Religious or Historical Traditions. 1-3 Credit Hours.

Independent study to enable students to read extensively in an area of personal interest in religious or historical traditions.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

REL 603. Supervised Reading in Religious Issues or Problems. 1-3 Credit Hours.

Independent study to enable students to read extensively in an area of personal interest in religious issues or problems.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

REL 605. Seminar in Ancient Studies. 3 Credit Hours.

Various topics in Greek and Roman Studies.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

REL 610. Seminar in Hebrew Bible and Ancient Judaism. 3 Credit Hours.

Selected topics in Hebrew Bible and Ancient Judaism.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

REL 620. Seminar in New Testament and Early Christianity. 3 Credit Hours.

Selected topics in New Testament and Early Christianity.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

REL 630. Seminar in Religious or Historical Traditions. 1-3 Credit Hours.

Selected topics in religious or historical traditions.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

REL 650. Seminar in Religious Ethics. 3 Credit Hours.

Selected issues in religious ethics and their social implications.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

REL 660. Seminar in Contemporary Religious Issues. 1-3 Credit Hours.

Selected topics in contemporary religious issues.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

Research Training (RST)

RST 401. Responsible Conduct of Research. 0 Credit Hours.

Components: THI.

Grading: CNC.

Typically Offered: Fall & Spring.

RST 402. Responsible Conduct of Research. 0 Credit Hours.

Components: THI.

Grading: CNC.

Typically Offered: Fall & Spring.

RST 411. Responsible Conduct of Research. 0 Credit Hours.

Components: DIL.

Grading: GRD.

Typically Offered: Fall & Spring.

RST 412. Responsible Conduct of Research. 0 Credit Hours.

Components: DIL.

Grading: GRD.

Typically Offered: Fall & Spring.

RST 501. Responsible Conduct of Research. 0 Credit Hours.

Online research ethics training via CITI Program Responsible Conduct of Research course.

Components: THI.

Grading: SUS.

Typically Offered: Fall & Spring.

RST 502. Responsible Conduct of Research. 0 Credit Hours.

Research ethics training via Ethics Programs Responsible Conduct of Research classroom course.

Components: LEC.

Grading: SUS.

Typically Offered: Fall & Spring.

RST 511. Responsible Conduct of Research. 0 Credit Hours.

Components: DIL.

Grading: GRD.

Typically Offered: Fall & Spring.

RST 512. Responsible Conduct of Research. 0 Credit Hours.

Components: DIL.

Grading: GRD.

Typically Offered: Fall & Spring.

RST 601. Responsible Conduct of Research. 0 Credit Hours.

Online research ethics training via CITI Program Responsible Conduct of Research course.

Components: THI.

Grading: SUS.

Typically Offered: Fall & Spring.

RST 602. Responsible Conduct of Research. 0 Credit Hours.

Research ethics training via Ethics Programs Responsible Conduct of Research classroom course.

Components: LEC.

Grading: SUS.

Typically Offered: Fall & Spring.

RST 611. Responsible Conduct of Research. 0 Credit Hours.

Components: DIL.

Grading: GRD.

Typically Offered: Fall & Spring.

RST 612. Responsible Conduct of Research. 0 Credit Hours.

Components: DIL.

Grading: GRD.

Typically Offered: Fall & Spring.

RST 720. Research Ethics. 3 Credit Hours.

Course focuses on topics related to what is sometimes called the "responsible conduct of research" (RCR). It covers the landscape of "scientific integrity" - both the principles and day-to-day practicalities of research ethics. The course is inter-disciplinary in its approach. Readings and other materials used as part of the course draw on the examples from many academic fields, and are intended to have application to any academic or professional area of study in which research is conducted.

Components: THI.

Grading: SUS.

Typically Offered: Fall.

RSMAS General (RSM)

RSM 500. Research Diving Techniques. 3 Credit Hours.

This course is designed to introduce students to the practices and policies of scientific diving. The object is to prepare students to use SCUBA as a research tool for the marine sciences. The course content will qualify students as RESEARCH DIVERS under the UM/RSMAS Scientific Diving Program and will meet the standards set by the American Academy of Underwater Sciences (AAUS).

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

RSM 510. Environmental Ethics. 3 Credit Hours.

This course will introduce students to a variety of key issues and concepts in environmental ethics. The course will be a joint scientific and philosophic collaboration, exploring the ethical dimensions of controversial and emerging issues in biotechnology and the environment. After students are exposed to the scientific background of various actual case studies focusing on current environmental and social impact, the ethical and philosophical issues raised by the discussions will be explored using the tools and methods of analytic philosophy. The course will develop the student's ability to construct and evaluate philosophical arguments in the field of environmental ethics, and to reason philosophically on numerous questions in contemporary applied ethics.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

RSM 512. Statistics for Environmental Management. 3 Credit Hours.

This course covers the statistical theory, tools, and methods required for management analysis and improvement, emphasizing marine science applications.

Components: THI.

Grading: GRD.

Typically Offered: Fall.

RSM 513. Statistical Modeling of Extreme and Rare Events. 3 Credit Hours.

The course will focus on rare events and extreme values observed in nature. In particular, students will learn: advanced statistical methods of data analysis, as well as concepts of probability and predictability; statistical modeling of rare and extreme events; and applications of these advanced techniques to real atmospheric and oceanic data. Must have taken RSM 512/RSM 612 or equivalent; or calculus; or permission from instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

RSM 520. Climate and Society. 3 Credit Hours.

This course is designed to provide students from different disciplinary backgrounds with an overview of physical processes, general concepts and policy debates surrounding climate issues.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

RSM 521. Object-Oriented Programming and Agent-Based Modelling. 3 Credit Hours.

Hands-on training in object-oriented programming using Java, including Java statistical packages, and in the development of agent-based and individual-based simulation models for ecological, physiological, social, economic and physical sciences. Course includes introductions to cellular automata and models based on social and behavioral networks. No prior programming experience required.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

RSM 546. Presentation Bootcamp. 1 Credit Hour.

This course focuses on presenting scientific concepts and research findings more effectively to both scientific/technical audiences and the general public.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

RSM 547. Methods for Marine and Atmospheric Education. 3 Credit Hours.

Will introduce students to recent national science and engineering, climate, ocean education standards, and best curricula and instructional approaches for teaching and learning science.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

RSM 548. Management and Leadership in Marine and Atmospheric Science. 3 Credit Hours.

The goal of this course is to become an effective leader/manager while leveraging the individual strengths of a team in the marine and atmospheric field. The course will use leadership theories and case studies to understand how decisions affect outcomes. Students will develop the ability to manage teams effectively amidst a changing world. Students discuss literature and case studies to explore the foundations of effective leadership and support task triage, decision-making, shared mental models, and appropriate executive styles. The course will introduce students to recent national science and engineering, climate, and ocean standards and best approaches when it comes to managing a staff in the marine and atmospheric sciences. The course will also focus on identifying and analyzing marine and atmospheric leadership and effectively communicating scientific topics to different audiences.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

RSM 560. Investigating Nature through Science Teacher Active Research (INSTAR) in Physical Science. 2 Credit Hours.

This is a graduate level marine science course that provides a hands-on approach to education focused on geological and meteorological research in South Florida environment. The course provides training in marine science content, field techniques, state-of-the-art field, computer technology, and science educational reform measures. Participants work collaboratively with marine and atmospheric scientists to bring cutting edge marine science content and research to the classroom focusing on the following coastal themes: geology, hydrology and meteorology. The course will be applicable to all graduate and qualified undergraduate marine science students, per-service teachers in colleges of education, and in-service teachers in school systems throughout the country.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

RSM 561. INSTAR for Physical Sciences Follow-up. 1 Credit Hour.

This is a follow-up course for participants in MGG 560 and is designed to test the application of the methods learned in MGG 560 to the teaching of high school students. Participants are expected to show evidence of teaching material learned in MGG 560.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

RSM 562. Investigating Nature through Science Teacher Active Research in Biological Science. 2 Credit Hours.

This is a graduate level marine science course that provides a hands-on approach to education focused on marine science research and technology in South Florida coastal environments. The course provides training in marine science content, field techniques, state-of-the-art field and computer technology, and science educational reform measures. Participants work collaboratively with marine scientists to bring cutting edge marine science content and research to the classroom focusing on the following coastal themes: coral reefs and marine fisheries. The course will be applicable to all graduate and qualified undergraduate marine science students, per-service teachers in colleges of education, and in-service teachers in school systems throughout the country.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

RSM 563. INSTAR Biological Sciences Follow-up. 1 Credit Hour.

This is a follow-up course for participants in RSM 562 and is designed to test the application of the methods learned in RSM 562 to the teaching of high school students. Participants are expected to show evidence of teaching material learned in RSM 562.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

RSM 565. Fish Ecology and Oceanography. 3 Credit Hours.

This course is intended to introduce students to key biological, ecological, oceanographic, and climatic processes of direct relevance to fishery species, with a view toward development of an ecosystem perspective.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

RSM 566. Polar Science. 3 Credit Hours.

The course covers the physical, chemical and biological components of the polar oceans, atmosphere and coastal regions. The interactions between ocean, ice, atmosphere and land are discussed in detail not only in terms of local relationships, with links to the climate system.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

RSM 567. Motorboat Operator Certificate Course. 1-2 Credit Hours.

The MOCC course was developed and formalized by the United States Department of the Interior in the early 1990's. The course is designed to give students broad academic knowledge and practical training running small boats (Boats 26' in length or shorter). In addition to the relevant theory, students will get hands on training trailering small boats, launching and loading at boat ramps, slow and high speed maneuvering, Marline Spike (knot tying), as well as in water emergency training and the use of flares and pyrotechnics. The MOCC certification is the training standard for occupational small boating and used by government organizations, public and private research organizations, public aquaria, etc. The certification is a marketable skill for students moving ahead in their careers in marine science.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

RSM 568. Techniques in Respirometry, Swim Performance and Behavior of Aquatic Organisms. 2 Credit Hours.

The objectives of this course is to give participants an understanding and overview of methods and hands-on with modern equipment. The emphasis of the course will be on marine fish, but the techniques can be used for freshwater fish and aquatic invertebrates as well. The course is based on lectures, lab exercises and plenary discussions. The final part of the course constitutes a written project based on data collected during the week.

Requisite: Senior Status and Prerequisite: BIL 160.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

RSM 570. Carbon and Climate. 3 Credit Hours.

This course is designed to provide students from different disciplinary backgrounds with an overview of the underlying processes, concepts, and policy debates surrounding the issue of carbon emissions and climate change. Individual faculty from RSMAS and elsewhere will lecture on cutting-edge research areas. Topics covered include: climate modeling; and climate policy.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

RSM 571. Special Topics. 1-4 Credit Hours.

Lectures and research projects in special topics related to Marine and Atmospheric Science.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

RSM 572. Special Topics. 1-4 Credit Hours.

Lectures and research projects in special topics related to Marine and Atmospheric Science.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

RSM 573. Special Topics. 1-3 Credit Hours.

Lectures and research projects in special topics related to Marine and Atmospheric Science.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

RSM 574. Special Topics. 1-3 Credit Hours.

Lectures and research projects in special topics related to Marine and Atmospheric Science.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

RSM 575. Special Topics. 1-3 Credit Hours.

Lectures and research projects in special topics related to Marine and Atmospheric Science.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

RSM 576. Special Topics. 1-4 Credit Hours.

Lectures and research projects in special topics related to Marine and Atmospheric Science.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

RSM 577. Special Topics. 1-4 Credit Hours.

Lectures and research projects in special topics related to Marine and Atmospheric Science.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

RSM 578. Special Topics. 1-4 Credit Hours.

Lectures and research projects in special topics related to Marine and Atmospheric Science.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

RSM 600. Research Diving Techniques. 3 Credit Hours.

This course is designed to introduce students to the practices and policies of scientific diving. The object is to prepare students to use SCUBA as a research tool for the marine sciences. The course content will qualify students as RESE ARCH DIVERS under the UM/RSMAS Scientific Diving Program and will meet the standards set by the American Academy of Underwater Sciences (AAUS).

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

RSM 611. Principles of Mass Spectrometry and Applications to Marine, Atmospheric, and Environmental Science. 3 Credit Hours.

This course goes in depth into the principles and uses of mass spectrometry. It is intended for graduate students who use mass spectrometry to conduct their research. Concepts taught will include the components of mass spectrometers (vacuum systems, ionization methods, mass analyzers, detectors), different types of mass spectrometers and their uses, and coupling chromatography to mass spectrometry. Each student will be required to give presentations on new advances in mass spectrometry and an in-depth presentation on a mass spectrometer that they use and new findings in the literature relevant to their technique and personal research.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

RSM 612. Statistics for Environmental Management. 3 Credit Hours.

This course covers the statistical theory, tools, and methods required for management analysis and improvement, emphasizing marine science applications.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

RSM 613. Statistical Modeling of Extreme and Rare Events. 3 Credit Hours.

The course will focus on rare events and extreme values observed in nature. In particular, students will learn: advanced statistical methods of data analysis, as well as concepts of probability and predictability; statistical modeling of rare and extreme events; and applications of these advanced techniques to real atmospheric and oceanic data.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

RSM 620. Climate and Society. 3 Credit Hours.

This course is designed to provide students from different disciplinary backgrounds with an overview of physical processes, general concepts and policy debates surrounding climate issues.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

RSM 621. Object-Oriented Programming and Agent-Based Modelling. 3 Credit Hours.

Hands-on training in object-oriented programming using Java, including Java statistical packages, and in the development of agent-based and individual-based simulation models for ecological, physiological, social, economic and physical sciences. Course includes introductions to cellular automata and models based on social and behavioral networks. No prior programming experience required.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

RSM 622. Data Management for Scientists. 2 Credit Hours.

This course will cover techniques used in data profiling, filtering, and archiving. online tools will be used for elaborating data management plans and well-established database techniques for manipulating data. Participants will develop data management plans and introduce techniques for data manipulation, such as database design and implementation concepts, query coding, and data cleaning/importing/exporting. Course participants will be exposed to theoretical concepts and engage in hands-on activities throughout the semester. Participants are encouraged to bring their own data for processing or asked to select a dataset from the many online data repositories.

Components: LEC.

Grading: SUS.

Typically Offered: Fall.

RSM 646. Presentation Bootcamp. 1 Credit Hour.

This course focuses on presenting scientific concepts and research findings more effectively to both scientific/technical audiences and the general public.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

RSM 647. Methods for Marine and Atmospheric Education. 3 Credit Hours.

Will introduce students to recent national science and engineering, climate, ocean education standards, and best curricula and instructional approaches for teaching and learning science.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

RSM 648. Management and Leadership in Marine and Atmospheric Science. 3 Credit Hours.

The goal of this course is to become an effective leader/manager while leveraging the individual strengths of a team in the marine and atmospheric field. The course will use leadership theories and case studies to understand how decisions affect outcomes. Students will develop the ability to manage teams effectively amidst a changing world. Students discuss literature and case studies to explore the foundations of effective leadership and support task triage, decision-making, shared mental models, and appropriate executive styles. The course will introduce students to recent national science and engineering, climate, and ocean standards and best approaches when it comes to managing a staff in the marine and atmospheric sciences. The course will also focus on identifying and analyzing marine and atmospheric leadership and effectively communicating scientific topics to different audiences.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

RSM 650. Data Management in the Research Environment. 2 Credit Hours.

This course covers theoretical and practical approaches to research data management in academic contexts. Theoretical aspects include overviews of information science, data policy and data governance. The practical approaches include skills and best practices in research data management, and basic command line computing for data analysis and visualization (python and R). The purpose of the course is to increase research productivity, to enable data stewardship, and to help the student exceed data management expectations/requirements in the research environment. This is a practical methods course with tangible products; students produce a data management plan for their specific research endeavor, or prepare and deposit data into a discipline specific repository (other projects subject to instructor approval will be considered). The class is open to all graduate students in all disciplines. There are no prerequisites and while the course is designed for the first or second year of a graduate program, students who are further along will benefit as well.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

RSM 660. Investigating Nature through Science Teacher Active Research (INSTAR) in Physical Science. 2 Credit Hours.

This is a graduate level marine science course that provides a hands-on approach to education focused on geological and meteorological research in South Florida environment. The course provides training in marine science content, field techniques, state-of-the-art field, computer technology, and science educational reform measures. Participants work collaboratively with marine and atmospheric scientists to bring cutting edge marine science content and research to the classroom focusing on the following coastal themes: geology, hydrology and meteorology. The course will be applicable to all graduate and qualified undergraduate marine science students, per-service teachers in colleges of education, and in-service teachers in school systems throughout the country.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

RSM 661. INSTAR for Physical Sciences Follow-up. 1 Credit Hour.

This is a follow-up course for participants in MGG 560 and is designed to test the application of the methods learned in MGG 560 to the teaching of high school students. Participants are expected to show evidence of teaching material learned in MGG 560.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

RSM 662. Investigating Nature through Science Teacher Active Research in Biological Science. 2 Credit Hours.

This is a graduate level marine science course that provides a hands-on approach to education focused on marine science research and technology in South Florida coastal environments. The course provides training in marine science content, field techniques, state-of-the-art field and computer technology, and science educational reform measures. Participants work collaboratively with marine scientists to bring cutting edge marine science content and research to the classroom focusing on the following coastal themes: coral reefs and marine fisheries. The course will be applicable to all graduate and qualified undergraduate marine science students, per-service teachers in colleges of education, and in-service teachers in school systems throughout the country.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

RSM 663. INSTAR Biological Sciences Follow-up. 1 Credit Hour.

This is a follow-up course for participants in RSM 562 and is designed to test the application of the methods learned in RSM 562 to the teaching of high school students. Participants are expected to show evidence of teaching material learned in RSM 562.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

RSM 665. Fish Ecology and Oceanography. 3 Credit Hours.

This course is intended to introduce students to key biological, ecological, oceanographic, and climatic processes of direct relevance to fishery species, with a view toward development of an ecosystem perspective.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

RSM 666. Polar Science. 3 Credit Hours.

The course covers the physical, chemical and biological components of the polar oceans, atmosphere and coastal regions. The interactions between ocean, ice, atmosphere and land are discussed in detail not only in terms of local relationships, with links to the climate system.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

RSM 667. Motorboat Operator Certificate Course. 1-2 Credit Hours.

The MOCC course was developed and formalized by the United States Department of the Interior in the early 1990's. The course is designed to give students broad academic knowledge and practical training running small boats (Boats 26' in length or shorter). In addition to the relevant theory, students will get hands on training trailering small boats, launching and loading at boat ramps, slow and high speed maneuvering, Marline Spike (knot tying), as well as in water emergency training and the use of flares and pyrotechnics. The MOCC certification is the training standard for occupational small boating and used by government organizations, public and private research organizations, public aquaria, etc. The certification is a marketable skill for students moving ahead in their careers in marine science.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

RSM 668. Techniques in Respirometry, Swim Performance and Behavior of Aquatic Organisms. 2 Credit Hours.

The objectives of this course is to give participants an understanding and overview of methods and hands-on with modern equipment. The emphasis of the course will be on marine fish, but the techniques can be used for freshwater fish and aquatic invertebrates as well. The course is based on lectures, lab exercises and plenary discussions. The final part of the course constitutes a written project based on data collected during the week.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

RSM 670. Carbon and Climate. 3 Credit Hours.

This course is designed to provide students from different disciplinary backgrounds with an overview of the underlying processes, concepts, and policy debates surrounding the issue of carbon emissions and climate change. Individual faculty from RSMAS and elsewhere will lecture on cutting-edge research areas. Topics covered include: climate modeling; and climate policy.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

RSM 671. Special Topics. 1-4 Credit Hours.

Lectures and research projects in special topics related to Marine and Atmospheric Science.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

RSM 672. Special Topics. 1-4 Credit Hours.

Lectures and research projects in special topics related to Marine and Atmospheric Science.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

RSM 673. Special Topics. 1-3 Credit Hours.

Lectures and research projects in special topics related to Marine and Atmospheric Science.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

RSM 674. Special Topics. 1-3 Credit Hours.

Lectures and research projects in special topics related to Marine and Atmospheric Science.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

RSM 675. Special Topics. 1-3 Credit Hours.

Lectures and research projects in special topics related to Marine and Atmospheric Science.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

RSM 676. Special Topics. 1-4 Credit Hours.

Lectures and research projects in special topics related to Marine and Atmospheric Science.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

RSM 677. Special Topics. 1-4 Credit Hours.

Lectures and research projects in special topics related to Marine and Atmospheric Science.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

RSM 678. Special Topics. 1-4 Credit Hours.

Lectures and research projects in special topics related to Marine and Atmospheric Science.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

RSM 700. Research Ethics. 0 Credit Hours.

The NIH Guide for Grants and Contracts stipulates that Institutions receiving support for National Research Service Award Training Grants are required to develop a program in the principles of Scientific Integrity. The University of Miami Rosenstiel School has chosen to respond to this requirement with this course. This course must be taken during the first semester in the Department or Program. This is a six-hour course and will be given in two sessions of three hours each.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

RSM 710. The Physical Environment of Marine Organisms. 3 Credit Hours.

The fluid environment of the sea influences the growth, distribution, and survival of marine organisms. The physical processes that affect organisms occur in space and time, ranging from the molecular properties of water to basin-wide linkages between oceanic regime and climate shifts are discussed. Course emphasis is placed on how physical processes affect the life of plankton to nekton. Students are required to present reviews based on the literature.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

RSM 720. Object-oriented Programming and Agent-based Modeling. 3 Credit Hours.

Basics of object-oriented programming using Java, including Java statistical packages, and hands-on development of agent-based simulation models for social, economic, biological and physical sciences. Includes introductions to automaton and individual-based models.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

RSM 771. Educational Training 1. 0 Credit Hours.

Educational training workshop and presentations.

Components: WKS.

Grading: SUS.

Typically Offered: Fall & Spring.

RSM 772. Educational Training 2. 0 Credit Hours.

First semester of educational training.

Components: WKS.

Grading: SUS.

Typically Offered: Fall & Spring.

RSM 773. Educational Training 3. 0 Credit Hours.

Second semester of educational training.

Components: WKS.

Grading: SUS.

Typically Offered: Fall & Spring.

RSM 774. Advanced Studies. 1-3 Credit Hours.

Supervised study in areas of special interest to graduate students.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

RSM 775. Advanced Studies. 1-3 Credit Hours.

Supervised study in areas of special interest to graduate students.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

RSM 780. Directed Readings. 1-3 Credit Hours.

Directed readings in special topics related to Marine and Atmospheric Science.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

RSM 781. Directed Readings. 1-3 Credit Hours.

Directed readings in special topics related to Marine and Atmospheric Science.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

Sociology (SOC)

SOC 101. Introduction to Sociology. 3 Credit Hours.

The scientific study of society and several sociological concepts, including, but not limited to: social theory, social research, social economy, social interaction, social class, social construction, gender stratification, race and ethnicity, family, and deviance. This course will help students to examine the social world around them using the sociological imagination. Students will learn how to connect research to concepts, deepening their understanding of the social world and social phenomena and develop critical thinking skills.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

SOC 103. Social Problems. 3 Credit Hours.

Sociological theories and methods will be used to interpret data, evaluate social policies, and analyze the manner in which ideologies perceive and frame problems. This course will develop critical thinking skills necessary to assess social problems, as well as the ability to recognize, exercise, and develop one's agency to address these issues.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SOC 210. Introduction to Social Research. 3 Credit Hours.

This course provides students with an overview of the social science research process and introduces them to the various methodological strategies used by social scientists. The various steps by which research is conducted will be examined such as study design and implementation, data collection and interpretation of findings. Students will also be able to critique the strengths and limitations of difference research methodologies.

Prerequisite: SOC 101.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

SOC 211. Quantitative Methods for Sociologists. 3 Credit Hours.

This course is designed to introduce students to descriptive and inferential statistics used in sociology, criminology, and other social sciences. We will cover measures of central tendency and variation, probability distributions, hypothesis testing, and bivariate techniques such as correlation and an introduction to regression.

Prerequisite: SOC 101, 210. Corequisite: 212.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

SOC 212. Quantitative Methods Lab. 1 Credit Hour.

Statistical lab associated with SOC 211 introduces the use of computer statistical packages for analyzing quantitative data.

Prerequisite: SOC 101 and SOC 210 And Corequisite: SOC 211 or PSY 291 or PSY 292.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

SOC 270. Deviant Behavior. 3 Credit Hours.

An introduction to the study of deviant behaviors. We will examine the ways in which deviance is constructed and defined. Major sociological perspectives and theories will be applied in order to understand how they aid in the formation and development of social deviance. In addition, various forms of deviant behaviors will be discussed, including: drug use, sexual deviance, violence, suicide, LGBT issues, inequality and crime. The role of social control will also be examined in terms of how it impacts the way in which deviance is understood in society.

Prerequisite: SOC 101.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SOC 271. Criminal Justice. 3 Credit Hours.

Provide students with both an introduction to the basics of the criminal justice system and a critical approach to contemporary issues in the field. We will focus on the nature of crime and how it is measured; issues in policing and law enforcement; the judicial system and legal process; sentencing; corrections; and prison life. Throughout the course we will focus on current controversies and debates, including such issues as the war on drugs, racism in the criminal justice system, violent crime rates, and incarceration rates.

Prerequisite: SOC 101.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SOC 291. Special Topics. 3 Credit Hours.

Content will vary by semester.

Prerequisite: SOC 101.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

SOC 292. Special Topics. 3 Credit Hours.

Prerequisite: SOC 101.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SOC 293. Special Topics. 3 Credit Hours.

Prerequisite: SOC 101.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SOC 301. Social Organization. 3 Credit Hours.

The focus of this course is formal organizations, with an emphasis on the workplace. The topics that are discussed include theories of work, organizational paradigms, bureaucracy, impact of technology, unionization, and the new workplace. The fundamental theme is how organizational style influences productivity.

Prerequisite: SOC 101.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SOC 302. Social Psychology: Sociological Perspective. 3 Credit Hours.

The influence of human groups, social processes, and social structures on behavior and self, with some attention devoted to the effect of social interaction on groups, processes, and structures. Topics of study include the development of the self, the process of social interaction, the significance of language, and the social construction of reality.

Prerequisite: SOC 101.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SOC 303. Social Inequalities. 3 Credit Hours.

An overview of the sociological approach to the analysis of structured socioeconomic inequality (a.k.a. "social stratification") in contemporary American society. In this regard, emphases are placed on identifying trends, causes, and consequences of the distribution of a wide range of material (e.g. income, wealth) and symbolic (status, prestige) rewards in American society.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SOC 304. Dynamics of Poverty in the United States. 3 Credit Hours.

Examines trends in the incidence and causes of major types of poverty among the urban underclass, the homeless, migrant laborers, the working poor. Also explores policy-related solutions.

Prerequisite: SOC 101.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SOC 305. Globalization and Society. 3 Credit Hours.

Concepts and theories that are currently in use to understand globalization both as a process and as a structure: social aspects and narratives of globalization, and theoretical sociological models as scaffolding for understanding many of the disparate characteristics of globalization.

Globalization as it spans disciplinary division and its understanding: the emergence of novel economic forms and practices as a pivotal driving force for globalization. Human migrations and their consequences on cultural identity and diffusion, and the role of the technology in the creation and consolidation the global world. New and complex structures of socioeconomic inequality at national and at transnational levels, the disproportionately important roles that women play in these new structures of inequality, and the social forces and movements that have emerged to resist globalization or to alter it in important ways.

Prerequisite: SOC 101.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

SOC 306. Wealth and Poverty in Contemporary America. 3 Credit Hours.

The causes and consequences of rapidly changing patterns of concentration of socioeconomic resources, such as wealth and income in America. This changing concentration is associated with the proliferation of impoverishment and privilege in America. Analyzes macro-economic changes, demographic shifts, technological advances, and evolving ideological postures as sources of these trends.

Prerequisite: SOC 101.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

SOC 320. Social Epidemiology: Illness and Death in Society. 3 Credit Hours.

Social epidemiology and the sociological study of health and longevity. Specifically, this course examines the ways in which key sociological variables structure, shape, or patterns the health and longevity of the US population. This course covers several variables of sociological interest, including socioeconomic status, race/ethnicity, sex/gender, age, family status, and religion.

Prerequisite: SOC 101.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

SOC 321. Applied Health Policy. 3 Credit Hours.

The role of public and private institutions in health promotion, health care delivery, and health insurance. We will explore the theoretical and practical reasons for intervention in health-related decisions and health care markets, the related empirical evidence, and the effects of these interventions on health outcomes and social welfare. Students will understand how and why government and society in general attempts to influence health-related behaviors and health insurance markets, and the resulting effects on individuals' choices, expenditures, health outcomes, and overall quality of life.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

SOC 332. Collective Behavior. 3 Credit Hours.

Classical theories, issues, and research on fads, fashions, riots, crowd behavior, social movements and other forms of collective behavior.

Prerequisite: SOC 101.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SOC 335. LGBTQ Communities. 3 Credit Hours.

Gender, race, age and class differences in the experiences of gays and lesbians. A life-span perspective guides the course after the presentation of some background of biological, psychological, and sociological theories pertaining to homosexuality.

Prerequisite: SOC 101.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

SOC 340. Sociology of Religion. 3 Credit Hours.

Social foundations of religion, growth and change within religious institutions and relationships of religion to other institutions.

Prerequisite: SOC 101.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SOC 341. Social and Cultural Change. 3 Credit Hours.

Survey of major theories of change; analysis of the processes and mechanisms of change. Contemporary transitions in the underdeveloped regions of the world.

Prerequisite: SOC 101.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SOC 342. Contemporary Latin American Societies. 3 Credit Hours.

Social characteristics of Latin American societies and their comparison with North American society.

Prerequisite: SOC 101.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SOC 345. Population and Society. 3 Credit Hours.

Demographic analysis of fertility, mortality, sex-age structure, migration, urbanization and population control.

Prerequisite: SOC 101.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SOC 350. Sociology of the Family. 3 Credit Hours.

A critical investigation of the family while applying sociological theories, perspectives, and concepts, based on current research in the field. As the family is an important institution in social life, and one in which we have all experienced in some way, we will see that there is not "one" particular way of experiencing this institution. The various definitions and versions of the family will be addressed historically, with an emphasis on how they are shaped by public perception. In addition, more recent trends in family life will be addressed, including cohabitation, marriage, divorce, parenthood, family policy, family structure, and marginalized family types.

Prerequisite: SOC 101.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SOC 351. Business and Society. 3 Credit Hours.

The influence of business objectives, values, and ethics on American culture, moral standards, and societal institutions. A careful analysis of the choices made by individuals, companies, and governments will demonstrate that sensible "choice architecture" can successfully nudge people toward better decisions without restricting their freedom of choice. Specific topics include: corporate social responsibility; ethical issues in business; business and government in a global society; business and public policy: the corporation and the natural environment; business and technological change; and business relationships with consumers and employees.

Prerequisite: SOC 101.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SOC 352. Sport and Society. 3 Credit Hours.

The status position and role of sport in society. Our primary focus will be upon delineating and analyzing sport as a major social institution in American society. Thus our perspective will be that of the sociologist (i.e., critical more in analysis than in judgement) rather than that of a sports journalist or sports fan. We shall examine both amateur and professional sports in terms of their interlocking relationships with each other and with other major social institutions (e.g., education, economics, and politics) as well as their significance for promoting and maintaining cultural values such as competition, fair play, teamwork, gender roles, and the like. The objective is to provide students with critical assessment and analytical skills for examining and understanding the impact of sports on both individuals and society.

Prerequisite: SOC 101.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SOC 359. The Sociology of Human Sexuality. 3 Credit Hours.

A socio-historical survey of sexual ideologies, attitudes and behavior in human societies, with emphasis on social and biological factors.

Prerequisite: SOC 101.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SOC 365. Internship. 3 Credit Hours.

Exposure to and insight into the operations of community non-profit or government based social service agencies. The course involves prearranged study and supervised work in a variety of organizations and institutions, affording students the opportunity to use their sociological imagination while providing a "hands-on" sociological experience in the local community.

Prerequisite: SOC 101.

Components: DIS.

Grading: GRD.

Typically Offered: Fall & Spring.

SOC 368. Violence in America. 3 Credit Hours.

Issues relevant to the study of violence in the United States will be covered. While the emphasis throughout will be on street violence (i.e., homicide, robbery, rape, and aggravated assault), other forms (e.g., corporate violence, intimate partner violence) will also be covered. In particular, we will: Examine violence in historical, international, and situational contexts, examine the major explanations of violence, and examine the factors associated with violent crime. We will also consider how we seek to control violence in the U.S.

Prerequisite: SOC 101.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SOC 369. Crime and Public Policy. 3 Credit Hours.

The dimensions and causes of the crime problem in America, and the uses and limits of the criminal justice system in dealing with it. We will examine the enormous expansion of the American prison system in recent years, and ask how much it has affected the crime rate. Additionally, we will consider a variety of possible strategies for preventing or controlling so-called "street" crime, both within the criminal justice system and beyond it-including prevention and rehabilitation programs as well as expanding social and economic opportunities. Along the way, we will pay particular attention to several controversial issues, including the death penalty, drugs, and gun control.

Prerequisite: SOC 101.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

SOC 370. Juvenile Delinquency. 3 Credit Hours.

Application of sociological perspectives and concepts to examine juvenile delinquency and the juvenile justice system. The course takes into account the various social factors that shape juvenile delinquency and its control, such as race, ethnicity, socioeconomic status, gender, and sexuality. In addition, students will take a critical view of the policies developed to control such behavior.

Prerequisite: SOC 101.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

SOC 371. Criminology. 3 Credit Hours.

The concepts of crime and criminal law, reviews several theoretical approaches to studying crime and criminal behavior, and focuses on several types of crime. In particular, it includes such topics as definitions of crime, sources of crime statistics, correlates and causes of crime, terrorism, genocide, corporate crime, and cybercrime.

Prerequisite: SOC 101.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

SOC 372. Criminology: Police and Community. 3 Credit Hours.

A study of policing in U.S. society. Interaction with groups and institutions. The overall objective of this course is to provide students with an understanding of the role of the police in American society. The source will focus on the sociological study of policing, not professional training to become a police officer. Students will gain a better understanding of the history of the police, their role in American society and in the American system of criminal justice. In addition, students will discuss and critique important issues and trends in modern policing

Prerequisite: SOC 101.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Summer.

SOC 373. Criminology: Courts and Society. 3 Credit Hours.

The importance of the criminal courts and the impact that the criminal courts have on society. You will gain a realistic sense of what it is like to work in and be a part of the criminal justice system. The roles and responsibilities of the major courthouse players will be discussed. You will discover the challenging situations that judges must navigate as well as the difficulties that confront prosecutors and defense attorneys as they deal with victims, defendants and crushing caseloads.

Prerequisite: SOC 101.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SOC 374. Criminology: Corrections. 3 Credit Hours.

Corrections in the U.S. society; philosophies of rehabilitation, punishment, and incapacitation.

Prerequisite: SOC 101.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SOC 375. Sociology of Mental Health and Illness. 3 Credit Hours.

An introduction to sociological theories and research regarding the definition, experience, and treatment of mental illness.

Prerequisite: SOC 101.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SOC 377. Sociology of Drug Abuse. 3 Credit Hours.

Application of sociological perspectives and concepts to examine drug use and abuse. The course examines the historical and theoretical understanding of the social causes and consequences of drug use, as well as the correlates of use and abuse. The course also takes a critical perspective of the policies developed to reduce the harms associated with drug use and abuse.

Prerequisite: SOC 101.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SOC 378. Criminology: Law and Society. 3 Credit Hours.

How law, crime, and justice systems in the United States relate to social structure. The course covers two major themes: lawmaking (and how it relates to lawbreaking) and the justice system.

Prerequisite: SOC 101.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SOC 380. Sociology of Gender. 3 Credit Hours.

The phenomenon of gender in society using sociological theory and research. Topics of focus include the social construction of gender, gender identity, and gender discrimination within various social institutions such as the family, the educational system, the media, the world of employment, and more.

Prerequisite: SOC 101.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SOC 381. Aging in Society. 3 Credit Hours.

The aging processes, the aged and social institutions; special issues.

Prerequisite: SOC 101.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SOC 382. The U.S. Jewish Community. 3 Credit Hours.

Application of minority group analysis to the U.S. Jewish community.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SOC 383. Sociology of Education. 3 Credit Hours.

The examination and analysis of education as a major social institution. As such, this course assesses the structure, processes, and interaction patterns within the educational system. All levels (elementary, secondary, and postsecondary), and types (public and private) of education are considered. The course also examines the impact of education on social stratification, social mobility, and socioeconomic inequality, especially along race, gender, and class lines.

Prerequisite: SOC 101.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SOC 384. Medical Sociology. 3 Credit Hours.

A brief early history, methods, theory and concepts of social science research on health and health care mainly from the last half of the previous century to the present. We will explore gender, race, class, age, social and cultural differences in the experiences of individuals as they deal with health and illness across the life course. The course will provide students with a sociological analysis of a broad array of health/illness issues and the health services industry.

Prerequisite: SOC 101.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SOC 385. U.S. Latinos. 3 Credit Hours.

Sociological perspectives are employed in the examination of the historical, social, economic, and cultural experiences of Latino/as in the United States.

Prerequisite: SOC 101.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SOC 386. U.S. Immigration. 3 Credit Hours.

The major sociological debates in the field of immigration with an emphasis on recent immigrants to the U.S.

Prerequisite: SOC 101.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SOC 387. Race and Ethnic Relations. 3 Credit Hours.

The nature and dynamics of race and ethnic relations with particular emphasis on racial and ethnic groups in the United States. We examine basic concepts and major theories in the analysis of race and ethnic relations, racial and ethnic inequality, past and recent immigration experiences, and the historical and current status of specific racial and ethnic groups. Students will also be engaged in a variety of exercises designed to develop critical assessment and analytical skills for examining and understanding issues related to race and ethnicity.

Prerequisite: SOC 101.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

SOC 388. The Black Ghetto in Urban Society. 3 Credit Hours.

The origin and development of the concept of "ghetto" and application of this concept to both past and contemporary-views of black life in America. Students are introduced to the historical and social significance of the black ghetto in the context of the larger body of literature on the ghetto phenomenon. Emphasis is placed on gaining an understanding and developing critical insight into issues and prospects for the resolution of issues related to black ghettoization.

Prerequisite: SOC 101.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

SOC 389. The Black Athlete in White America. 3 Credit Hours.

The impact of racism on sport in the United States with a specific focus on the Black athlete. Drawing upon the literature on race and sport in America, the course takes a historical view of the social context in which black athletes have competed and excelled in their craft against tremendous odds both inside and outside of sport competition.

Prerequisite: SOC 101.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

SOC 390. Directed Studies. 1-3 Credit Hours.

Individually supervised readings or research on special topics offered by arrangement with instructor.

Prerequisite: SOC 101.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SOC 391. Special Topics. 3 Credit Hours.

Content will vary by semester.

Prerequisite: SOC 101.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

SOC 401. Sociological Theory. 3 Credit Hours.

The work of theorists such as Comte, Durkheim, Marx, Weber, Parsons, and symbolic interactionists. The epistemology, methodology, and social ontology of each theory is discussed, along with the social context and chief concerns of each theorist.

Prerequisite: SOC 101.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

SOC 410. Social Research Practicum. 1-3 Credit Hours.

Each student will work directly with a designated faculty mentor to obtain general research training, data analysis techniques, and technical writing skills. As part of the research practicum, students will work in collaboration with their faculty mentor to prepare a journal-length research manuscript and assemble related research materials to gain practical knowledge of the scientific research process. This one-on-one experience will also enhance students' training in sociology and provide them with useful analysis and writing skills when they enter the job market.

Prerequisites: SOC 101 and SOC 210 and SOC 211 and SOC 212.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

SOC 470. Theories of Deviant Behavior. 3 Credit Hours.

Various theories of causes of deviance/crime. It begins with an overview of the early classical and positivist foundations of criminological thought and then moves on to discussing more recent extensions of social disorganization, strain, control, social learning, and other contemporary theories of crime. It also covers the role of theory in scientific research, familiarizes with the foundations of current theoretical debates in criminology, and introduces the empirical research on the reviewed theories.

Prerequisite: SOC 101 and SOC 371.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

SOC 480. Health Disparities in the U.S.. 3 Credit Hours.

A comprehensive examination of U.S. health disparities based on a variety of social variables, including race and ethnicity, gender, socioeconomic status, sexual orientation, and the environment. In doing so, this course will draw on theoretical perspectives from multiple disciplines to examine the relationship between social factors and health outcomes. The most pressing U.S. health disparities will be discussed and put into a historical and global context in order to identify priorities for the elimination of health disparities. After exploring the known and suspected causes of disparities in health outcomes, attention will turn to an overview of the common multi-level strategies used to reduce health disparities. Students will go away with a broad-based understanding of current health disparities issues and the ability to critically examine these issues.

Prerequisite: SOC 101.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

SOC 487. Race, Ethnicity, and Criminal Justice. 3 Credit Hours.

An in-depth examination of the relationships involving race, ethnicity, immigration, crime, and the criminal justice system. We will consider why these are important issues to study, how and what we know about these relationships, and how we might explain them. We will direct attention to research on defining race and ethnicity, racial and ethnic variations in criminal victimization and offending, population distributions, policing, the court system and sentencing, corrections, and the death penalty. Our approach will primarily be sociological, although where appropriate we will draw from other disciplines (e.g., political science, history, etc.) as well. Prerequisite: Six credits in Sociology.

Prerequisite: SOC 101.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

SOC 488. Gender and Crime. 3 Credit Hours.

Examination of gender, power, and crime, including feminist theories and the criminal justice system.

Prerequisite: SOC 101.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SOC 490. Directed Studies in Sociology. 1-3 Credit Hours.

Supervised independent study on special topics. Arrangement with individual faculty.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

SOC 491. Special Topics. 3 Credit Hours.

Prerequisite: SOC 101.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SOC 492. Special Topics. 3 Credit Hours.

Prerequisite: SOC 101.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SOC 493. Special Topics. 3 Credit Hours.

Prerequisite: SOC 101.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SOC 498. Senior Honors Thesis in Sociology or Criminology I. 3-6 Credit Hours.

Independent research project.

Prerequisites: SOC 101 and SOC 210 and SOC 211 and SOC 212.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

SOC 499. Senior Honors Thesis in Sociology or Criminology II. 3-6 Credit Hours.

Independent research project.

Prerequisites: SOC 101 and SOC 210 and SOC 211 and SOC 212.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

SOC 601. Classical Sociological Theory. 3 Credit Hours.

The focus of this course is the work of Comte, Durkheim, Marx, Weber, and Parsons, along with more recent perspectives such as symbolic interactionism, phenomenology, ethnomethodology, and critical theory.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SOC 602. Contemporary Sociological Theory. 3 Credit Hours.

Recent developments in social theory, such as, for example, the work of Giddens, Habermas, Derrida, Bourdieu, Baudrillard, and Lyotard, along with important themes such as feminism, integration, the linguistic turn, habitus, (anti)foundationalism, and symbolic violence.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SOC 603. Special Topic: Sociology of Knowledge-Science and Technology. 3 Credit Hours.

To address the debates over the nature of social science and technology. In addition to the theoretical disputes, the applications, critiques, and politics of scientific inquiry and technology use will be the focus of attention.

Requisite: Graduate Standing.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

SOC 604. Proseminar in Sociology. 1 Credit Hour.

Introduction to Sociology: the research process, departmental resources, and the graduate program.

Components: SEM.

Grading: GRD.

Typically Offered: Fall.

SOC 609. Social Statistics. 3 Credit Hours.

Probability theory, descriptive statistics and tests of independence.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SOC 610. Advanced Research Methods. 3 Credit Hours.

Quantitative techniques for the measurement of theoretical constructs, the consequences of technique selection, and the relationships between method and underlying theory.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SOC 611. Advanced Sociological Statistical Analysis I. 3 Credit Hours.

Multiple linear regression and regression diagnostics using Stata, analysis of categorical dependent variables, count dependent variables, simultaneous equations, and panel data models. Some topics may not be covered and others may be added at the discretion of the instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

SOC 612. Sociological Statistics II. 3 Credit Hours.

Advanced statistical analysis techniques covering topics such as hierarchical linear models (HLM), structural equation models (SEM), instrumental variables (IV), factor analysis, propensity score matching (PSM), and nonparametric methods. Some topics may not be covered and others may be added at the discretion of the instructor.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SOC 613. Qualitative Research Methods. 3 Credit Hours.

In-depth introduction to qualitative, inductive methods, with emphases on grounded theory and action research. Focus on qualitative interviewing (including focus groups) and participant observation for the collection of data in naturalistic social settings, with simultaneous data analysis; qualitative methods in mixed-methods research introduced. Covers ties between methods and theory, additional basic methods used in qualitative research, and typical analytic approaches; touch on more esoteric methods; study current issues and debates relevant to this set of approaches to generating knowledge.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SOC 614. Evaluation Research. 3 Credit Hours.

Conceptualizing, designing, conducting, and interpreting the results of evaluation research programs in health and human service agencies.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SOC 615. Class Structure and Social Stratification. 3 Credit Hours.

Theoretical and research approaches to class structure and social stratification, with a focus on the U.S. Examines the conflict perspective(s) and major alternative views including economic class, status and power, gender and race.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SOC 616. Social Psychology: Sociological Perspectives. 3 Credit Hours.

Theories and research addressing the mutual influence between social groups and structures, on the one hand, and individual selves and behaviors, on the other. Balance emphasis between symbolic interactionist and structural approaches, with attention to additional related, yet distinct theoretical perspectives.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SOC 617. Social Organization. 3 Credit Hours.

Examines theories of organization and work, discrimination, technology and job design, bureaucracy, productivity and organizational culture, responsible organizations, and alienation.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SOC 620. Social Epidemiology. 3 Credit Hours.

Theories, issues and methods of study pertinent to health and illness in society. Social factors implicated in patterns of disease occurrence.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SOC 622. Teaching Seminar in Sociology. 3 Credit Hours.

Pedagogical techniques for teaching sociology at the college/university level.

Components: SEM.

Grading: GRD.

Typically Offered: Fall.

SOC 632. Social Psychology of Health and Illness. 3 Credit Hours.

Social and psychological factors affecting susceptibility to illness, health related beliefs and behaviors, the doctor-patient relationship, and health care systems and patient compliance.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SOC 635. Medical Sociology: Issues in Research and Theory. 3 Credit Hours.

Examination of health, illness, and health care from sociological perspectives. Includes social-structural, interpretive, and critical approaches, as various authors have used these to address specific issues. Phenomena to be examined range from macro (e.g. population patterns of mortality and morbidity, health care policy) to micro (e.g. the subjective experience of illness). Related theories and methodologies discussed. Focus varies somewhat by instructor and as issues emerge in the discipline.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SOC 636. Health Diversity Across the Life Course. 3 Credit Hours.

Diversity in health across the life course from broad sociological and cross-disciplinary theoretical traditions. Key questions in medical sociology will be addressed to discover the impact of the life course processes on the health or vitality of diverse individuals and diverse populations, with a focus on inequality and the elements of time and history.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SOC 650. Social Analysis of Race Relations. 3 Credit Hours.

The impact of race relations research on the discipline of sociology.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SOC 651. Race Relations: Social Psychological Perspectives. 3 Credit Hours.

Social psychological perspectives on the nature, causes, and consequences of racial inequality in American society.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SOC 652. Theories of Race and Ethnic Relations. 3 Credit Hours.

Micro- and macro-level theories of race and ethnic relations.

Components: DIS.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SOC 653. Race, Ideology, and Framing Inequality. 3 Credit Hours.

Examines the various ideologies that have emerged on the limited states to describe and, at times, resist racial inequality.

Components: LEC.

Grading: SUS.

Typically Offered: Offered by Announcement Only.

SOC 670. Theories in Criminology and Criminal Justice. 3 Credit Hours.

Review and critique of central criminological theories. Evaluation of these theories in view of recent criminological research.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SOC 671. Seminar on Criminology. 3 Credit Hours.

Selected issues, topics, theories, and recent research in criminology.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SOC 672. Research in Crime and Delinquency. 3 Credit Hours.

Measurement issues; effects of race, gender, age, and socio-economic status on criminality; extra-legal factors affecting criminal justice decision making.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SOC 673. The Criminal Justice System. 3 Credit Hours.

Introduction to the U.S. criminal justice system. Topics include historical and current concepts of criminal justice, the interrelationships among the different components of the system, and the roles and functions of the system in American society. The four major areas covered include philosophies of punishment, policing, courts, and corrections.

Requisite: Graduate Standing.

Components: SEM.

Grading: GRD.

Typically Offered: Fall.

SOC 674. Seminar on Policing. 3 Credit Hours.

The role of the police in American society. The focus is on the sociological study of policing: the analysis and evaluation of research. Topics include the history of the police, their role in American society and in the American system of criminal justice. In addition, drawing upon current research studies, discussion and critique of important issues and trends in modern policing.

Requisite: Graduate Standing.

Components: SEM.

Grading: GRD.

Typically Offered: Summer.

SOC 675. Courts, Corrections and Punishment. 3 Credit Hours.

A broad overview of criminal court systems, sentencing, and corrections. Sociological, criminological, and sociolegal perspectives are drawn upon to blend both theoretical and policy perspectives in order to examine these systems critically. Particular attention will be given to the topics of racial, gender, and class disparities in criminal justice punishment. The course is organized around these themes: 1) theories of punishment and social control; 2) court organizations, actors, and sentencing 3) incarceration, and 4) other correctional populations, including probation and parole

Requisite: Graduate Standing.

Components: SEM.

Grading: GRD.

Typically Offered: Fall.

SOC 676. Seminar on Juvenile Delinquency. 3 Credit Hours.

The overall objective is to provide students with an understanding of the current research and knowledge on juvenile delinquency. Topics include the nature and extent of delinquency, the social causes of juvenile delinquency, and assess research concerning social factors leading to delinquency. In addition, students will study current thinking and research concerning the control and prevention of delinquency.

Requisite: Graduate Standing.

Components: SEM.

Grading: GRD.

Typically Offered: Spring.

SOC 677. Criminology and Public Policy. 3 Credit Hours.

Various issues in crime and criminal justice policy and the role of criminological theory and research in addressing them are discussed. Topics will include trends in crime rates, guns and violence, gangs, drugs and crime, policing, courts and sentencing, community corrections and offender re-entry, capital punishment, and environmental criminology. Emphasis is on understanding implications of theoretical criminology for criminal justice practice and on examining the role of scientific research and empirical evidence in addressing the issues in crime and justice. Various crime control strategies and crime prevention programs and their effectiveness and challenges to their implementation are covered. Special topics will vary by instructor.

Requisite: Graduate Standing.

Components: SEM.

Grading: GRD.

Typically Offered: Spring.

SOC 679. Communities and Crime. 3 Credit Hours.

Examination of various aspects of the relationships between communities, crime, and crime control. Major theoretical traditions - such as social disorganization theory, routine activities theory, and broken windows - are addressed. The roles of neighborhood structure and process, and their relationships with various forms of crime and policing, are covered.

Requisite: Graduate Standing.

Components: SEM.

Grading: GRD.

Typically Offered: Spring.

SOC 680. Race/Ethnicity, Crime and Criminal Justice. 3 Credit Hours.

An in-depth examination of the relationships involving race, ethnicity, immigration; crime; and the criminal justice system. Topics include why these are important issues to study, how and what we know about these relationships, and how we might explain them. Attention is directed to research on defining race and ethnicity, racial and ethnic variations in criminal victimization and offending, population distributions, policing, the court system and sentencing, corrections, and the death penalty. The approach will primarily be sociological, although where appropriate other disciplines (e.g., political science, history) will be drawn on as well.

Requisite: Graduate Standing.

Components: SEM.

Grading: GRD.

Typically Offered: Summer.

SOC 681. Sociology of Violence. 3 Credit Hours.

Seminar on issues relevant to the sociology of violence, with a focus on violence in the United States. While the emphasis throughout will be on street violence (i.e., homicide, robbery, rape, and aggravated assault), other forms of violence (e.g., corporate violence, family violence) will also be covered. In particular, we will examine violence in historical, international, and situational contexts, the major explanations of it, the factors associated with it, and efforts to control and prevent violence.

Requisite: Graduate Standing.

Components: SEM.

Grading: GRD.

Typically Offered: Summer.

SOC 682. Alcohol, Drugs, and Crime. 3 Credit Hours.

Exploration of different categories of illegal drugs and review their basic psychopharmacology, the sociological constructions of the dangers of drug use, the racialization of drug use and connections with "dangerous classes" of people, and the social consequences of America's particular brand of social control. The goals are to present these issues in all their complexity and explore some of the repercussions of addressing them in the ways that the US has chosen.

Requisite: Graduate Standing.

Components: SEM.

Grading: GRD.

Typically Offered: Summer.

SOC 683. Comparative Criminal Justice Systems. 3 Credit Hours.

Focus is on understanding crime and justice issues from a comparative, cross-national standpoint. Extant definitions of crime and deviance are placed in cultural contexts, existing methods of studying crime on a global scale, and various types of criminal behavior that occur in isolated group contexts as well as those crimes that transcend country boundaries are discussed. Topics will include genocide, transnational organized crime, human trafficking, and international terrorism. Criminal justice systems from select countries around the world and their responses to both localized and transnational crime are reviewed. Critical comparative analysis of crime and justice issues is emphasized. The final research paper will require integrating theory, methods, and scholarly writing using a global perspective.

Requisite: Graduate Standing.

Components: SEM.

Grading: GRD.

Typically Offered: Fall.

SOC 690. Directed Studies. 1-3 Credit Hours.

Individually supervised readings or research on special topics. Offered by arrangement with the instructor.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SOC 691. Special Topics and Current Issues in Medical Sociology. 1-3 Credit Hours.

Seminar topics will be announced in schedule of classes.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SOC 692. Special Topics and Current Issues in Criminology. 1-3 Credit Hours.

Seminar topics will be announced in schedule of classes.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SOC 693. Special Topics and Current Issues in Race/Ethnic Relations. 1-3 Credit Hours.

Seminar topics will be announced in schedule of classes.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SOC 791. Graduate Internship and Paper. 6 Credit Hours.

Internships are intended to provide students with meaningful work experiences related to their professional interests. This is especially the case for students who are not yet employed in positions related to criminology and/or criminal justice. The internship period should provide the student with the opportunity to examine a criminal justice-related agency or organization, its various roles and functions, and to participate in work experiences related to that agency's goals and purposes. The academic goal is to provide integration of theoretical concepts in criminology and criminal justice with the demands and constraints imposed within a professional work role. For students the internship represents an opportunity to achieve this integration and to acquire experience in the area in which they have been academically trained. Students who elect to take the internship and required paper will complete approximately 300 hours of work with an agency and will complete an approximately 30 page paper.

SOC 791 18 hr requirement.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

SOC 810. Master's Thesis. 1-6 Credit Hours.

The student working on his/her master's thesis enrolls for credit, in most departments not to exceed six, as determined by his/her advisor. Credit is not awarded until the thesis has been accepted.

Components: THI.

Grading: SUS.

Typically Offered: Fall & Spring.

SOC 820. Research in Residence. 1 Credit Hour.

Used to establish research in residence for the thesis for the master's degree after the student has enrolled for the permissible cumulative total in SOC 710 (usually six credits). Credit not granted. May be regarded as full time residence.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

SOC 830. Pre-Candidacy Doctoral Dissertation. 1-12 Credit Hours.

Required of all candidates for the Ph.D. The student will enroll for credit as determined by his/her advisor, but not for more than 6 hours. Up to 6 hours may be taken in a regular semester or in a summer session.

Components: THI.

Grading: SUS.

Typically Offered: Fall & Spring.

SOC 840. Post-Candidacy Doctoral Dissertation. 1-12 Credit Hours.

Required of all candidates for the Ph.D. who have advanced to candidacy. The student will enroll for credit as determined by his/her advisor, but not for less than a total of 12.

Components: THI.

Grading: SUS.

Typically Offered: Fall & Spring.

SOC 850. Research in Residence. 1 Credit Hour.

Used to establish research in residence for the Ph.D. after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Credit not granted. May be regarded as full-time residence as determined by the Dean of the Graduate School.

Components: THI.

Grading: SUS.

Typically Offered: Fall & Spring.

Spanish (SPA)

SPA 101. Elementary Spanish I. 3 Credit Hours.

For students with no background or previous study of Spanish. The focus of SPA 101 is the development of communicative abilities in speaking, reading, writing, and comprehension of Spanish and an introduction to the cultural practices of the Spanish-speaking world. Themes on: university life, family, leisure activities, and professions. Includes both oral and written assignments of grammatical structures and vocabulary introduced, informal and formal writing. Conducted entirely in Spanish. Not open to students who have completed 2 or more years of high school Spanish. Closed to heritage and native speakers of Spanish.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

SPA 102. Elementary Spanish II. 3 Credit Hours.

Continuation of SPA 101. The development of communicative abilities in speaking, reading, writing, and comprehension of Spanish and an introduction to the cultural practices of the Spanish-speaking world. Themes on: childhood and adolescence, university life, home and community, food and lifestyle, and environmental issues. Includes both oral and written assessments of grammatical structure and vocabulary introduced, informal and formal writing. Conducted entirely in Spanish.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

SPA 105. Accelerated Elementary Spanish. 3 Credit Hours.

For students with previous study of Spanish needing to review material covered in SPA 101 and 102 in preparation for continued study of Spanish at the intermediate level. The focus of SPA 105 is the continued development of communicative abilities in speaking, reading, writing, and comprehension of Spanish and an introduction to the cultural practices of the Spanish-speaking world. Themes on: university life, family, leisure activities, and professions, childhood and adolescence, home and community, food and life-style, and environmental issues. Includes both oral and written assessments of grammatical structures and vocabulary introduced, informal and formal writing. Conducted entirely in Spanish.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

SPA 107. Basic Spanish for Heritage Learners. 3 Credit Hours.

Designed for students with little or no prior instruction in Spanish who, because of family background or social experience, can understand some casual spoken Spanish and have a passive knowledge of the language, but do not speak the language themselves. Focus on developing basic speaking, reading, and writing abilities.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

SPA 195. Transfer Credit. 1-3 Credit Hours.

Awarded for 100-level course work at another institution for which UM has no direct equivalent.

Components: LEC.

Grading: CNC.

Typically Offered: Fall, Spring, & Summer.

SPA 201. Intermediate Spanish I. 3 Credit Hours.

For students with previous study of Elementary-level Spanish. The focus of SPA 201 is the continued development of communicative abilities in speaking, reading, writing and comprehension of Spanish and as an introduction to the cultural practices, family values, and social and environmental issues. Includes both oral and written assessments of grammatical structures and vocabulary introduced, informal and formal writing. Conducted entirely in Spanish.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

SPA 202. Intermediate Spanish II. 3 Credit Hours.

For students with previous study of Spanish at the intermediate level. SPA 202 focuses on the continued development of critical skills in reading, writing, speaking and listening in Spanish with special emphasis on the cultural diversity of the Spanish-speaking world. Themes on: relationships, cultural values, different historical perspectives, and current politics explored through articles, films, and literary texts. The course will develop writing and reading strategies, providing students with the tools to think, read, and write critically and analytically in papers of 1-3 pages. Progress will also be assessed through quizzes and exams. Course conducted entirely in Spanish.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

SPA 203. Advanced Spanish. 3 Credit Hours.

Continuation of SPA 202. This course prepares students for advanced literature, linguistics, and culture courses. The class will use films, literary works, and other cultural texts. Students will write analytic essays of 3-5 pages to develop style, vocabulary, and syntax.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

SPA 207. Intermediate Spanish for Heritage Learners. 3 Credit Hours.

Designed for students with some prior instruction in Spanish who, because of family background or social experience, can understand casual spoken Spanish and have some functional communication abilities in the language. Focus on developing basic speaking, reading, and writing abilities.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

SPA 208. Advanced Spanish for Heritage Learners. 3 Credit Hours.

Designed for those students who, because of family background or social experience and prior instruction in Spanish, possess functional communication abilities in the language. Focus is on developing formal speaking, reading and writing abilities. Counts towards the major and minor in Spanish.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

SPA 280. Special Topics. 3 Credit Hours.

Awarded for 200 level study abroad course led by UM faculty.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

SPA 295. Transfer credits. 1-3 Credit Hours.

Awarded for 200-level course work at another institution for which UM has no direct equivalent.

Components: LEC.

Grading: CNC.

SPA 301. Interpreting Literary and Cultural Texts in Spanish. 3 Credit Hours.

Tools for the interpretation and analysis of literary and cultural materials from the Spanish-speaking world. Acquisition of terminology and theories through the study of the main literary genres (prose, poetry, and drama) and a complementary genre of cultural analysis (e.g. film studies, cultural studies, etc.). Emphasis on critical writing skills. Closed to heritage/native speakers. Students may not receive credit for both 301 and 307 (formerly 343).

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

SPA 302. The Culture of Spain. 3 Credit Hours.

Historical survey of the arts, science, letters, and political and social institutions in Spain.

Prerequisite: SPA 203 OR SPA 208.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SPA 303. The Cultures of Spanish America. 3 Credit Hours.

Historical survey of the arts, letters, science, and political and social institutions in Spanish-speaking Americas.

Prerequisite: SPA 203 OR SPA 208.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SPA 307. Interpreting Literary and Cultural Texts in Spanish for Heritage/Native Speakers. 3 Credit Hours.

Tools for the interpretation and analysis of literary and cultural materials from the Spanish-speaking world. Acquisition of terminology and theories through the study of the main literary genres (prose, poetry, and drama) and a complementary genre of cultural analysis (e.g., film studies, cultural studies, etc.). Emphasis on critical writing skills. Special attention to characteristics of heritage/native speaker expression. Students may not receive credit for both 301 and 307 – or formerly 343.

Prerequisite: SPA 208.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

SPA 310. Topics in Spanish and Spanish American Studies in Translation. 3 Credit Hours.

Topics in the literatures and/or cultures of the Spanish-speaking world. Readings and discussion in English. Development of critical reading and writing skills. Fulfills humanities literature requirement. Does not fulfill foreign language requirement. Maybe be repeated when the topic varies. Maybe used toward the Spanish major in accordance with Department of Modern Languages and Literature stipulations.

Prerequisite: ENG 106 or ENG 107.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SPA 318. Cinema from the Spanish-Speaking World in Translation. 3 Credit Hours.

Topics in the cinema of the Spanish-speaking world. Analysis of films in their cultural context. This course is taught in English and does not fulfill the CAS foreign language requirement. Maybe be repeated for credit if topics vary.

Prerequisite: ENG 106 or ENG 107.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SPA 321. Introduction to Literary Themes. 3 Credit Hours.

Hispanic literatures through thematic readings. Topics may include Modernismo and Cosmopolitismo, the "Boom" of Latin American narrative, Spanish vanguard poetry, and others. May be repeated for credit if topics vary.

Prerequisite: SPA 301 or SPA 302 or SPA 303 or SPA 307.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

SPA 322. Cultural Topics. 3 Credit Hours.

Issues related to the cultures in the Spanish-speaking world. Topics may include film, journalism, religion, language in society, popular and mass culture, visual arts, immigration, slavery, mestizaje. May be repeated for credit if topics vary.

Prerequisite: SPA 301 or SPA 302 or SPA 303 or SPA 307.

Components: SEM.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

SPA 325. Topics in Spanish-Language Cinema. 3 Credit Hours.

Cinema of the Spanish-speaking world. Analysis of films in their cultural context. May be repeated for credit if topics vary.

Prerequisite: SPA 301 or SPA 302 or SPA 303 or SPA 307.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SPA 330. Topics in Gender and Sexuality. 3 Credit Hours.

The study of gender and sexuality as developed in the Hispanic context. May be repeated if topics vary.

Prerequisite: SPA 301 or SPA 302 or SPA 303 or SPA 307.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SPA 340. Migration Studies. 3 Credit Hours.

Topics within the literary and/or cultural dimensions of migration in the Spanish-speaking world.

Prerequisite: SPA 301 or SPA 302 or SPA 303 or SPA 307.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SPA 353. Colonial Spanish American Topics. 3 Credit Hours.

Topics within Latin American literatures and cultures from the colonial centuries. May be repeated for credit if topics vary.

Prerequisite: SPA 301 or SPA 302 or SPA 303 or SPA 307.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SPA 354. 19th-Century Spanish American Topics. 3 Credit Hours.

Topics within Latin American literature and cultures from independence to the end of the nineteenth century. May be repeated for credit if topics vary.

Prerequisite: SPA 301 or SPA 302 or SPA 303 or SPA 307.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SPA 355. Studies in 20th and 21st Century Latin American Literatures and Cultures. 3 Credit Hours.

Latin American literature and cultures from the beginning of the 20th century to the present. May be used to fulfill the humanities literature requirement.

Prerequisite: SPA 301 or SPA 302 or SPA 303 or SPA 307.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SPA 360. The Caribbean through Literary Studies. 3 Credit Hours.

The study of the Spanish Caribbean through literary and cultural studies. May be repeated if topics vary.

Prerequisite: SPA 301 or SPA 302 or SPA 303 or SPA 307.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

SPA 362. Caribbean Cultural Studies. 3 Credit Hours.

Cultural Topics within the Spanish-speaking Caribbean. May be repeated for credit when topics vary.

Prerequisite: SPA 301 or SPA 302 or SPA 303 or SPA 307.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SPA 363. Medieval and Early Modern Peninsular Topics. 3 Credit Hours.

Topics within Spanish peninsular literature and cultures from the earliest literary forms through the seventeenth century. May be repeated for credit if topics vary.

Prerequisite: SPA 301 or SPA 302 or SPA 303 or SPA 307.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SPA 364. 18th and 19th Century Peninsular Topics. 3 Credit Hours.

Topics within Spanish peninsular literatures and cultures from the eighteenth and nineteenth centuries. May be repeated for credit if topics vary.

Prerequisite: SPA 301 or SPA 302 or SPA 303 or SPA 307.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SPA 365. Studies in 20th and 21st Century Spanish Literatures and Cultures. 3 Credit Hours.

Spanish peninsular literatures and cultures from the twentieth century to the present. May be used to fulfill the humanities literature requirement.

Prerequisite: SPA 301 or SPA 302 or SPA 303 or SPA 307.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

SPA 394. Spanish Internship. 1-3 Credit Hours.

Applied analytical, interpretative, expressive and creative skills in Spanish at on-site cultural, business and non-profit organizations outside UM.

Normally 27 internship hours are required per credit earned (the host will supply documentary evidence of hours worked).

Prerequisite: SPA 203 OR SPA 208.

Components: PRA.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

SPA 395. Transfer credits. 1-3 Credit Hours.

Awarded for 300-level course work at another institution for which UM has no direct equivalent.

Components: LEC.

Grading: CNC.

SPA 396. Transfer credits. 1-3 Credit Hours.

Awarded for course work at another institution for which UM has no direct equivalent.

Components: LEC.

Grading: GRD.

SPA 397. Transfer credits. 1-3 Credit Hours.

Awarded for course work at another institution for which UM has no direct equivalent.

Components: LEC.

Grading: GRD.

SPA 398. Transfer credits. 1-3 Credit Hours.

Awarded for course work at another institution for which UM has no direct equivalent.

Components: LEC.

Grading: GRD.

SPA 399. Transfer credits. 1-3 Credit Hours.

Awarded for course work at another institution for which UM has no direct equivalent.

Components: LEC.

Grading: GRD.

SPA 401. Introduction to Hispanic Linguistics. 3 Credit Hours.

Survey of principal areas of inquiry in Hispanic linguistics, including phonetics/phonology, morphology, syntax, pragmatics, historical, social and dialectal variations.

Prerequisite: SPA 301 or SPA 302 or SPA 303 or SPA 307.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SPA 402. Spanish Second Language Acquisition.. 3 Credit Hours.

The linguistic contrast between Spanish and English and the pedagogical and practical implications of understanding language, especially grammar, from a foreign/second language perspective.

Prerequisite: SPA 301 or SPA 302 or SPA 303 or SPA 307.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SPA 422. Topics in Hispanic Linguistics. 3 Credit Hours.

Special topics in the study of Hispanic linguistics. Possibilities include phonetics/phonology, pragmatics/discourse analysis, sociolinguistics, sociocultural theory, bilingualism.

Prerequisite: SPA 301 or SPA 302 or SPA 303 or SPA 307.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SPA 432. Business Ethics and Cultural Debates in Spanish. 3 Credit Hours.

Commercial vocabulary, economic, technical, and diplomatic terminology in Spanish. Composition based on models of business correspondence directed to Spanish-speaking countries or firms.

Prerequisite: SPA 301 or SPA 302 or SPA 303 or SPA 307.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SPA 433. Medical, Cultural and Bioethical Debates in Spanish. 3 Credit Hours.

Medical vocabulary, technical and practical terminology in Spanish. Composition based on models of the documents, letters, medical history cases required in health care professions.

Prerequisite: SPA 301 or SPA 302 or SPA 303 or SPA 307.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SPA 434. Legal and Cultural Debates in the Spanish-Speaking World. 3 Credit Hours.

Legal vocabulary, technical and practical terminology in Spanish. Composition based on models of documents, letters and case histories required in legal professions.

Prerequisite: SPA 301 or SPA 302 or SPA 303 or SPA 307.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

SPA 440. Phonetics. 3 Credit Hours.

Spanish pronunciation based on phonetics. Exercises in diction and phonetic transcription. Attention to individual difficulties. Conducted in Spanish.

Prerequisite: SPA 301 or SPA 302 or SPA 303 or SPA 307.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SPA 442. Stylistics and Composition. 3 Credit Hours.

Analysis of grammar and style. Discussion of readings. Intensive writing.

Prerequisite: SPA 301 or SPA 302 or SPA 303 or SPA 307.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SPA 444. Introduction to Translation. 3 Credit Hours.

Problems in translation: Spanish to English; English to Spanish.

Prerequisite: SPA 301 or SPA 302 or SPA 303 or SPA 307.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SPA 446. Medical, Cultural and Bioethical Debates in Spanish. 3 Credit Hours.

Intensive training in public speaking in Spanish for academic or professional settings. In-class debates and presentations based on readings about controversies or critical issues within the Spanish-speaking world.

Prerequisite: SPA 301 or SPA 302 or SPA 303 or SPA 307.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SPA 495. Transfer Credits. 1-3 Credit Hours.

Awarded for 400-level course work at another institution for which UM has no direct equivalent.

Components: LEC.

Grading: CNC.

SPA 501. Capstone. 3 Credit Hours.

Course with a broad-based topic designed to integrate all the high-level linguistic, critical and analytical skills with the body of knowledge acquired during the course of study towards the major. Topics vary. Open only to undergraduates completing their Spanish major. To be taken in the last semester of the major.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

SPA 591. Directed Readings. 1-3 Credit Hours.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SPA 592. Directed Readings. 1-3 Credit Hours.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SPA 593. Directed Readings. 1-3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SPA 594. Senior Honors Thesis I. 3 Credit Hours.

Directed research for honors thesis.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

SPA 595. Senior Honors Thesis II. 3 Credit Hours.

Directed writing of honors thesis.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

SPA 641. Elementary SPA I for Graduate Students. 0 Credit Hours.

Designed to develop graduate students' communicative abilities in speaking, reading, writing and comprehending Spanish and to provide an introduction to the Spanish-speaking world.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

SPA 642. Elementary SPA II for Graduate Students. 1 Credit Hour.

Continuation of SPA 641. Designed to develop graduate students' communicative abilities in speaking, reading, writing, and comprehending Spanish, and continued engagement with the Spanish-speaking world.

Prerequisite: SPA 641.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

SPA 645. Accelerated Elementary SPA for Graduate Students. 0 Credit Hours.

For graduate students with prior study of Spanish who desire to review material covered in SPA641 and SPA642 in preparation for study of Spanish at the intermediate level. Designed to develop graduate students' communicative abilities in speaking, reading, writing, and comprehending Spanish, and continued engagement with the Spanish-speaking world.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

SPA 647. Basic SPA for Graduate Heritage Learners. 0 Credit Hours.

For graduate students with little or no prior instruction in Spanish who, because of family background or social experience, can understand casual spoken Spanish and have a passive knowledge of the language but do not speak the language regularly. Focus on developing formal speaking, reading, and writing abilities, and knowledge of the Spanish-speaking world.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

SPA 651. Intermediate SPA I for Graduate Research. 0 Credit Hours.

For graduate students with previous study of elementary-level Spanish. Designed to develop graduate students' communication skills in both written and spoken Spanish at the intermediate level. Intended primarily for students who will carry out research in the Spanish-speaking world.

Prerequisite: SPA 642 or SPA 645.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

SPA 652. Inrmediate SPA II for Graduate Research. 0 Credit Hours.

For graduate students with previous study of Spanish at the intermediate level. Designed to enhance graduate students' communication skills in both written and spoken Spanish at the high-intermediate level. Intended primarily for students who will carry out research in the Spanish-speaking world.

Prerequisite: SPA 651.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

SPA 653. Advanced SPA I for Graduate Research. 0 Credit Hours.

For graduate students with previous study of Spanish at the high-intermediate level. Designed to enhance graduate students' communication skills in both written and spoken Spanish at the advanced-low level. Intended primarily for students who will carry out research in the Spanish-speaking world.

Prerequisite: SPA 652.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

SPA 657. Intermediate SPA for Graduate Heritage Learners. 0 Credit Hours.

For graduate students with previous study of Spanish at the elementary level who, because of family background or social experience, can understand casual spoken Spanish and have a passive knowledge of the language but do not speak the language regularly. Designed to enhance graduate students' communication skills in both written and spoken Spanish at the intermediate-high level. Intended principally for heritage learners who will carry out research in the Spanish-speaking world.

Prerequisite: SPA 647.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

SPA 658. Advanced SPA for Graduate Heritage Learners. 0 Credit Hours.

For graduate students with previous study of Spanish at the intermediate-high level who, because of family background or social experience, can understand casual spoken Spanish and have a passive knowledge of the language but do not speak the language regularly. Designed to enhance graduate students' communication skills in both written and spoken Spanish at the advanced-low level. Intended principally for heritage learners who will carry out research in the Spanish-speaking world.

Prerequisite: SPA 657.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

SPA 693. Teaching Practicum. 3 Credit Hours.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SPA 711. Topics in Spanish Medieval Literature. 3 Credit Hours.

Recent topics: Libro de Buen amor, the epic, Berceo, cancionero poetry.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SPA 713. Topics in the Golden Age. 3 Credit Hours.

Recent topics: culteranismo and conceptismo, La Celestina, Cervantes, the picaresque, sixteenth-century theatre.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SPA 715. Topics in 18th-19th Century Spanish Literature. 3 Credit Hours.

Recent topics: neoclassicism, romantic theatre, Spain and the European Enlightenment, Galdos, realism, postromantic poetry.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SPA 716. Topics in 20th Century Spanish Literature. 3 Credit Hours.

Recent topics: the generation of 1898, Garcia Lorca, the post-war novel, contemporary theater.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SPA 721. Special Topics in Hispanic Studies. 3 Credit Hours.

Special Topics in Hispanic Studies

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SPA 733. Topics in Colonial Literature. 3 Credit Hours.

Recent topics: the chroniclers, Sor Juana Ines de la Cruz, Baroque of the Indies.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SPA 735. Topics in 19th Century Latin American Literature. 3 Credit Hours.

Recent topics include: romanticism, modernist poetry, anti-slavery novel.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SPA 736. Topics in 20th Century Latin American Literature. 3 Credit Hours.

Recent topics: modernism, magic realism, the short story, the novel of the Mexican Revolution, the Boom and post-Boom.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SPA 791. Writing Practicum. 1 Credit Hour.

The writing of a publishable research paper under faculty guidance.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SPA 792. Directed Readings. 1-3 Credit Hours.

Components: IND.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

SPA 830. Pre-Candidacy Doctoral Dissertation. 1-12 Credit Hours.

Required of all candidates for the Ph.D. Prior to admission to candidacy, the student will enroll for credit as determined by his/her advisor. Not more than 12 hours of SPA 730 may be taken in a regular semester, nor more than six in a summer session. Students who have not passed their qualifying examinations yet, but are not taking any courses, may enroll in SPA 730.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

SPA 840. Post-Candidacy Doctoral Dissertation. 1-12 Credit Hours.

Required of all candidates for the Ph.D. After admission to candidacy, the student will enroll for credit as determined by his/her advisor. Not more than 12 hours of SPA 740 may be taken in a regular semester, nor more than six in a summer session. Students who have passed their qualifying examinations, but are not taking courses any more, may enroll in SPA 740. Where a student has passed his /her(a) qualifying examinations, and (b) is engaged in an assistantship, he/she may still take the maximum allowable credit stated above.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

SPA 850. Research in Residence. 1 Credit Hour.

Used to establish residence for the Ph.D., after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Credit not granted. May be regarded as full-time residence as determined by the Dean of the Graduate School.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

Strategic Communication (STC)

STC 102. Graphic Design for Strategic Communication. 3 Credit Hours.

An introduction to the art of visual communication as it relates to advertising design. Students will learn how to use Adobe PhotoShop and InDesign as tools for applying basic graphic design techniques used in print and outdoor media. Topics include typography, design principles, art & image manipulation, conceptualization and layout stages, color theory and color reproduction, printing processes, and production

Components: LAB.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

STC 103. Statistical Reasoning for Strategic Communication. 3 Credit Hours.

An introduction to statistical reasoning for advertising and public relations.

Prerequisite: MTH 101. Or ALEKS Score 60+ or 630 Math SAT + or 28 Math ACT+.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

STC 114. Principles of Advertising. 3 Credit Hours.

An introduction to the principles and practice of advertising in a free-market economy. Students will be introduced to several areas of advertising including account planning, creative strategy, media planning, research methods, consumer behavior, and integrated marketing. Emphasis on cultural, social, ethical, and regulatory aspects of advertising.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

STC 116. Principles of Public Relations. 3 Credit Hours.

History, organization, ethics, law, and practice of public relations.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

STC 200. Advertising Strategy Development. 3 Credit Hours.

Introduction to the development of effective advertising strategies. Topics include consumer behavior, attitude development, persuasion tactics, targeting, market segmentation, market analysis, and brand management.

Prerequisite: STC 114.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

STC 201. Public Relations Strategy Development. 3 Credit Hours.

This course introduces students to research-based strategy development and planning at the core of public relations practice.

Prerequisite: STC 116.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

STC 202. Advanced Graphic Design for Advertising. 3 Credit Hours.

This course will delve more deeply into the concepts of graphic design as they relate to the field of advertising. More specifically, this course will touch upon the use of art, illustration, and photography in advertising design. Topics also will include digital imaging, production, and web publishing. Students will learn to use Adobe Illustrator as a tool for designing in both traditional and non-traditional media. This course serves as a foundation for advertising portfolio development.

Prerequisite: STC 102.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

STC 203. Advanced Graphic Design for Public Relations. 3 Credit Hours.

Introduction to graphic design for communication media and use of computer software as layout and design tools. Selection, preparation, and study of design principles and production processes for typography, photography, art work, and white space.

Prerequisites: STC 102.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

STC 231. Advertising Copywriting and Concept. 3 Credit Hours.

Introduction to writing advertising copy across multiple media platforms, including print, outdoor, television, interactive, specialty, and social media.

Prerequisite: STC 114. And JMM 108.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

STC 232. Writing for Public Relations. 3 Credit Hours.

Principles and techniques for the development of creative strategies, concepts, and writing of effective public relations messages for all types of media.

Prerequisites: JMM 108, STC 116 or STC 114 or JMM 102.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

STC 233. Writing for Advertising Account Management. 3 Credit Hours.

Introduction to writing for the business side of advertising. This course will prepare students to write and create comprehensive reports and prepare presentations related to the business of account planning including research, creative strategies, and media planning.

Prerequisite: STC 114. And JMM 108.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

STC 290. Special Topics in Strategic Communication. 3 Credit Hours.

This course subject matter varies according to announced special topic. See class schedule for details.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

STC 302. Advanced Graphic Design and Photography. 3 Credit Hours.

This course builds upon photography and image manipulation techniques for varied formats in graphic design, including print, outdoor and non-traditional media. Students will create visual messages and focused visual statements, as well as gain an understanding of how to produce complex conceptual images for advertising using Adobe Creative Suite software. Topics will include conceptual thinking, photography, image manipulation, and creative strategy development and execution.

Prerequisites: STC 102 and STC 202 or STC 203.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

STC 303. Typography and Brand Design. 3 Credit Hours.

This course will provide an advanced experience in the development and understanding of brand design and will demonstrate how typography can be used effectively to create or enhance a brand's value and niche in the marketplace.

Prerequisite: STC 102, and STC 202 or STC 203.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

STC 311. Public Relations Research. 3 Credit Hours.

Public relations research techniques focusing on applications of strategic planning, message evaluation, opinion research, and theory testing of public relations programs. Emphasis on qualitative and quantitative methods and data analysis.

Prerequisite: STC 103 OR JMM 285 OR PSY 291 OR PSY 292 OR MAS 201.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

STC 312. Research Methods for Advertising. 3 Credit Hours.

Application of research techniques used in the field of advertising. Students will learn to collect, analyze, and report secondary and primary research findings as they apply to advertising decision-making.

Prerequisite: STC 103 or Requisite: Other Approved Statistics.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

STC 330. Travel and Tourism. 3 Credit Hours.

Development of tourism and destination promotion strategies and initiatives. Overview of public relations account structures within the tourism industries of airlines, travel destinations, hotels, and others.

Prerequisite: STC 114 Or STC 116 And Junior Standing.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

STC 331. Advanced Copywriting. 3 Credit Hours.

Advanced course in conceptualizing and copywriting advertising campaigns for all media forms, including traditional, digital, social, web, and mobile.

Prerequisite: STC 231.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

STC 334. Social Media Messaging and Strategies. 3 Credit Hours.

This course will examine the utility of major social media platforms as they relate to strategic communication. Topics will include message and campaign development, targeting, engagement, writing across social media platforms, social media management, and analytics.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

STC 340. Interactive, Digital, and Social Media in Advertising. 3 Credit Hours.

The course will explore the use of new and evolving media in the development of effective advertising campaigns, as well as the impact of these media on the advertising industry.

Prerequisite: STC 114.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

STC 346. Public Relations Message Development and Execution. 3 Credit Hours.

Preparation, execution, and production of visual messages for public relations media.

Prerequisites: STC 203 and STC 232.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

STC 350. International and Cross-cultural Advertising. 3 Credit Hours.

This course will explore advertising in a global marketplace. Emphasis will be placed on understanding cultural differences as they relate to international advertising planning, as well as techniques for gathering secondary and primary data on international markets and consumers.

Prerequisite: STC 114.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

STC 380. Advertising Internship. 1-3 Credit Hours.

Students select an internship in the field of advertising for on-the-job training. The student will work a minimum of 45 hours per credit. No more than three (3) credits of internship may be completed in any given semester.

Requisite: Sophomore Status, minimum GPA 2.5 and Permission of Instructor.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

STC 381. Public Relations Internship. 1-3 Credit Hours.

Students select an internship in the field of public relations for on-the-job training. The student will work a minimum of 45 hours per credit. No more than three (3) credits of internship may be completed in any given semester.

Requisite: Sophomore Status, minimum GPA 2.5 and Permission of Instructor.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

STC 384. Advertising Creative Strategy and Execution. 3 Credit Hours.

Development of effective creative campaigns. Students will design advertisements for print, broadcast, interactive, and specialty media that meet specific campaign objectives.

Prerequisite: STC 201. And STC 202. And STC 231.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

STC 388. Media Planning. 3 Credit Hours.

An introduction to the principles and concepts of advertising media planning including media selection, media plan development, forecasting, and budgeting.

Prerequisite: STC 201. STC 233. or JMM 102, JMM 108.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

STC 389. Media Buying and Advertising Sales. 3 Credit Hours.

Students will learn the art of buying media in all categories, as well as how to sell advertising space in these media.

Prerequisite: STC 201. STC 233. or JMM 102, JMM 108.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

STC 390. Art Direction. 3 Credit Hours.

This course will teach students art direction skills across multiple media platforms, including print, outdoor, television, interactive and social media.

Prerequisites: STC 202 or STC 203 and STC 231 or STC 232.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

STC 401. Seminar in Advertising and Society. 3 Credit Hours.

This course will examine the ethical, persuasive, cultural, societal, and economic effects of advertising, focusing on the theoretical frameworks that explain how advertising works in these arenas.

Requisite: Junior Standing.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

STC 412. Public Opinion and Mass Communication. 3 Credit Hours.

An exploration of the formation and role of public opinion in mass communication. Emphasis is placed on its role in advertising and promotion. Topics include the evolution and history of public opinion in American culture, the application of public opinion on attitude formation and persuasion, measurement of public opinion, and propaganda.

Requisite: Junior Status or Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

STC 416. Public Relations Ethics. 3 Credit Hours.

Ethical concepts and issues pertaining to individuals and society with application to advertising and public relations. Case studies focus on professional and personal ethics based on traditional teaching, modern codes, and other guidelines.

Prerequisite: STC 116.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

STC 423. Crisis Communication and Management. 3 Credit Hours.

This course introduces the student to crisis communication and management from a strategies, theory-based approach steeped in case research from historical cases and business case studies.

Pre-requisites: STC 116. And Requisite: Junior Standing.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

STC 424. Media Relations. 3 Credit Hours.

The practice of media relations within the public relations milieu.

Requisite: Junior Status.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

STC 425. Cases in Public Relations Administration. 3 Credit Hours.

This course will examine the management and administrative functions of public relations using a case-study approach.

Pre-requisites: STC 116. And Requisite: Junior Standing.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

STC 426. Sports, Publicity, and Promotions. 3 Credit Hours.

This course will provide a review, examination and practical application of sports communications, publicity and promotions in strategic communications.

Requisite: Junior Standing or Higher.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

STC 428. Public Relations Management. 3 Credit Hours.

Principles and practice of public relations management in a variety of contexts including agency, consultancy, corporate, and nonprofit.

Pre-requisites: STC 116. And Requisite: Junior Standing.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

STC 434. Advertising Campaigns. 3 Credit Hours.

Capstone course in which students develop a full-scale advertising campaign. Students are responsible for conducting secondary and primary research, strategic planning, development of creative executions, planning and executing media selections, and campaign evaluation.

Prerequisites: Senior Standing and STC 114 and 200. General Track: STC 231 or STC 233, STC 312, STC 388. Management Track: STC 233, STC 312 and STC 388. Creative Track: STC 202, STC 231 and STC 384.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

STC 435. Seminar in PR Measurement. 3 Credit Hours.

This course examines the measures, mechanisms, and necessary considerations for measuring public relations outcomes and communication effectiveness, as well as evaluating the impact of public relations efforts.

Rerequisite: STC 311 & Junior.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

STC 436. Public Relations Campaigns. 3 Credit Hours.

The capstone course for seniors in their last year of study. Theory and principles, audience research, strategic planning, and targeted communication are applied in developing a campaign to influence attitudes and behavior on behalf of a real client. A written plan, professional presentation, and teamwork are emphasized.

Prerequisites: Public Relations Requisites by Track.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

STC 437. Politics: Persuasion and Perception. 3 Credit Hours.

This course will examine the candidates in current political elections, their likability factors, truthfulness, strengths and weaknesses, and how they get their messages out to the world.

Requisite: Junior Status.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

STC 438. Practicum in Advertising. 1-3 Credit Hours.

Students will work in the advertising field for advanced on-the-job training in their specific area of advertising specialization.

Prerequisite: STC 380. Requisite: Senior Standing.

Components: PRA.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

STC 439. Public Relations Practicum. 1-3 Credit Hours.

Students will work in the public relations field for on-the-job training. Students must work a minimum of 45 hours per credit earned.

Prerequisite: STC 381. Requisite: Senior Standing.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

STC 444. Social Media Analytics. 3 Credit Hours.

This course will provide an overview and practical application of various public and commercial social media analytics and tools, and will cover sources of data, metrics, analyses, and tools used in the development of successful social media campaigns.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

STC 450. Strategic Communication in Health Care. 3 Credit Hours.

An examination of health industry communication from business and promotional perspectives, including the special issues that have an impact on health communicators. Best practices and case studies from notable practitioners are used; strategic communication plan development, writing and presentation are emphasized.

Prerequisite: STC 116 and STC 201.

Components: LEC.

Grading: GRD.

STC 460. Corporate Communication and Public Relations. 3 Credit Hours.

This course monitors the sociopolitical environment of organizations, explores managing corporate crises and confrontations, analyzes issues, formulates organizational and political strategies, develops programs of advocacy communication and explores constituency communications and public involvement.

Prerequisite: STC 116. And Requisite: Junior Standing or Higher.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

STC 481. Public Relations Experience Program (Prep). 1-3 Credit Hours.

Develop skills used by professionals in the public relations/media relations, communications, promotions/marketing and journalism professions through faculty-supervised hands-on experience in the "field" with real organizations.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

STC 482. International Public Relations. 3 Credit Hours.

History, theory, and practice of public relations in a global, multi-cultural environment.

Prerequisite: STC 116. And Requisite: Junior Standing or Higher.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

STC 483. Integrated Marketing Communication. 3 Credit Hours.

An exploration of how brands are built and promoted through the integration of advertising, public relations, sales promotion, personal selling, direct marketing, and e-commerce.

Prerequisites: STC 114 or STC 116 or MKT 201.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

STC 488. Digital, Mobile, and Web Media Evaluation. 3 Credit Hours.

Focus on the evaluation of digital, mobile, and web-based advertising as part of integrated advertising media plans. Topics include audience estimation, cost-gathering, and evaluation of potential effectiveness.

Prerequisite: STC 388.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

STC 490. Special Topics in Advertising. 3 Credit Hours.

This course subject matter varies according to announced special topic. See class schedule for details.

Pre-requisite: STC 114 Or Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

STC 491. The Business of Account Management. 3 Credit Hours.

This course will lead to a stronger understanding of the role of account management in marketing communication and advertising agencies. Topics will include advertising agency management, client services, and financial planning within the agency.

Prerequisite: STC 200 or Requisite: Junior Standing.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

STC 492. Advanced Advertising Creative Development. 3 Credit Hours.

This course will provide an advanced experience in art direction.

Prerequisite: STC 202 and STC 231.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

STC 493. Special Topics in Public Relations. 3 Credit Hours.

This course subject matter varies according to announced special topic. See class schedule for details.

Requisite: Junior Status.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

STC 495. Advertising Management. 3 Credit Hours.

Students will learn to approach advertising problems at both micro and macro levels from the perspective of a manager in charge of solving such problems. Emphasis will be on problem identification, development of alternative strategies to solve problems, tactics for executing strategies, and evaluation of proposed solutions.

Prerequisites: STC 200 and STC 233 and STC 312 and STC 388. Requisite: Senior Standing.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

STC 496. Advertising Portfolio Development. 3 Credit Hours.

This course will assist students in putting together a professional-quality advertising portfolio of their work.

Prerequisite: STC 384. Or Corequisite: STC 384. Requisite: Senior Status.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

STC 498. AAF National Student Advertising Campaign Competition. 3 Credit Hours.

Students compete in the American Advertising Federation's National Student Advertising Campaign Competition.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

STC 499. Projects and Directed Research in Strategic Communication. 1-3 Credit Hours.

Individual study. No more than three credits may be counted toward a Communication major or minor.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

STC 620. Public Relations Fundamentals. 3 Credit Hours.

A seminar to explore the theories and methodologies of public relations encompassing writing, principles and campaigns.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

STC 621. Writing for Public Relations. 3 Credit Hours.

Principles and techniques for the development of strategic thinking, information-gathering, and writing public relations messages across traditional, digital, social and web-based media.

Prerequisite: STC 620.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

STC 622. Design for Public Relations. 3 Credit Hours.

An introduction to design principles and tactics used in the creation of public relations messages and campaigns.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

STC 623. Crisis Communication and Management. 3 Credit Hours.

This course introduces the student to crisis communication and management from a strategies, theory-based approach steeped in case research from historical cases and business case studies.

Prerequisite: STC 620.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

STC 624. Media Relations. 3 Credit Hours.

The practice of media relations within the public relations milieu.

Prerequisite: STC 620.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

STC 625. Cases in Public Relations Administration. 3 Credit Hours.

Course analyzes organizational principles, internal budgeting, and evaluation of public relations departments and counseling firms.

Prerequisite: STC 620. Or Requisite: Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

STC 626. Sports, Publicity, and Promotions. 3 Credit Hours.

This course will provide a review, examination and practical application of sports communications, publicity and promotions in strategic communications.

Prerequisite: STC 620.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

STC 628. Public Relations Management. 3 Credit Hours.

Principles and practice of public relations management in a variety of contexts including agency, consultancy, corporate, and nonprofit.

Prerequisite: STC 620.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

STC 629. Special Topics Seminar in Public Relations. 3 Credit Hours.

A seminar to identify and discuss the role of fundraising in the not-for-profit sector.

Prerequisite: STC 620.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

STC 632. Seminar in Public Relations and Political Campaigns. 3 Credit Hours.

A seminar to examine the role of public relations in American political campaigns.

Prerequisite: STC 620.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

STC 634. Non-Profit and Public Information Campaigns. 3 Credit Hours.

A public seminar that focuses on non-profit organizations and governmental institutions.

Prerequisites: STC 620, STC 621, STC 622.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

STC 635. Seminar in Public Relations Measurement. 3 Credit Hours.

This course will delve into the measures, mechanisms, and necessary considerations for measuring public relations effectiveness and evaluating the impact of public relations efforts.

Prerequisites: COM 601, STC 620, COM 602 or COM 603.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

STC 636. Public Relations Campaigns. 3 Credit Hours.

Theory and principles, audience research, strategic planning, and targeted communication are applied in developing a campaign to influence attitudes and behavior on behalf of a real client. A written plan, professional presentation, and teamwork are emphasized. You are expected to meet a substantial challenge by applying and building on knowledge and skills already acquired. Of special concern is how you acquit yourself as a working communication professional that is committed to the goal and who effectively budgets time, plans, exhibits leadership, adheres to ethical and legal practice, and demonstrates a strong work ethic.

Prerequisite: COM 601, STC 620, STC 621 And STC 622.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

STC 644. Seminar in Public Relations Ethics. 3 Credit Hours.

To explore through readings, discussion, and research contemporary ethical issues in public relations.

Prerequisite: STC 620. Or Requisite: Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

STC 650. Strategic Communication in Health Care. 3 Credit Hours.

An examination of health industry communication from business and promotional perspectives, including the special issues that have an impact on health communicators. Best practices and case studies from notable practitioners are used; strategic communication plan development, writing and presentation are emphasized.

Prerequisite: STC 620. Or Requisite: Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

STC 660. Corporate Communication and Public Relations. 3 Credit Hours.

This course monitors the sociopolitical environment of organizations, explores managing corporate crises and confrontations, analyzes issues, formulates organizational and political strategies, develops programs of advocacy communication and explores constituency communications and public involvement.

Prerequisites: COM 601, STC 620. Or Requisite: Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

STC 681. Public Relations Experience Program (Prep). 1-3 Credit Hours.

Develop skills used by professionals in the public relations/media relations, communications, promotions/marketing and journalism professions through faculty-supervised hands-on experience in the "field" with real organizations.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

STC 682. International Public Relations. 3 Credit Hours.

History, theory, and practice of public relations in a global, multi-cultural environment.

Prerequisite: STC 620.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

STC 690. Public Relations Practicum I. 1-3 Credit Hours.

Professional functions related to public relations requirements in a professional environment acting as an account executive.

Components: PRA.

Grading: GRD.

Typically Offered: Fall & Spring.

STC 691. Special Topics in Public Relations. 3 Credit Hours.

This course subject matter varies according to announced special topic. See class schedule for details.

Prerequisite: STC 620.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

STC 699. Advanced Projects and Directed Research in Public Relations. 1-6 Credit Hours.

Individual study. May be repeated to a maximum of six credits.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

Studio Music and Jazz (MSJ)

MSJ 101. Large Jazz Ensemble Placeholder. 1 Credit Hour.

Ensemble placeholder course for new students to enroll in before ensemble placement auditions during Frost Orientation. Please note, you will have to drop this course and enroll in your correct ensemble when receive your official ensemble placement from your studio professor.

Components: ENS.

Grading: GRD.

Typically Offered: Fall.

MSJ 107. Skills Lab I. 1 Credit Hour.

Chamber music performance of selected repertoire with a concentration in Bebop and the music of Charlie Parker, Dizzy Gillespie, and Thelonius Monk, along with secondary figures from the Bebop era, 1945-1955. Additional repertoire from a list of American standards will also be assigned.

Class sessions will cover historical/stylistic performance practice, aural skills (transcription, analysis, sight-reading, etc.), and Jazz arranging for small ensembles.

Requisite: Frost School of Music.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

MSJ 108. Skills Lab II. 1 Credit Hour.

Chamber music performance of selected repertoire with a concentration in Jazz and popular music in America in the 1950's, including the repertoire of prominent popular music composers such as George Gershwin, Cole Porter, Richard Rodgers, and others. Class sessions will cover historical/stylistic performance practice, aural skills (transcription, analysis, sight-reading, etc.), and Jazz arranging for small ensembles.

Corequisite: MSJ 141.

Components: LAB.

Grading: GRD.

Typically Offered: Spring.

MSJ 111. Jazz Vocal Techniques I. 1 Credit Hour.

Analysis and application of singing styles and attendant skills, techniques and repertoire required in performance and recording of jazz, popular music, and other current idioms.

Requisite: Frost School of Music.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

MSJ 113. Analysis and Evolution of Jazz Styles I. 3 Credit Hours.

An overview of the musical styles and genres of the late nineteenth and early twentieth century leading to the development of Jazz music. Then an in-depth study of early Jazz in America and its innovators, including Louis Armstrong, Jelly Roll Morton, and Duke Ellington. Also, a survey of the major style periods of Modern Jazz from 1945 to the present, including prominent artists from each style period.

Requisite: Frost School of Music.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MSJ 124. Introduction to Jazz Improvisation. 3 Credit Hours.

Introduction to the harmonic, melodic, and rhythmic techniques of Jazz Improvisation.

Requisite: Frost School of Music.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 125. Introduction to Jazz Vocal Improvisation.. 3 Credit Hours.

Introduction to the harmonic, melodic, and rhythmic techniques of Jazz Improvisation.

Requisite: Frost School of Music.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MSJ 134. E.C.M. Ensemble. 1 Credit Hour.

This ensemble performs music typical of the contemporary European jazz styles such as those characterized by the Edition of Contemporary Music (E.C.M.) Recording Company.

Requisite: Frost School of Music.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 136. Small Jazz Ensemble. 1 Credit Hour.

Group instruction in the various styles of contemporary jazz. Students will acquire improvisational skills while learning repertoire and performance techniques and strengthen compositional and arranging skills by contributing original compositions and arrangements to the ensemble's repertoire.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 137. Small Jazz Ensemble I. 1 Credit Hour.

This course is a continuation of MSJ136: Small Jazz Ensemble. Group instruction in the various styles of contemporary jazz. Students will acquire improvisational skills while learning repertoire and performance techniques and strengthen compositional and arranging skills by contributing original compositions and arrangements to the ensemble's repertoire.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 139. Small Jazz Vocal Ensemble. 1 Credit Hour.

A group consisting of 1 to 6 vocalists and 3 to 6 instrumentalists to gain experience in jazz solo and ensemble performance in a small group setting. Exploration of traditional and contemporary jazz literature will be emphasized. Performance of original music by ensemble members is also encouraged.

Requisite: Frost School of Music.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 140. Experiential Musicianship I. 3 Credit Hours.

Experiential Musicianship I covers the fundamentals of jazz theory and performance. The class is keyboard based. Material includes the basics of melody, harmony and rhythm in the tradition of the jazz art form. Specific topics include chord construction, chord voicings, progressions, voice leading, rhythmic interpretation and aural recognition.

Co-requisite: MSJ 107 and must pass with a C or Higher.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MSJ 141. Experiential Musicianship II. 3 Credit Hours.

Experiential Musicianship II is a continuation of Exp. Mus. I. Material includes a more in depth study of chord/scale theory, polyrhythmic studies, expansion of keyboard skills via increasingly longer or complicated progressions, aural recognition and transcription.

Co-requisite: MSJ 108.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MSJ 142. Small Jazz Ensemble II. 1 Credit Hour.

This ensemble focuses on sectional playing, blend, and musical interpretation. Students will be required to perform in sections of four to eight trombones with a rhythms section. The literature also requires the student to improvise. Students are encouraged to write for the ensemble.

Requisite: Frost School of Music.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 143. Small Jazz Ensemble III. 1 Credit Hour.

Group instruction in the various styles of contemporary jazz. Students will acquire improvisational skills while learning repertoire and performance techniques, and strengthen compositional and arranging skills by contributing original compositions and arrangements to the ensemble's repertoire.

Requisite: Frost School of Music.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 144. Small Jazz Ensemble IV. 1 Credit Hour.

Group instruction in the various styles of contemporary jazz. Students will acquire improvisational skills while learning repertoire and performance techniques, and strengthen compositional and arranging skills by contributing original compositions and arrangements to the ensemble's repertoire.

Requisite: Frost School of Music.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 145. Small Jazz Ensemble V. 1 Credit Hour.

Group instruction in the various styles of contemporary jazz. Students will acquire improvisational skills while learning repertoire and performance techniques, and strengthen compositional and arranging skills by contributing original compositions and arrangements to the ensemble's repertoire.

Requisite: Frost School of Music.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 146. Small Jazz Ensemble VI. 1 Credit Hour.

Freshmen level group that focuses on the music of Charlie Parker, Dizzy Gillespie, and Thelonius Monk. Issues of modern jazz harmony and rhythm as well as cultivating Bebop vocabulary for improvisation are discussed.

Requisite: Frost School of Music.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 147. Small Jazz Ensemble VII. 1 Credit Hour.

Group instruction in the various styles of contemporary jazz. Students will acquire improvisational skills while learning repertoire and performance techniques, and strengthen compositional and arranging skills by contributing original compositions and arrangements to the ensemble's repertoire.

Requisite: Frost School of Music.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 150. Studio Jazz Band. 1 Credit Hour.

This ensemble performs music in the recent big band tradition, from leaders such as Duke Ellington, Count Basie, Buddy Rich, Bob Brookmeyer, and Thad Jones. The group performs on campus with an emphasis on studio recording.

Requisite: Frost School of Music.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 151. Concert Jazz Band. 1 Credit Hour.

The Concert Jazz Band is the premiere big band at the Frost School of Music. Students are required to perform at an advanced level, and work with a variety of guest artists. Requirements include the ability to sight read difficult material, and to improvise in various styles.

Requisite: Frost School of Music.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 153. Jazz Band III. 1 Credit Hour.

Big Band designed for freshmen and sophomores to gain experience with classic Big Band repertoire.

Requisite: Frost School of Music.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 155. Monk/Mingus Ensemble. 1 Credit Hour.

This ensemble is dedicated to the study and performance of the music of the influential jazz composers Charles Mingus and Thelonius Monk.

Requisite: Frost School of Music.

Components: ENS.

Grading: GRD.

Typically Offered: Fall.

MSJ 156. Funk/Fusion Ensemble. 1 Credit Hour.

Small jazz ensemble focusing on contemporary electric jazz/rock/fusion/Latin styles. Emphasis is placed on original compositions by the members of the ensemble. The most common instrumentation is bass, drums, piano/synthesizer, guitar, and saxophone.

Requisite: Frost School of Music.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 157. Horace Silver Ensemble. 1 Credit Hour.

This ensemble is dedicated to the study and performance of the music of Horace Silver.

Requisite: Frost School of Music.

Components: SEM.

Grading: GRD.

Typically Offered: Spring.

MSJ 158. Frost Sextet. 1 Credit Hour.

An advanced ensemble dedicated to the performance of original and standard repertoire in the jazz idiom.

Requisite: Frost School of Music.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 159. Rhythm and Blues Ensemble. 1 Credit Hour.

Mid-level ensemble for both instrumentalists and vocalists designed to familiarize students with classic Rhythm and Blues material from the 50's, 60's, and 70s, while preparing for a series of concerts throughout the semester. Students are guided through the process of putting a working band together and preparing it for performances and recordings, including what is expected of and from instruments, vocalists, producers, promoters, and other industry personnel.

Requisite: Frost School of Music.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 160. Avant Garde Ensemble. 1 Credit Hour.

This ensemble offers students the opportunity to develop the "free form" improvisation in either the bebop based style of Ornette Coleman or the fusion oriented style as typified by Bill Laswell.

Requisite: Frost School of Music.

Components: ENS.

Grading: GRD.

Typically Offered: Fall.

MSJ 162. Jazz Saxophone Ensemble. 1 Credit Hour.

An ensemble dedicated to the study of jazz and contemporary repertoire for the saxophone Quartet/quintet. Skills addressed include sight-reading, intonation and blend, phrasing, rhythmic Accuracy, may include rhythm section accompaniment depending on availability.

Requisite: Frost School of Music.

Components: ENS.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MSJ 164. Contemporary Rhythm Section Techniques I. 1 Credit Hour.

Introduces students to various styles of rhythm section playing—from swing and modern Jazz through Rock, Funk, R&B, and other commercial styles of music. Concepts of sound, groove, balance and blend, repertory, and accompaniment are also discussed.

Requisite: Frost School of Music.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MSJ 165. Contemporary Rhythm Section Techniques II. 1 Credit Hour.

Fundamentals of rhythm section playing for guitarists, pianists, bassists, and drummers. It covers a variety of contemporary styles within the rock, jazz, Lat in, and pop idioms. Students are grouped into ensembles which perform in class weekly.

Requisite: Frost School of Music.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MSJ 166. Small Jazz Ensemble Lab. 0 Credit Hours.

Performance Lab designed to work in conjunction with all of the 140 level ensembles. Provides an environment in which students are required to perform on a regular rotating schedule throughout the semester. These performances are critiqued by the institution and other faculty, as well as students, in order to nurture a critical but positive atmosphere.

Requisite: Frost School of Music.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 167. Salsa Ensemble. 1 Credit Hour.

An ensemble of instrumentalists and singers performing a wide variety of Salsa and Latin jazz styles with emphasis on improvisation.

Requisite: Frost School of Music.

Components: ENS.

Grading: GRD.

Typically Offered: Spring.

MSJ 169. Jazz Guitar Ensemble I. 1 Credit Hour.

A small instrumental ensemble comprised of five electric guitars which perform with bass and drums in a wide variety of contemporary jazz styles.

Requisite: Frost School of Music.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 170. Jazz Guitar Ensemble II. 1 Credit Hour.

A small instrumental ensemble comprised of five electric guitars which perform with bass and drums in a wide variety of contemporary jazz styles.

Requisite: Frost School of Music.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 171. Jazz Guitar Ensemble III. 1 Credit Hour.

A small instrumental ensemble comprised of five electric guitars which perform with bass and drums in a wide variety of contemporary jazz styles.

Requisite: Frost School of Music.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 172. Jazz Guitar Ensemble (Workshop I). 1 Credit Hour.

A small instrumental reading ensemble, comprised of four to eight electric guitars, which studies a variety of contemporary jazz styles.

Requisite: Frost School of Music.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

MSJ 173. Jazz Guitar Ensemble (Workshop II). 1 Credit Hour.

A small instrumental reading ensemble, comprised of four to eight electric guitars, which studies a variety of contemporary jazz styles.

Requisite: Frost School of Music.

Components: SEM.

Grading: GRD.

Typically Offered: Spring.

MSJ 195. Jazz Vocal Ensemble I. 1 Credit Hour.

A choir of 12 to 16 voices, with rhythm section, which perform a wide variety of jazz and pop styles.

Requisite: Frost School of Music.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 196. Jazz Vocal Ensemble II. 1 Credit Hour.

A choir of 12 to 16 voices, with rhythm section, which perform a wide variety of jazz and pop styles.

Requisite: Frost School of Music.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 197. Jazz Vocal Ensemble III. 1 Credit Hour.

A choir of 12 to 16 voices, with rhythm section, which perform a wide variety of jazz and pop styles.

Requisite: Frost School of Music.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 203. Jazz Piano Class I. 1 Credit Hour.

This class covers the rudiments of jazz piano. Students will learn to play basic II V I progressions in major and minor. These progressions will be utilized while learning basic jazz standards.

Requisite: Frost School of Music.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 204. Jazz Piano Class II. 1 Credit Hour.

A continuation of MSJ 203, alternate versions of the II V I progression are discussed. Students will also learn to play the "blues" and "rhythm changes" progressions with a walking bass line. Jazz standards will be played as solo melody with chordal accompaniment.

Requisite: Frost School of Music.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 207. Skills Lab III. 1 Credit Hour.

Chamber music performance of selected repertoire with a concentration in the music of Miles Davis in the 1950's. Additional repertoire from a list of American standards will also be assigned. Class sessions will cover historical/stylistic performance practice, aural skills (transcription, analysis, sight-reading, etc.) and Jazz arranging for small ensembles.

Requisite: Frost School of Music.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

MSJ 208. Skills Lab IV. 1 Credit Hour.

Chamber music performance of selected repertoire from the Hard Bop period (1955-1962) including Blue Note artists. Additional repertoire from a list of American standards will also be assigned. Class sessions will cover historical/stylistic performance practice, aural skills (transcription, analysis, sight-reading, etc.) and Jazz arranging for small ensembles.

Requisite: Frost School of Music.

Components: LAB.

Grading: GRD.

Typically Offered: Spring.

MSJ 211. Jazz Vocal Techniques III. 1 Credit Hour.

Course provides performance experience in the Rock/Funk and Rock Ballad idioms that require strong vocal projection and presentation.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

MSJ 212. Jazz Vocal Techniques IV. 1 Credit Hour.

Advanced techniques for the Jazz/Pop Vocalist in live performance.

Components: LAB.

Grading: GRD.

Typically Offered: Spring.

MSJ 213. Analysis and Evolution of Jazz Styles II. 3 Credit Hours.

An overview of the musical styles and genres of the middle and late twentieth century encompassing the evolution of Modern Jazz music including an in-depth study of each period of Modern Jazz and its innovators. Also included is a survey of the major style periods of Rock music from 1945 to the present with prominent artists from each style period.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MSJ 220. Basic Drumset Styles and Techniques (Part 1). 3 Credit Hours.

This course explores the basic sticking, swing, backbeat drumset techniques, basic world drumset styles, and chart reading.

Requisites: Undergrad Music Students Only and Dean's Approval and Signature.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

MSJ 240. Experiential Musicianship III. 3 Credit Hours.

Experiential Musicianship III continues to build on skills acquired in the previous two semesters. Material includes continued development of keyboard skills and aural recognition through expansion of repertoire, modal and non-dominant/tonic harmonic schemes, bass lines and counterpoint, harmonization of melodies, and re-harmonization of basic progressions and transcription.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MSJ 241. Experiential Musicianship IV. 3 Credit Hours.

Experiential Musicianship IV culmination of the four level sequence. Students are expected to understand and aurally recognize advanced harmonic, melodic, and rhythmic material. New material may include Latin and other straight-eight rhythms, multi-voice counterpoint, advanced re-harmonization, and improvising at the keyboard. Keyboard skills run concurrent with Jazz Arranging II techniques (MSJ520).

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MSJ 242. Jazz Percussion Techniques. 1 Credit Hour.

Group instruction in jazz, contemporary, and ethnic drumset/percussion techniques with emphasis on basic skills for performance and recording. Additionally, appropriate teaching techniques, methods, and materials necessary for public school pedagogy will be covered. Course may be repeated for credit.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MSJ 3. Jazz Forum. 0 Credit Hours.

A weekly meeting of jazz students and faculty for performance, master classes, clinics presented by students, faculty and guest artists.

Requisite: Frost School of Music.

Components: FOR.

Grading: CNC.

Typically Offered: Fall & Spring.

MSJ 305. Jazz Piano Class III. 1 Credit Hour.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 306. Jazz Piano Class IV. 1 Credit Hour.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 320. Basic Drumset Styles and Techniques (Part 2). 1 Credit Hour.

This course is a continuation of MSJ 220. It explores advanced sticking, swing, backbeat drum set techniques, advanced world drum set styles, and chart reading.

Components: LAB.

Grading: GRD.

Typically Offered: Spring.

MSJ 340. Jazz Skills III. 3 Credit Hours.

Jazz Skills III continues to build on skills acquired in the previous two semesters. Material includes continued development of keyboard skills and aural recognition through expansion of repertoire, modal and non-dominant/tonic harmonic schemes, bass lines and counterpoint, harmonization of melodies, and re-harmonization of basic progressions and transcription.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

MSJ 341. Jazz Skills IV. 3 Credit Hours.

Jazz Skills IV is the culmination of the four-level Jazz Skills sequence. Students are expected to understand and aurally recognize advanced harmonic, melodic, and rhythmic material. New material may include Latin and other straight-eighth rhythms, multi-voice counterpoint, advanced re-harmonization, and improvising at the keyboard. Keyboard skills run concurrent with Jazz Arranging II techniques (MSJ 520).

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MSJ 342. Technology Skills III. 3 Credit Hours.

This course is a continuation of MMI 250 Essential Technology. Recording projects combining acoustic instruments with software based instruments in a Digital Audio Workstation. Studio recording techniques including microphone placement will be demonstrated in a lab environment. Projects will be based on student compositions and/or arrangements. Post production will include mixing, mastering and CD manufacturing.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 371. Jazz Improvisation I. 3 Credit Hours.

Fundamentals of jazz harmony with emphasis on simple chord progressions, altered scales, and modes.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 372. Jazz Vocal Improvisation I. 3 Credit Hours.

Fundamentals of jazz harmony with emphasis on complex harmonic progressions and tunes.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MSJ 430. Applied Jazz Instruction. 1-2 Credit Hours.

Advanced private study in the jazz idiom. Topics may include improvisation, theory, and composition, at the discretion of the teacher. Students must have completed five semesters on the principal instrument. Permission of both course instructor and principal instrument teacher/advisor required.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MSJ 431. Applied Jazz Instruction 2. 1-2 Credit Hours.

Advanced private study in the jazz idiom. Topics may include improvisation, theory, and composition, at the discretion of the teacher. Students must have completed five semesters on the principal instrument. Permission of both course instructor and principal instrument teacher/advisor required.

Prerequisite: MSJ 430.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MSJ 493. Special Projects in Studio Music and Jazz. 1-3 Credit Hours.

Advanced individual instruction pertaining to faculty member's area expertise and student's area of interest. This course includes a culminating project.

Components: IND.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MSJ 494. Special Topics in Studio Music and Jazz. 1-3 Credit Hours.

Advanced group/classroom instruction pertaining to faculty to faculty member's expertise and students' areas of interest.

Components: SEM.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MSJ 499. Senior Recital. 1 Credit Hour.

A public recital of one hour or more. Course is required of all performance majors.

Components: PRA.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 509. Jazz Composition I. 3 Credit Hours.

Study of advanced composition techniques as applied to the Jazz idiom, making extensive use of analysis of established compositions and compositional methods. Both the individual and interactive characteristics of melody, harmony, rhythm, and form will be stressed.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MSJ 510. Jazz Composition II. 2 Credit Hours.

This course is a continuation of MSJ 500 with an emphasis on melody writing, reharmonization techniques, pentatonic/blues composition, and an introduction to advanced harmonic materials.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MSJ 516. Jazz Vocal Arranging. 3 Credit Hours.

Analysis and techniques of jazz vocal writing.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MSJ 519. Advanced Modern Arranging I. 3 Credit Hours.

Advanced arranging and composition for the Jazz and studio ensemble.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MSJ 520. Advanced Modern Arranging II. 3 Credit Hours.

Advanced arranging and composition for the Jazz and studio ensemble.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MSJ 522. Introduction to Midi Sequencing and Digital Workstations. 2 Credit Hours.

An introduction to Midi Sequencing with hands-on experience working with a computer sequencing workstation. Topics include sequencing, quantizing, editing, mixing, and effects processing.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 560. Advanced Jazz Improvisation Theory. 3 Credit Hours.

Review of fundamentals and introduction of advanced topics in jazz harmony and scale resources for improvisation.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MSJ 565. Advanced Improvisation I. 3 Credit Hours.

Exploration of advanced Jazz improvisation performance and practice techniques. Utilization of non-traditional harmonic motion, advanced chord scale relationships, and motivic development will be stressed, with the goal of musicality in improvisation. Enrollment open to seniors or graduate MSJ majors (or permission of instructor).

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 566. Advanced Improvisation II. 3 Credit Hours.

Refinement of improvisation concepts leading towards the establishment of a personal style of playing. Open only to senior or graduate majors in Studio Music and Jazz.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 593. Special Projects in Studio Music and Jazz. 1-3 Credit Hours.

Advanced individual instruction pertaining to faculty member's area expertise and student's area of interest. This course includes a culminating project.

Components: IND.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MSJ 594. Special Topics in Studio Music and Jazz. 1-3 Credit Hours.

Advanced group/classroom instruction pertaining to faculty to faculty member's expertise and students' areas of interest.

Components: SEM.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MSJ 609. Jazz Composition I. 2 Credit Hours.

Study of advanced composition techniques as applied to the Jazz idiom, making extensive use of analysis of established compositions and compositional methods. Both the individual and interactive characteristics of melody, harmony, rhythm, and form will be stressed.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MSJ 610. Jazz Composition II. 2 Credit Hours.

This course is a continuation of MSJ 500 with an emphasis on melody writing, reharmonization techniques, pentatonic/blues composition, and an introduction to advanced harmonic materials.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MSJ 616. Jazz Vocal Arranging. 2 Credit Hours.

Analysis and techniques of jazz vocal writing.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MSJ 619. Advanced Modern Arranging I. 3 Credit Hours.

Advanced arranging and composition for the Jazz and studio ensemble.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MSJ 620. Advanced Modern Arranging II. 3 Credit Hours.

Advanced arranging and composition for the Jazz and studio ensemble.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MSJ 621. Advanced Modern Arranging III. 3 Credit Hours.

Course addresses scoring for large jazz ensemble, utilizing chord scale voicings and line writing techniques. Emphasis is placed on orchestration styles such as Duke Ellington, Gil Evans, and Thad Jones.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MSJ 622. Introduction to Midi Sequencing and Digital Workstations. 2 Credit Hours.

An introduction to Midi Sequencing with hands-on experience working with a computer sequencing workstation. Topics include sequencing, quantizing, editing, mixing, and effects processing.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 644. Jazz Pedagogy and Administration. 3 Credit Hours.

The philosophy, methods, and materials of instruction pertinent to the teaching and management of a jazz and commercial curriculum at the high school and college level. Includes preparation of model curricula and supervised instruction.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MSJ 665. Advanced Improvisation I. 3 Credit Hours.

Exploration of advanced Jazz improvisation performance and practice techniques. Utilization of non-traditional harmonic motion, advanced chord scale relationships, and motivic development will be stressed, with the goal of musicality in improvisation. Enrollment open to seniors or graduate MSJ majors (or permission of instructor).

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 666. Advanced Improvisation II. 3 Credit Hours.

Refinement of improvisation concepts leading towards the establishment of a personal style of playing. Open only to senior or graduate majors in Studio Music and Jazz.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 693. Special Projects in Studio Music and Jazz. 1-3 Credit Hours.

Advanced individual instruction pertaining to faculty member's area of expertise and student's area of interest. This course includes a culminating project.

Components: IND.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 694. Special Topics in Studio Music and Jazz. 1-2 Credit Hours.

Advanced group/classroom instruction pertaining to faculty member's expertise and students' areas of interest.

Components: SEM.

Grading: GRD.

Typically Offered: Spring.

MSJ 703. Jazz Piano Class I. 1 Credit Hour.

Group instruction in the various styles of contemporary jazz. Graduate students will acquire improvisational skills while learning repertoire and performance techniques, and strengthen compositional and arranging skills by contributing original compositions and arrangements to the ensemble's repertoire.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 704. Jazz Piano Class II. 1 Credit Hour.

Group instruction in the various styles of contemporary jazz. Graduate students will acquire improvisational skills while learning repertoire and performance techniques, and strengthen compositional and arranging skills by contributing original compositions and arrangements to the ensemble's repertoire.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 712. Preliminary Masters Recital. 1 Credit Hour.

The Preliminary Recital gives the master's student an opportunity to gain experience in planning and executing a concert program before the required Master's Recital, as well as provides a venue to present additional performance repertoire in a structured concert setting.

Components: THI.

Grading: SUS.

Typically Offered: Fall & Spring.

MSJ 714. Advanced Orchestration. 3 Credit Hours.

Techniques for scoring for the modern symphony orchestra.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MSJ 715. Jazz Composition Seminar I. 3 Credit Hours.

Creative work in Jazz Composition.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MSJ 716. Jazz Composition Seminar II. 3 Credit Hours.

Develop an understanding and control of compositional concepts and techniques required to work within a professional environment.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MSJ 717. Advanced Jazz Vocal Arranging. 2 Credit Hours.

This course is designed to help advanced instrumental arrangers explore vocal arranging.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MSJ 719. Large Jazz Ensemble Conducting and Repertoire. 2 Credit Hours.

This course will expose students to the methods, procedures, and practices involved in directing large jazz ensembles. Score study, conducting, and performance programming will be covered. Emphasis will be placed on the selection of level appropriate repertoire. Additional topics include working with guest artists, ensemble finances, and the audition process.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MSJ 720. Analysis of Jazz Styles. 3 Credit Hours.

A comparative study of Jazz styles from 1900 to the present.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 724. Seminar in Jazz Pedagogy. 1 Credit Hour.

This course provides a laboratory for students to gain experience in the areas of jazz education discussed in MSJ 644 Jazz Pedagogy and Administration. These areas include jazz history, jazz improvisation, small ensemble coaching, and big band conducting. Students will lecture in the subjects of improvisation and history, and conduct ensembles in both a small combo and a big band setting. Communication skills, repertoire selection, rehearsal techniques, conducting skills, concert preparation, and performance will be assessed. All student teaching experiences will be video recorded and added to the students' Final Project portfolio.

Components: SEM.

Grading: GRD.

Typically Offered: Fall.

MSJ 730. Applied Jazz Instruction Jazz I. 1-2 Credit Hours.

Advanced private study in the jazz idiom. Topics may include repertoire, improvisation, theory/harmony, and/or composition, at the discretion of the instructor. Student must have completed five semesters on the principal instrument. Permission of both course instructor and principal instrument teacher/advisor required.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MSJ 731. Applied Jazz Instruction II. 1-2 Credit Hours.

Advanced private study in the jazz idiom. Topics may include repertoire, improvisation, theory/harmony, and/or composition, at the discretion of the instructor. Student must have completed five semesters on the principal instrument. Permission of both course instructor and principal instrument teacher/advisor required

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 734. E.C.M. Ensemble. 1 Credit Hour.

This ensemble performs music typical of the contemporary European jazz styles such as those characterized by the Edition of Contemporary Music (E.C.M.) Recording Company.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 736. Small Jazz Ensemble. 1 Credit Hour.

Group instruction in the various styles of contemporary jazz. Students will acquire improvisational skills while learning repertoire and performance techniques leading to an advanced performance level. This course will strengthen compositional and arranging skills as students must contribute original compositions and arrangements to the ensemble's repertoire.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 737. Small Jazz Ensemble I. 1 Credit Hour.

Group instruction in the various styles of contemporary jazz. Students will acquire improvisational skills while learning repertoire and performance techniques leading to an advanced performance level. This course will strengthen compositional and arranging skills as students must contribute original compositions and arrangements to the ensemble's repertoire.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 739. Small Jazz Vocal Ensemble. 1 Credit Hour.

Small groups of vocalists with a rhythm section, dedicated to a particular style and body of literature.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 742. Jazz Percussion Techniques. 1 Credit Hour.

This course is designed to increase the rhythmic awareness of students thorough mastering basic drumset and hand percussion skills and to demonstrate how these skills can be taught in a public school or college setting for non percussion majors.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 743. Small Jazz Ensemble III. 1 Credit Hour.

Group instruction in the various styles of contemporary jazz. Students will acquire improvisational skills while learning repertoire and performance techniques leading to an advanced performance level. This course will strengthen compositional and arranging skills as students must contribute original compositions and arrangements to the ensemble's repertoire.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 744. Small Jazz Ensemble IV. 1 Credit Hour.

Group instruction in the various styles of contemporary jazz. Students will acquire improvisational skills while learning repertoire and performance techniques leading to an advanced performance level. This course will strengthen compositional and arranging skills as students must contribute original compositions and arrangements to the ensemble's repertoire.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 745. Small Jazz Ensemble V. 1 Credit Hour.

Group instruction in the various styles of contemporary jazz. Students will acquire improvisational skills while learning repertoire and performance techniques leading to an advanced performance level. This course will strengthen compositional and arranging skills as students must contribute original compositions and arrangements to the ensemble's repertoire.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 746. Small Jazz Ensemble VI. 1 Credit Hour.

Group instruction in the various styles of contemporary jazz. Students will acquire improvisational skills while learning repertoire and performance techniques leading to an advanced performance level. This course will strengthen compositional and arranging skills as students must contribute original compositions and arrangements to the ensemble's repertoire.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 747. Small Jazz Ensemble VII. 1 Credit Hour.

Group instruction in the various styles of contemporary jazz. Students will acquire improvisational skills while learning repertoire and performance techniques leading to an advanced performance level. This course will strengthen compositional and arranging skills as students must contribute original compositions and arrangements to the ensemble's repertoire.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 750. Studio Jazz Band. 1 Credit Hour.

This ensemble performs music in the recent big band tradition, from leaders such as Duke Ellington, Count Basie, Buddy Rich, Bob Brookmeyer, and Thad Jones. The group performs on campus with an emphasis on studio recording.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 751. Concert Jazz Band. 1 Credit Hour.

The Concert Jazz Band is the premiere big band at the Frost School of Music. Students are required to perform at an advanced level, and work with a variety of guest artists. Requirements include the ability to sight read difficult material, and to improvise in various styles. Audition is required.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 753. Jazz Band III. 1 Credit Hour.

Big Band designed for graduate students needing experience with classic Big Band repertory.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 755. Monk/Mingus Ensemble. 1 Credit Hour.

This ensemble is dedicated to the study and performance of the music of the influential jazz composers Charles Mingus and Thelonius Monk.

Components: ENS.

Grading: GRD.

Typically Offered: Fall.

MSJ 756. Funk/Fusion Ensemble. 1 Credit Hour.

Small jazz ensemble focusing on contemporary electric jazz/rock/fusion/Latin styles. Emphasis is placed on original compositions by the members of the ensemble. The most common instrumentation is bass, drums, piano/synthesizer, guitar, and saxophone.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 757. Horace Silver Ensemble. 1 Credit Hour.

This ensemble is dedicated to the study and performance of the music of Horace Silver.

Components: SEM.

Grading: GRD.

Typically Offered: Spring.

MSJ 758. Frost Sextet. 1 Credit Hour.

An advanced ensemble dedicated to the performance of original and standard repertoire in the jazz idiom

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 759. Rhythm and Blues Ensemble. 1 Credit Hour.

Mid-level ensemble for both instrumentalists and vocalists designed to familiarize students with classic Rhythm and Blues material from the 50s, 60s, and 70s, while preparing for a series of concerts throughout the semester. Students are guided through the process of putting a working band together and preparing it for performances and recordings, including what is expected of and from instruments, vocalists, producers, promoters, and other industry personnel.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 760. Avant Garde Ensemble. 1 Credit Hour.

This ensemble offers students the opportunity to develop the "free form" improvisation in either the bebop based style of Ornette Coleman or the fusion oriented style as typified by Bill Laswell.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 762. Jazz Saxophone Ensemble. 1 Credit Hour.

A reading ensemble comprised of four or five saxophones. Literature may include saxophone quartet and/or saxophone quintet with rhythm section. The ensemble focuses in on fundamental principles of sight-reading, blend, intonation, phrasing, articulation, rhythmic accuracy, as well as overall interpretation.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 764. Contemporary Rhythm Section Techniques I. 1 Credit Hour.

This is an ensemble for freshmen rhythm section players. The focus of this ensemble is to introduce students to various styles of rhythm section playing— from swing and modern Jazz through Rock, Funk, R&B, and other commercial styles of music. Concepts of sound, groove, balance and blend, repertory, and accompaniment are also discussed.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 765. Contemporary Rhythm Section Techniques II. 1 Credit Hour.

Fundamentals of rhythm section playing for guitarists, pianists, bassists, and drummers. It covers a variety of contemporary styles within the rock, jazz, Latin, and pop idioms. Students are grouped into ensembles which perform in class weekly.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MSJ 766. Small Jazz Ensemble Lab. 0 Credit Hours.

Performance Lab designed to work in conjunction with all of the 140 level ensembles. Provides an environment in which students are required to perform on a regular rotating schedule throughout the semester. These performances are critiqued by the institution and other faculty, as well as students, in order to nurture a critical but positive atmosphere.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 767. Salsa Ensemble. 1 Credit Hour.

An ensemble of instrumentalists and singers performing a wide variety of Salsa and Latin jazz styles with emphasis on improvisation.

Components: SEM.

Grading: GRD.

Typically Offered: Spring.

MSJ 769. Jazz Guitar Ensemble I. 1 Credit Hour.

A small instrumental ensemble comprised of five electric guitars which perform with bass and drums in a wide variety of contemporary jazz styles.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 770. Jazz Guitar Ensemble II. 1 Credit Hour.

A small instrumental ensemble comprised of five electric guitars which perform with bass and drums in a wide variety of contemporary jazz styles.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 771. Jazz Guitar Ensemble III. 1 Credit Hour.

A small instrumental ensemble comprised of five electric guitars which perform with bass and drums in a wide variety of contemporary jazz styles.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 772. Jazz Guitar Ensemble (Workshop I). 1 Credit Hour.

A small instrumental reading ensemble, comprised of four to eight electric guitars, which studies a variety of contemporary jazz styles.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 773. Jazz Guitar Ensemble (Workshop II). 1 Credit Hour.

A small instrumental reading ensemble, comprised of four to eight electric guitars, which studies a variety of contemporary jazz styles.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MSJ 775. Jazz Writing Ensemble. 1 Credit Hour.

This class is a seminar in jazz arranging and composition techniques for Studio/Jazz Writing master's students and DMA students in Jazz Composition. The class consists primarily of topics related to jazz and studio arranging and composition, recording techniques, rehearsal techniques, music technologies, music business, and entrepreneurship. Topics are examined utilizing hands-on technology, score analysis, listening, guest lectures, and long range projects.

Components: ENS.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MSJ 780. Advanced Jazz Improvisation Theory. 3 Credit Hours.

Review of fundamentals and introduction of advanced topics in jazz harmony and scale resources for improvisation.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 793. Special Projects in Studio Music and Jazz. 1-3 Credit Hours.

Advanced individual instruction pertaining to faculty member's area of expertise and student's area of interest. This course includes a culminating project.

Components: IND.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MSJ 794. Special Topics in Studio Music and Jazz. 1-3 Credit Hours.

Advanced group/classroom instruction pertaining to faculty member's expertise and students' areas of interest.

Components: SEM.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MSJ 795. Jazz Vocal Ensemble I. 1 Credit Hour.

A choir of 12 to 16 voices, with rhythm section, which perform a wide variety of jazz and pop styles.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 796. Jazz Vocal Ensemble II. 1 Credit Hour.

A choir of 12 to 16 voices, with rhythm section, which perform a wide variety of jazz and pop styles.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 797. Jazz Vocal Ensemble III. 1 Credit Hour.

A choir of 12 to 16 voices, with rhythm section, which perform a wide variety of jazz and pop styles.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 805. Master's Jazz Pedagogy Project. 1 Credit Hour.

This project consists of a portfolio that students create during their four semesters in the program. Many employers require video of candidates in multiple teaching environments. Students will be videotaped during teaching demonstrations. All videos, plus several required documents the student will create, are archived in the portfolio, to be assessed in the fourth and final semester. The majority of these videos will be produced in MSJ 724 Jazz Pedagogy Seminar.

Components: THI.

Grading: SUS.

Typically Offered: Fall & Spring.

MSJ 811. Master's Recital Paper. 1-3 Credit Hours.

The student working on his/her recital paper enrolls for credit as determined by his/her advisor. Credit is not awarded until the paper has been accepted.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

MSJ 812. Master's Recital. 1 Credit Hour.

A masters recital lasting at least 60 minutes that may include some chamber works but consists primarily of solo pieces. Students are required to write Program Notes.

Components: PRA.

Grading: SUS.

Typically Offered: Fall & Spring.

MSJ 813. Master's Jazz Writing Project. 1-3 Credit Hours.

The student working on his/her master's jazz writing project enrolls for credit as determined by his/her advisor. Credit is not awarded until the project paper is accepted.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

MSJ 820. Research in Residence. 1 Credit Hour.

Used to establish research in residence and maintain full-time enrollment for the master's degree after the student has completed the required hours of thesis or project credit.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

MSJ 831. Doctoral Essay. 1-12 Credit Hours.

Required of all candidates of the D.M.A. The student will enroll for credit as determined by his/her advisor, but not for less than a total of 12. Not more than 12 hours of MSJ 731 may be taken in a regular semester, nor more than six in a summer session.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

MSJ 832. Doctoral Recital. 1 Credit Hour.

A formal recital displaying improvisational, interactive, and compositional skills appropriate to the doctoral level.

Components: THI.

Grading: SUS.

Typically Offered: Fall & Spring.

MSJ 850. Research in Residence. 1 Credit Hour.

Used to establish research in residence and maintain full-time enrollment for the DMA after the student has completed the required hours of doctoral essay credit.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

MSJ JA7. Applied Jazz Arranging. 1 Credit Hour.

Applied Jazz Arranging level M is the first level of DMA private jazz arranging lessons. At this level the instructor evaluates the writer's breadth of knowledge of arranging and orchestration techniques and expands on the key arrangers of various styles, genres and mediums.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JAR. Applied Jazz Arranging. 1 Credit Hour.

Applied Jazz Arranging level R is the sixth level of DMA private jazz arranging lessons. Applied Jazz Arranging level R is the sixth level of DMA private jazz arranging lessons. Emphasis is placed on developing an individual approach to arranging and orchestration and more exploration of small and large jazz ensembles and writing for strings in a jazz setting. Contemporary models are examined from both the classical and jazz repertoire.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JB1. Jazz Bass. 2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Basic techniques, sight-reading. Major, minor, diminished, and whole tone scales. Chord structure and analysis. Bass line construction, basis of walking lines. Voice leading for bass lines and improvisation. Etudes and studies in all styles. Repertoire: Standards and Jazz.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JB3. Jazz Bass. 2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Previous materials in addition to advanced harmonic applications. Expanding traditional improvisational vocabulary. Creating original vocabulary.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JB6. Jazz Bass. 1-2 Credit Hours.

Jazz Bass at the Master's level. The student will pursue a course of study that is directed toward his/her musical goals. This course will examine, through transcription and analysis, the important figures in the history of jazz bass, and also those performances in which the student is interested.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JB7. Jazz Bass. 1-2 Credit Hours.

Jazz Bass at the Doctoral level. The student will pursue a course of study that is directed towards his/her musical goals. This course will also examine, through transcription and analysis, the important figures in the history of jazz bass, and also those performances in which the student is interested.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JBC. Jazz Bass. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Previous materials in addition to solo bass techniques. Advanced arpeggios and scales. Pentatonic theory and applications. Improvisational vocabulary (traditional).

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JBD. Jazz Bass. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Previous materials in addition to solo bass techniques. Advanced arpeggios and scales. Pentatonic theory and applications. Improvisational vocabulary (traditional).

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JBF. Jazz Bass. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Previous materials in addition to advanced harmonic applications. Expanding traditional improvisational vocabulary. Creating original vocabulary.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JBG. Jazz Bass. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Previous materials in addition to recital preparation.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JBH. Jazz Bass. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Previous materials in addition to recital preparation.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JBS. Secondary Jazz Bass. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2-3 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Basic techniques, sight-reading. Major, minor, diminished, and whole tone scales. Chord structure and analysis. Bass line construction, basis of walking lines. Voice leading for bass lines and improvisation. Etudes and studies in all styles. Repertoire: Standards and Jazz.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JC6. Applied Jazz Composition. 1-2 Credit Hours.

Applied Jazz Composition level I is the first level of private jazz composition lessons in the Studio Jazz Writing Masters program. At this level the instructor evaluates the writer's general knowledge of jazz composition with emphasis on harmonic vocabulary and form.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JC7. Applied Jazz Composition. 1-2 Credit Hours.

Applied Jazz Composition level M is the first level of DMA private jazz composition lessons. At this level the instructor evaluates the writer's knowledge of early jazz composers (1920-1940) with emphasis on harmonic vocabulary and form.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JD1. Jazz Drumset. 2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Sticking technique, basic hand/foot patterns. Analysis of styles, history of drum set. Rhythm section interaction. Basic transcription, chart reading.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JD3. Jazz Drumset. 2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Advanced jazz styles and comping, odd note groupings, advanced chart reading, advanced hand/foot patterns.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JD6. Jazz Drumset. 1-2 Credit Hours.

Private lessons which focus on the development of drumset skills. The course will cover sticking technique, hand/foot patterns, groove, balance, and rhythm section interaction. Students are required to perform and improvise at a professional level.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JD7. Jazz Drumset. 1-2 Credit Hours.

Private lessons which focus on the development of drumset skills. The course will cover sticking technique, hand/foot patterns, groove, balance, and rhythm section interaction. Students are required to perform and improvise at a professional level.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JDC. Jazz Drumset. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Advanced analysis or major drum set artists. Advanced transcription. Soloing over form using motives, dynamics, and subdivision, comping patterns.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JDD. Jazz Drumset. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Advanced analysis or major drum set artists. Advanced transcription. Soloing over form using motives, dynamics, and subdivision, comping patterns.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JDF. Jazz Drumset. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Advanced jazz styles and comping, odd note groupings, advanced chart reading, advanced hand/foot patterns.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JDG. Jazz Drumset. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Displacement, metric modulation, preparation for recital, developing an individual voice.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JDH. Jazz Drumset. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Displacement, metric modulation, preparation for recital, developing an individual voice.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JDS. Secondary Jazz Drumset. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Sticking technique, basic hand/foot patterns. Analysis of styles, history of drum set. Rhythm section interaction. Basic transcription, chart reading.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JG1. Jazz Guitar. 2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Left and right hand development. Basic fretboard theory including arpeggios, voice leading (2 string studies), blues and bebop scales. Accompanying: 3-note voicings. Introduction to transcription. Application of the concepts studied to basic repertoire.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JG3. Jazz Guitar. 2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Works by Bach, Galbraith and others. Building of standard/jazz repertoire including works by Arlen, Porter, Kern, Parker, Ellington, etc. Improvisation and harmonic studies based on the foregoing. Eartraining as required. Use of Jamey Aebersold play-along series.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JG6. Jazz Guitar. 1-2 Credit Hours.

Graduate Studies in Jazz Guitar are designed to take into account each student's talent, previous accomplishments and particular interests. After a careful assessment of the student's strengths and weaknesses, a course of study will be custom-designed, with possible areas of study drawn from (but not limited to) the following list: advanced jazz concepts in melody, harmony and rhythm, sight-reading, repertoire expansion, transposition, technique, composition, and pedagogy.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JG7. Jazz Guitar. 1-2 Credit Hours.

Graduate Studies in Jazz Guitar are designed to take into account each student's talent, previous accomplishments and particular interests. It is expected that a graduate student at the DMA level would be, to a large extent, self-directing and capable of original research. After a careful assessment of the student's strengths and weaknesses, a course of study will be custom-designed, with possible areas of study drawn from (but not limited to) the following list: advanced jazz concepts in melody, harmony and rhythm, sight-reading, repertoire expansion, transposition, technique, composition, and pedagogy. Assistance with recital preparation will be given as appropriate and necessary. The prerequisite for the first level (JGM) is a Master's Degree and the successful completion of the audition for the DMA program.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JGC. Jazz Guitar. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Further development of repertoire and continuation of technical studies. Improvisation using arpeggios with tension substitutions. Application of major and melodic minor modes. More advanced transcriptions and refinement of time feel.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JGD. Jazz Guitar. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Further development of repertoire and continuation of technical studies. Improvisation using arpeggios with tension substitutions. Application of major and melodic minor modes. More advanced transcriptions and refinement of time feel.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JGF. Jazz Guitar. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Works by Bach, Galbraith and others. Building of standard/jazz repertoire including works by Arlen, Porter, Kern, Parker, Ellington, etc. Improvisation and harmonic studies based on the foregoing. Eartraining as required. Use of Jamey Aebersold play-along series.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JGG. Jazz Guitar. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. More advanced repertoire (works by Corea, Hancock, etc.). Continued expansion of harmonic concepts and exploration of chord voicings and applications. Use of Aebersold series. Assistance with senior recital preparation.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JGH. Jazz Guitar. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. More advanced repertoire (works by Corea, Hancock, etc.). Continued expansion of harmonic concepts and exploration of chord voicings and applications. Use of Aebersold series. Assistance with senior recital preparation.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JGS. Secondary Jazz Guitar. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Left and right hand development. Basic fretboard theory including arpeggios, voice leading (2 string studies), blues and bebop scales. Accompanying: 3-note voicings. Introduction to transcription. Application of the concepts studied to basic repertoire.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JP1. Jazz Piano. 2 Credit Hours.

Students will expand and refine application of fundamental chord voicings, chord-scale relationships, be-bop and blues vocabulary, and develop a strong rhythmic base. Solo piano and ensemble/accompaniment formats will be addressed. Technique will be evaluated to identify areas in need of improvement. Methods will include: transcription, analysis, composition of single lines and arrangements, tune learning, and various improvisation exercises.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JP3. Jazz Piano. 2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technique: Selected exercises from the Dohnanyi or Pishna exercise books. Augmented scales and modes of major in all keys, in both hands and in at least two octaves with a swing (triplet) subdivision. Introduction to modal harmony and sideslipping through study of plateau modal compositions (tunes with long sections of the same modality.) Pentatonic scales in all keys. Literature: Blues in the stride solo piano format. Analysis and transcription of artists who played in this style such as Tatum, Johnson, Smith, and Peterson. Memorization of at least two tunes per lesson in at least three key centers, at least 75% of which should be tunes in the "American standard" format featuring composers such as Berlin, Porter, Kahn, Gershwin, etc. All of the above to be performed both with bass accompaniment and in solo piano format with sections in stride style. Introduction to the Bill Evans piano style through performance of his transcribed piano pieces.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JP6. Jazz Piano. 1-2 Credit Hours.

Students are encouraged to seek refinement in the areas of harmony, chord voicings, improvisation vocabulary, rhythmic concepts, and technique. A nuanced approach to performing in a musical and expressive manner, with special regard to phrasing, dynamic contrast, articulation, and part balance will be stressed. Advanced techniques in reharmonization, rhythmic phrasing, and solo piano will be explored. Atypical song forms and contemporary repertoire will be introduced. Developing an individual approach to improvising and composing will be encouraged. Recital preparation will focus on programming and other important aspects of concert planning.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JP7. Jazz Piano. 1-2 Credit Hours.

Emphasis placed on developing an individual identity as an artist. Creation of a distinct concept for an ensemble and/or solo piano approach through original composition and/or arranging will be stressed. Career advancement as a performer and/or educator will be explored.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JPC. Jazz Piano. 1-2 Credit Hours.

Students will expand and refine knowledge of chord voicings, chord scale relationships, and rhythmic integrity in swing and other styles. Modal, chromatic, and non-traditional harmonic concepts will be introduced. Advanced rhythmic approaches to improvisation and accompaniment will be explored. Expressive aspects of performance will be addressed. Technique will be evaluated to identify areas in need of improvement. Methods will include: transcription, analysis, composition of single lines and arrangements, tune learning, and various improvisation exercises.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JPD. Jazz Piano. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technique: Arpeggiation of major, minor, diminished and augmented seventh chords, in both hands and in at least two octaves with a swing (triplet) subdivision. Introduction to melodic harmonization through practice of "Shearing Style" and "Drop Two" scalar exercises. Introduction of the ii-V7-I chord progression in all keys as applied to tunes which have a harmonic rhythm of two changes per bar such as Confirmation (Parker) and in Your Own Sweet Way (Brubeck). Literature: Study of the "I Got Rhythm" chord progression. Memorization of at least two tunes per lesson in their original key, at least 75% of which should be tunes in the "American standard" format featuring composers such as Berlin, Porter, Kahn, Gershwin, etc. All of above to be performed with bass accompaniment, or in solo piano format. Study, performance and analysis of transcribed solos such as those found in the Omnibook (Parker). Introduction to solo piano format through study of transcribed pieces.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JPF. Jazz Piano. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technique: Selected exercises from the Dohnanyi or Pishna exercise books. Augmented scales and modes of major in all keys, in both hands and in at least two octaves with a swing (triplet) subdivision. Introduction to modal harmony and sideslipping through study of plateau modal compositions (tunes with long sections of the same modality.) Pentatonic scales in all keys. Literature: Blues in the stride solo piano format. Analysis and transcription of artists who played in this style such as Tatum, Johnson, Smith, and Peterson. Memorization of at least two tunes per lesson in at least three key centers, at least 75% of which should be tunes in the "American standard" format featuring composers such as Berlin, Porter, Kahn, Gershwin, etc. All of the above to be performed both with bass accompaniment and in solo piano format with sections in stride style. Introduction to the Bill Evans piano style through performance of his transcribed piano pieces.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JPG. Jazz Piano. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technique: Selected exercises from the Dohnanyi or Pishna exercise books. Augmented scales and modes of major in all keys, in both hands and in at least two octaves with a swing (triplet) subdivision. Introduction to modal harmony and sideslipping through study of plateau modal compositions (tunes with long sections of the same modality.) Pentatonic scales in all keys. Literature: Blues in the stride solo piano format. Analysis and transcription of artists who played in this style such as Tatum, Johnson, Smith, and Peterson. Memorization of at least two tunes per lesson in at least three key centers, at least 75% of which should be tunes in the "American standard" format featuring composers such as Berlin, Porter, Kahn, Gershwin, etc. All of the above to be performed both with bass accompaniment and in solo piano format with sections in stride style. Introduction to the Bill Evans piano style through performance of his transcribed piano pieces.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JPH. Jazz Piano. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technique: Selected exercises from the Dohnanyi or Pishna exercise books. Augmented scales and modes of major in all keys, in both hands and in at least two octaves with a swing (triplet) subdivision. Introduction to modal harmony and sideslipping through study of plateau modal compositions (tunes with long sections of the same modality.) Pentatonic scales in all keys. Literature: Blues in the stride solo piano format. Analysis and transcription of artists who played in this style such as Tatum, Johnson, Smith, and Peterson. Memorization of at least two tunes per lesson in at least three key centers, at least 75% of which should be tunes in the "American standard" format featuring composers such as Berlin, Porter, Kahn, Gershwin, etc. All of the above to be performed both with bass accompaniment and in solo piano format with sections in stride style. Introduction to the Bill Evans piano style through performance of his transcribed piano pieces.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JPS. Secondary Jazz Piano. 1-2 Credit Hours.

Students will expand and refine application of fundamental chord voicings, chord-scale relationships, be-bop and blues vocabulary, and develop a strong rhythmic base. Solo piano and ensemble/accompaniment formats will be addressed. Technique will be evaluated to identify areas in need of improvement. Methods will include: transcription, analysis, composition of single lines and arrangements, tune learning, and various improvisation exercises.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JS1. Jazz Saxophone. 2 Credit Hours.

1-hour lesson and 50 minute studio class for jazz saxophone students. Technical Requirements: Introduction to principals of saxophone acoustics; introduction to tone production, intonation, tonal color, and blend; basic technique, chords and scale studies; jazz phrasing; establishment of a "tune list" (repertoire); study of improvised Solos through transcription; major scales full range, thirds, diatonic seventh chords in level A and in level B, melodic minor scales full range, thirds, diatonic seventh chords.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JS3. Jazz Saxophone. 2 Credit Hours.

1-hour lesson and 50 minute studio class for jazz saxophone students. Technical Requirements: Continuation of tone and technique as needed; augmented scale; rhythmic exercises from drum methods; continue extended range studies; a cappella improvisation; studies in melodic/rhythmic development.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JS6. Jazz Saxophone. 1-2 Credit Hours.

The graduate student will be encouraged to seek further refinement in all areas, including tone, intonation, technique, stylistic interpretation, improvisation, as well as be thoroughly versed in the pedagogy of the instrument. Specific jazz improvisation topics may include advanced forms, non-traditional harmony, traditional harmony in twelve keys, advanced rhythmic meters and subdivisions, balancing melodic/harmonic/rhythmic elements, approaches to non-structured "free" forms, and expansion of the repertoire. Related areas may also be addressed within the private lesson format, such as composition, doubling, and keyboard skills.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JS7. Jazz Saxophone. 1-2 Credit Hours.

The graduate student will be encouraged to seek further refinement in all areas, including tone, intonation, technique, stylistic interpretation, improvisation, as well as be thoroughly versed in the pedagogy of the instrument. Specific jazz improvisation topics may include advanced forms, non-traditional harmony, traditional harmony in twelve keys, advanced rhythmic meters and subdivisions, balancing melodic/harmonic/rhythmic elements, approaches to non-structured "free" forms, and expansion of the repertoire. Related areas may also be addressed within the private lesson format, such as composition, doubling, and keyboard skills.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JSC. Jazz Saxophone. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Continuation of earlier levels as needed; diminished scales; pentatonic scales/patterns; extended range exercises; application of melodic minor/pentatonic scales; chromatic scale extensions; tritone substitutions.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JSD. Jazz Saxophone. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Continuation of earlier levels as needed; diminished scales; pentatonic scales/patterns; extended range exercises; application of melodic minor/pentatonic scales; chromatic scale extensions; tritone substitutions.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JSF. Jazz Saxophone. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Continuation of tone and technique as needed; augmented scale; rhythmic exercises from drum methods; continue extended range studies; a cappella improvisation; studies in melodic/rhythmic development.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JSG. Jazz Saxophone. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Recital Preparation. Building of repertoire; concentration on selected influential composers: Ellington, Shorter, Hancock, Miller, Silver, Jobim, Golson, Lieberman, etc. Review of teaching methods, materials. Advanced technique studies: Bozza Etudes Caprices, Lacour 8 Difficult studies. Topics of interest as decided by student in consultation w/ teacher. Total 80 tunes (minimum) by end of H level.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JSH. Jazz Saxophone. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Recital Preparation. Building of repertoire; concentration on selected influential composers: Ellington, Shorter, Hancock, Miller, Silver, Jobim, Golson, Lieberman, etc. Review of teaching methods, materials. Advanced technique studies: Bozza Etudes Caprices, Lacour 8 Difficult studies. Topics of interest as decided by student in consultation w/ teacher. Total 80 tunes (minimum) by end of H level.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JSS. Secondary Jazz Saxophone. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Introduction to principals of saxophone acoustics; introduction to tone production, intonation, tonal color, and blend; basic technique, chords and scale studies; jazz phrasing; establishment of a "tune list" (repertoire); study of improvised Solos through transcription; major scales full range, thirds, diatonic seventh chords in level A and in level B, melodic minor scales full range, thirds, diatonic seventh chords.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ TB1. Jazz Trombone. 2 Credit Hours.

1-hour lesson and 50 minute studio class for jazz trombone students. Technical Requirements: Daily routine/classical etudes. Major, melodic minor, diminished scales, Dorian and Mixolydian modes, dominant 7th arpeggios, minor 7th arpeggios. All major and minor 3rds followed by respective dominant 7ths.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ TB3. Jazz Trombone. 2 Credit Hours.

1-hour lesson and 50 minute studio class for jazz trombone students. Technical Requirements: Previous material, in addition to standard tunes (2 per week). 251 licks in major and minor. Diminished patterns.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ TB6. Jazz Trombone. 1-2 Credit Hours.

Private lessons focus on various facets of jazz trombone performance. These include jazz and classical instrumental studies focusing on proper warm up and advanced articulation exercises. Jazz styles are researched through listening to and transcription of established jazz instrumentalists. Advanced jazz theory and jazz piano are also included. The student is required to perform and improvise at a professional level.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ TB7. Jazz Trombone. 1-2 Credit Hours.

Private lessons focus on various facets of jazz trombone performance. These include jazz and classical instrumental studies focusing on proper warm up and advanced articulation exercises. Jazz styles are researched through listening to and transcription of established jazz instrumentalists. Advanced jazz theory and jazz piano are also included. The student is required to perform and improvise at a professional level.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ TBC. Jazz Trombone. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Previous material in addition to blues and rhythm changes in 12 keys. Voice Leading (3rds and 7ths). Transcription techniques/assigned transcriptions. Standard tunes (1 per week).

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ TBD. Jazz Trombone. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Previous material in addition to blues and rhythm changes in 12 keys. Voice Leading (3rds and 7ths). Transcription techniques/assigned transcriptions. Standard tunes (1 per week).

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ TBF. Jazz Trombone. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Previous material, in addition to standard tunes (2 per week). 251 licks in major and minor. Diminished patterns.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ TBG. Jazz Trombone. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Previous material in addition to augmented scales and patterns. Pentatonic scales and patterns. Recital preparation.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ TBH. Jazz Trombone. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Previous material in addition to augmented scales and patterns. Pentatonic scales and patterns. Recital preparation.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ TBS. Secondary Jazz Trombone. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Daily routine/classical etudes. Major, melodic minor, diminished scales, Dorian and Mixolydian modes, dominant 7th arpeggios, minor 7th arpeggios. All major and minor 3rds followed by respective dominant 7ths.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ TP1. Jazz Trumpet. 2 Credit Hours.

1-hour lesson and 50 minute studio class for jazz trumpet students. Technical Requirements: Concentration on basic trumpet skills, utilizing the Arbans and Clarke technical studies book. Proper breathing techniques. Major and diminished whole tone scales. Jazz tonguing. Standard jazz repertoire.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ TP3. Jazz Trumpet. 2 Credit Hours.

1-hour lesson and 50 minute studio class for jazz trumpet students. Technical Requirements: Continuation of range studies in addition to advanced etudes such as Bitsch and Charlier. Advanced jazz repertoire. Diminished and augmented scales. Studio techniques.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ TP6. Jazz Trumpet. 1-2 Credit Hours.

Private lessons focus on various facets of jazz trumpet performance. These include jazz and classical instrumental studies focusing on proper warm up and advanced articulation exercises. Jazz styles are researched through listening to and transcription of established jazz instrumentalists. Advanced jazz theory and jazz piano are also included. The student is required to perform and improvise at a professional level.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ TP7. Jazz Trumpet. 1-2 Credit Hours.

Private lessons focus on various facets of jazz trumpet performance. These include jazz and classical instrumental studies focusing on proper warm up and advanced articulation exercises. Jazz styles are researched through listening to and transcription of established jazz instrumentalists. Advanced jazz theory and jazz piano are also included. The student is required to perform and improvise at a professional level.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ TPC. Jazz Trumpet. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Continuation of basic skills in addition to range studies utilizing the Wedge breath. Transcribing jazz trumpet solos. A cappella blues in all keys.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ TPD. Jazz Trumpet. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Continuation of basic skills in addition to range studies utilizing the Wedge breath. Transcribing jazz trumpet solos. A cappella blues in all keys.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ TPF. Jazz Trumpet. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Continuation of range studies in addition to advanced etudes such as Bitsch and Charlier. Advanced jazz repertoire. Diminished and augmented scales. Studio techniques.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ TPG. Jazz Trumpet. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Study of advanced jazz repertoire. Recital preparation.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ TPH. Jazz Trumpet. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Study of advanced jazz repertoire. Recital preparation.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ TPS. Secondary Jazz Trumpet. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Concentration on basic trumpet skills, utilizing the Arbans and Clarke technical studies book. Proper breathing techniques. Major and diminished whole tone scales. Jazz tonguing. Standard jazz repertoire.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ VB1. Jazz Vibraphone. 2 Credit Hours.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ VB3. Jazz Vibraphone. 2 Credit Hours.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ VBS. Secondary Jazz Vibraphone. 1-2 Credit Hours.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ V01. Jazz Voice. 2 Credit Hours.

1-hour lesson and 50 minute studio class for jazz voice students. Technical Requirement: Warm-ups, Cool downs and introductory exercises for breath management. Attack in phonation, registration, resonance, articulation, coordination, microphone technique, key selection and vocal hygiene and maintenance. Repertoire: 25 Songs: 6 swing, 6 traditional ballad, 5 bossa/samba, 2 blues/funk, contemporary ballad, 4 student choice.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ V03. Jazz Voice. 2 Credit Hours.

1-hour lesson and 50 minute studio class for jazz voice students. Repertoire: 15 Songs, continuation of standard repertoire at more advance and complex level, including bebop, original material, modal tunes and selections of harmonic and melodic complexity with improvisation.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ V06. Jazz Voice. 1-2 Credit Hours.

Private studio vocal study at the master of music graduate level devoted to the continued development of skills and repertoire with particular attention to discovering and nurturing the individual student's artistic direction.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ V07. Jazz Voice. 1-2 Credit Hours.

Private studio vocal coaching at the doctoral level devoted to refining all skills, technique, and repertoire for professional performance and pedagogy.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ VOC. Jazz Voice. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Repertoire: 24 Songs: 16 selections from Swing, Ballad, Jazz Waltz and Latin idioms. 4 Rock/Funk/R&B arrangements in coordination with MSJ 301. Mini-Concert (4 song set) Note: Sophomore proficiency.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ VOD. Jazz Voice. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Repertoire: 24 Songs: 16 selections from Swing, Ballad, Jazz Waltz and Latin idioms. 4 Rock/Funk/R&B arrangements in coordination with MSJ 301. Mini-Concert (4 song set) Note: Sophomore proficiency.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ VOF. Jazz Voice. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Repertoire: 15 Songs, continuation of standard repertoire at more advance and complex level, including bebop, original material, modal tunes and selections of harmonic and melodic complexity with improvisation.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ VOG. Jazz Voice. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Repertoire: 15 Songs, same styles as above, Recital preparation, review of repertoire list and audition preparation.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ VOH. Jazz Voice. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Repertoire: 15 Songs, same styles as above, Recital preparation, review of repertoire list and audition preparation.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ VOS. Secondary Jazz Voice. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirement: Warm-ups, Cool downs and introductory exercises for breath management. Attack in phonation, registration, resonance, articulation, coordination, microphone technique, key selection and vocal hygiene and maintenance. Repertoire: 25 Songs: 6 swing, 6 traditional ballad, 5 bossa/samba, 2 blues/funk, contemporary ballad, 4 student choice.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

Taxation Law

TAX 800. Writing Requirement (Tax). 1-4 Credit Hours.

Requisite: Plan of Tax LLM.

Components: THI.

Grading: GRD.

TAX 801. Individual Research. 1 Credit Hour.

Requisite: Plan of Tax LLM.

Components: THI.

Grading: GRD.

TAX 802. Individual Research - Tax. 2 Credit Hours.

Requisite: Plan of Tax LLM.

Components: THI.

Grading: GRD.

TAX 810. Ind Grad Research. 1-4 Credit Hours.

Requisite: Plan of Tax LLM.

Components: THI.

Grading: GRD.

TAX 900. Tax Planning Skills. 2 Credit Hours.

Requisite: Plan of Tax LLM.

Components: LEC.**Grading:** GRD.**TAX 903. Comparative Transfer Pricing. 1 Credit Hour.**

Requisite: Plan of Tax LLM.

Components: LEC.**Grading:** GRD.**TAX 910. Income Tax of Trusts and Estates. 3 Credit Hours.**

Requisite: Plan of Tax LLM.

Components: LEC.**Grading:** GRD.**TAX 912. TRANS INVOLV CONSOLID GROUPS. 2 Credit Hours.**

Requisite: Plan of Tax LLM.

Components: LEC.**Grading:** GRD.**TAX 913. Adv Tx Corp Part Sub. 2 Credit Hours.**

Requisite: Plan of Tax LLM.

Components: LEC.**Grading:** GRD.**TAX 914. Tax Planning and Drafting. 2 Credit Hours.**

Requisite: Plan of Tax LLM.

Components: LEC.**Grading:** GRD.**TAX 915. International Inbound. 2 Credit Hours.**

Requisite: Plan of Tax LLM.

Components: LEC.**Grading:** GRD.**TAX 916. International Outbound. 2 Credit Hours.**

Requisite: Plan of Tax LLM.

Components: LEC.**Grading:** GRD.**TAX 917. High Net Worth. 2 Credit Hours.**

Requisite: Plan of Tax LLM.

Components: LEC.**Grading:** GRD.**TAX 918. International Trans Europe. 1 Credit Hour.**

Requisite: Plan of Tax LLM.

Components: LEC.**Grading:** GRD.**TAX 922. Limitations On Loss Utilization. 1 Credit Hour.**

Requisite: Plan of Tax LLM.

Components: LEC.**Grading:** GRD.**TAX 923. Structuring Latin American Investments into the U.S.. 1 Credit Hour.****Components:** LEC.**Grading:** GRD.**TAX 924. Structuring U.S. Investments into Latin America. 2 Credit Hours.****Components:** LEC.**Grading:** GRD.**TAX 925. Introduction to U.S. Tax System. 4 Credit Hours.**

Requisite: Plan of Tax LLM.

Components: LEC.**Grading:** GRD.

TAX 930. International Transactions Latin America. 1 Credit Hour.

Requisite: Plan of Tax LLM.

Components: LEC.

Grading: GRD.

TAX 943. Federal Tax Procedure. 2 Credit Hours.

Requisite: Plan of Tax LLM.

Components: LEC.

Grading: GRD.

TAX 946. Federal Wealth Transfer Tax. 2 Credit Hours.

Requisite: Plan of Tax LLM.

Components: LEC.

Grading: GRD.

TAX 947. Partnership Tax II. 2 Credit Hours.

Requisite: Plan of Tax LLM.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAX 948. Corporate Tax. 3 Credit Hours.

Requisite: Plan of Tax LLM.

Components: LEC.

Grading: GRD.

TAX 949. Property Transactions. 3 Credit Hours.

Requisite: Plan of Tax LLM.

Components: LEC.

Grading: GRD.

TAX 950. Partnership Tax. 3 Credit Hours.

Requisite: Plan of Tax LLM.

Components: LEC.

Grading: GRD.

TAX 954. Federal Criminal Tax Practice. 1 Credit Hour.

Requisite: Plan of Tax LLM.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAX 957. Tax Exempt Organizations. 1 Credit Hour.

Requisite: Plan of Tax LLM.

Components: LEC.

Grading: GRD.

TAX 958. Estate Planning. 2 Credit Hours.

Requisite: Plan of Tax LLM.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAX 961. Tax Accounting. 2 Credit Hours.

Requisite: Plan of Tax LLM.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAX 964. Advanced Corporate Tax. 2 Credit Hours.

Requisite: Plan of Tax LLM.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAX 968. Tax Accounting. 2 Credit Hours.

Requisite: Plan of Tax LLM.

Components: LEC.

Grading: GRD.

TAX 971. Taxation of Investment Funds. 1 Credit Hour.

Requisite: Plan of Tax LLM.

Components: LEC.

Grading: GRD.

TAX 972. Taxation of Special Entities. 2 Credit Hours.

Requisite: Plan of Tax LLM.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAX 973. Income Tax Treaties. 2 Credit Hours.

Requisite: Plan of Tax LLM.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAX 977. State and Local Tax. 1 Credit Hour.

Requisite: Plan of Tax LLM.

Components: LEC.

Grading: GRD.

TAX 980. Tax Characterization. 2 Credit Hours.

Components: LEC.

Grading: GRD.

TAX 983. Financial Instruments. 2 Credit Hours.

Requisite: Plan of Tax LLM.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAX 984. Introduction to Financial Instruments. 1 Credit Hour.

Requisite: Plan of Tax LLM.

Components: LEC.

Grading: GRD.

TAX 985. Cross Border Taxation of Financial Instruments. 1 Credit Hour.

Requisite: Plan of Tax LLM.

Components: LEC.

Grading: GRD.

Teaching and Learning (TAL)

TAL 103. Psychological Foundations of Education. 3 Credit Hours.

The first half of this course addresses the following topics related to the psychological foundations of education: the teaching-learning process in the classroom, human development, learning theories, and motivation. The second half of the course will address the following topics related to the social foundations of education: critical perspectives of education and schooling in the USA, issues such as accessibility, language hegemony, and race and racism through the lens of history, philosophy, anthropology, sociology and cultural studies.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 107. American Sign Language I. 3 Credit Hours.

This course is designed to allow participants to learn about Deaf Culture and be able to sign with sufficient fluency to discuss work, social, and family topics using two to four sentence responses.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

TAL 191. Developmental Reading for College Students. 3 Credit Hours.

Instruction in college level reading strategies based on individual student needs. Emphasis on vocabulary, comprehension and techniques of test preparation.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 203. Children's Literature. 3 Credit Hours.

History, trends, and genres of children's literature with emphasis on children's literature as a curriculum resource.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 204. Building Positive Relationships in Diverse Inclusive Secondary Schools.. 3 Credit Hours.

Course is designed to assist general education teachers in meeting the needs of diverse secondary school students. Emphasis is placed on language and culture in the classroom, as well as students with disabilities.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 205. Contemporary Issues in Disability Studies. 3 Credit Hours.

This course allows students to explore contemporary issues individuals with disabilities face with an emphasis on the more personal aspects of living with a disability and issues that influence their daily lives.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

TAL 207. American Sign Language II. 3 Credit Hours.

This course is designed to allow participants to learn about Deaf Culture and be able to sign with sufficient fluency to discuss work, social, and family topics using four to six sentence responses. Students will be able to independently participate in a signed conversation without the use of voicing.

Prerequisite: TAL 107.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

TAL 305. Classroom and Behavior Management. 3 Credit Hours.

The principles of behavior analysis and classroom management strategies, both preventative and problem solving. Special emphasis includes effective communication with students, parents and other stakeholders; meeting the needs of all learners based on individual differences, cultural and linguistic diversity; knowledge of research-based strategies that support intellectual, personal and social well-being and development of all students; planning and conducting lessons in a safe, efficient and supportive learning environment. Field experience required.

Corequisite: TAL 306.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 306. Teacher Preparation Seminar I. 0 Credit Hours.

This hybrid zero credit course has been designed to provide additional support for students in our teacher preparation programs. Students will enroll in this course while they participate in a series of field experiences where they gain practical experience integrating theory and practice while working with students in K-12 settings. Major topics include: the Florida Educator Accomplished Practices, Live Text, and guidelines and procedures. Co-requisite TAL 305

Corequisite: TAL 305.

Components: LEC.

Grading: CNC.

Typically Offered: Fall & Spring.

TAL 307. American Sign Language 3. 3 Credit Hours.

This course is designed to allow participants to learn more about Deaf Culture and be able to sign with sufficient fluency to discuss work, social, and family topics at a conversational level.

Pre-requisite: TAL 107 And TAL 207.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 308. Language Development for Linguistically and Culturally Diverse Children. 3 Credit Hours.

Course provides an introduction to theories of linguistics as well as first and second language acquisition. Readings and lectures serve to highlight the development of language and language challenges faced by students for whom Standard English is a second language and/or a second dialect. Theories of linguistics are used to identify, explain and assess literacy challenges. Field experience required. This course counts as one of two required stand-alone ESOL courses.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 322. Mathematics Instruction in the Elementary School. 4 Credit Hours.

Principles and practices in the teaching of elementary school mathematics. Attention is paid to infusion of technology, linguistic and cultural diversity, students with exceptionalities, and the origins of gender bias. Field experience required.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 323. Interdisciplinary Methods in the Content Areas. 3 Credit Hours.

This course aims to discuss the goals and objectives for interdisciplinary learning in the content areas, and help practice, design, and enact interdisciplinary learning activities appropriate for elementary school. During the semester, the class will create an engaging environment to help you: Understand what is the nature of interdisciplinary understanding and practices; Examine elementary curricula and state/national standards that speak to interdisciplinary learning; Develop and enact authentic lessons/units for interdisciplinary learning; Create supportive learning environments that engage diverse students; Assess student interdisciplinary learning using multiple methods; and Learn to use a variety of innovative educational technologies that facilitate interdisciplinary learning. Field Experience required.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 324. Education and the Arts. 3 Credit Hours.

Exploration of the fine and performing arts and their relation to Pre-K to 12 education. Emphasis is placed on experiential learning and methods of incorporating the arts in school curricula. The course also includes a focus on the value of the arts to the individual and society.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 330. Introduction to the Education of Exceptional Individuals. 3 Credit Hours.

A survey course providing a general orientation to Exceptional Individual Education as an integral part of the general education structure. Includes an introduction to appropriate educational programs for exceptional individuals.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 332. Assessment of Exceptional Students. 3 Credit Hours.

A survey of assessment instruments used to classify, assess and evaluate exceptional students in inclusive and special education settings. Advanced written, digital, and oral communication proficiencies, to include research and report-writing as well as oral presentation skills, are emphasized in this course.

Prerequisite: ENG 105 And ENG 106 prerequisite of enrollment is required for this course.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 360. The Teacher in American Society. 3 Credit Hours.

This course focuses on the historical development of teaching in the US, contemporary educational reform and social change, issues involving teacher work, the impact of technology on schooling, ethical and legal issues in teaching, topics involving Race, Gender Social Class and Equity. Popular Culture sources are emphasized in the course's content.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 370. Pop Culture and Education. 3 Credit Hours.

This course examines how popular culture influences and is influenced by the work and culture of schools. In examining artifacts and trends in popular culture today and the past, the forms of popular culture we will analyze will include: motion pictures, television programs, mainstream news, music, books, magazines, zines, fashion, web-based content, graffiti, tattoos, street art, mobile communication, video games, social networking, and more.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 371. Race and Racism in the Making of US Public Education. 3 Credit Hours.

This course will examine the roles of race and racism in the social construction of education and schooling in United States, with an emphasis on how said constructions have impacted the lived experiences of marginalized racial and ethnic minorities, with a particular emphasis on Black Americans. The central themes of the course will be how and why schools in the United States of America were constructed and continue to act as sites of State-sponsored racism, paying attention not only to whom this process marginalizes but also whom it benefits. While the focus of the course will be on race, it is impossible to study race alone, in a vacuum. Therefore, a great deal of attention will be paid to issues of intersectionality, with particular emphases paid to the intersections of race and ethnicity, class, gender, sexual identity, geography, historical specificity, and disability. The semester will begin with a historical overview of the roles education and schooling have played in the lives of African Americans. Our starting point will be roughly 1850. It is important to note that the distinction is made between school and education. The course will examine the roles schools (Saturday Schools, public schools, religious schools, and Historically Black Colleges and Universities to name a few) have played, but it is also crucial to examine the roles of education outside of the context of formalized schooling. The course will examine crucial educational sites such as religious institutions and traditions (outside of religious schools), family life, community education, and oral traditions.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

TAL 390. Topics in Education. 3 Credit Hours.

Review of emerging policy, practice, empirical research and scholarly writing on important educational issues for which formal course title and syllabus have not been developed and formalized in the UM Bulletin. Allows for experimental instructional formats. Course number indicates appropriate student audience. See Course Notes for specific topic.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

TAL 404. Content Area Literacy in the Secondary Classroom. 3 Credit Hours.

Essentials of literacy instruction in various subject areas for middle, junior and senior high schools; instructional methods and materials for development of reading, writing and study strategies. Emphasis is also placed on selecting appropriate materials, motivating students, and helping students with exceptional needs and students who are English Language Learners.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 407. American Sign Language 4. 3 Credit Hours.

This course is designed to allow participants to learn more about Deaf Culture and be able to understand signed conversations in a small group and sign with sufficient fluency to discuss work, social, and family topics at a conversational level.

Prerequisite: TAL107, TAL 207, TAL 307.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 420. Introduction to Literacy, Assessment, and Instruction in Elementary School. 3 Credit Hours.

Multidisciplinary survey of reading and writing acquisition in the elementary school. Assessment and instruction in the major components of reading: phonological awareness, word identification and phonics, fluency, vocabulary, and comprehension. Field Experience required.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 421. Language Arts and Social Studies in the Elementary School. 3 Credit Hours.

Addresses Language Arts competencies in reading, writing, listening, speaking, viewing and visual literacy, following state/national standards.

Research based strategies and approaches for teaching content areas, with a focus on Social Studies competencies, are modeled and integrated through Social Studies content and literature. Field experience required.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

TAL 422. Mathematics Instruction in the Elementary School. 3 Credit Hours.

Principles and practices in the teaching of elementary-school mathematics. Attention is paid to infusion of technology, linguistic and cultural diversity, students with exceptionalities, and the origins of gender bias. Field experience required.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 425. Inclusive Classrooms in the Elementary School. 3 Credit Hours.

The course prepares elementary school teachers to meet the individual needs of students with exceptionalities who have been integrated into the general education classroom. Field experience required.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 426. Practicum in Reading. 3 Credit Hours.

Supervised practicum in reading and writing. Emphasis is on assessment and interventions for elementary students with a range of academic, linguistic and cultural challenges in becoming proficient readers. This course is a designated Upper Level Communications Requirement; advanced written digital and/or oral communication proficiencies will be emphasized in this course.

Prerequisite: ENG 105 And ENG 106 prerequisite of enrollment is required for this course.

Components: PRA.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 428. ESOL Curriculum and Methods and Assessments. 3 Credit Hours.

The course addresses the application of TESOL theories, principles, and current research to the use of curriculum, methods, and assessment. In doing so, the course focuses on an understanding of the differences between curriculum, methods, and assessment designed for children who are native speakers of Standard English and those designed for ESOL. Specific TESOL modifications appropriate for content areas are also addressed. Field experience required. This course counts as the second of two required ESOL specific courses. Advanced written, digital, and oral communication proficiencies, to include research and report-writing as well as oral presentation skills, are emphasized in this course.

Prerequisite: TAL 308 and Co-requisite: TAL 429.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 429. Teacher Preparation Seminar II. 0 Credit Hours.

This hybrid zero credit course has been designed to provide additional support for students in our teacher preparation programs. Students will enroll in this course while they participate in a series of field experiences where they gain practical experience integrating theory and practice while working with students in K-12 settings. Major topics include: the Florida Educator Accomplished Practices, Live Text, and guidelines and procedures. Co-requisite: TAL 428 for students in programs that lead to the ESOL Endorsement; TAL 506 for students in MED and SEC except Secondary English majors.

Corequisite: TAL 428 or TAL 506.

Components: LAB.

Grading: CNC.

Typically Offered: Fall & Spring.

TAL 432. Inclusive Models of Teaching. 3 Credit Hours.

This course focuses on models of inclusion and the educational roles to support student success in inclusive settings. Topics addressed include: differentiated staffing patterns; working as a member of a team; successful collaborative practices; effective communication; understanding of varied cultural backgrounds; strategies for facilitating successful inclusion including differentiation of instruction and application of principles of Universal Design for Learning (UDL); co-teaching; strategies for working effectively with students, families, parents, guardians, administrators, general education teachers, paraprofessionals and other professionals, including students, families, and team members; and creating school partnerships. Field Experience required.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

TAL 434. Specialized Instructional Strategies/Transition. 3 Credit Hours.

This course focuses on evidence-based interventions and models of support for students with disabilities in K – 12 settings and strategies for preparing students for transition from school. Topics addressed include: strategies for using Assistive Technology effectively; strategies for enhancing self-advocacy and self-determination for students with disabilities; strategies for enhancing family involvement in career development and post school employment; transition services and models; preparing students with disabilities for employment and post-secondary education; residential alternatives; recreation and leisure for students with disabilities. Field Experience required.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

TAL 444. Instruction in Secondary Science. 2-3 Credit Hours.

Analysis of methods, materials, and content appropriate for teaching science in the secondary school.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

TAL 461. Pidgins, Creoles and African-American English in Education. 3 Credit Hours.

The course examines some of the most commonly spoken languages in the African diaspora in North and South America as well as in the Caribbean, namely, pidgins, creoles and African-American English. The course also explores the linguistic contributions that West African and European languages have made to the development of Atlantic Pidgins, Creoles and African- American English. Analyses of their lexicons, morphological and grammatical features are addressed along with the ways in which these linguistic structures are used to index different identities in the African-American and Creole cultures. Additionally, the course renews the call for a responsive agenda that recognizes the obstacles faced in formal education by child speakers of Creoles and African-American English and the need for public awareness of the extensively researched merits of accommodating these vernaculars in the classroom.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

TAL 470. Student Teaching in the Elementary School. 9 Credit Hours.

A comprehensive semester-long program in observation and supervised teaching in the elementary school. The student spends full time in an elementary school participating in all activities of the teacher under the guidance of school and university personnel.

Components: PRA.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 471. Student Teaching in the Elementary Schools for K-12 Areas. 3-6 Credit Hours.

A comprehensive program in observation and supervised teaching in the elementary school. The student spends full-time for one half a semester in an elementary school, participating in all activities of the teacher under the guidance of school and university personnel.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 473. Associate Teaching in the Secondary School for K-12 Areas. 3-6 Credit Hours.

A comprehensive program in observation and supervised teaching in the secondary school. The student spends full time for one half a semester in a secondary school, participating in all activities of the teacher under the guidance of school and university personnel.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 480. Seminar On Teaching. 3 Credit Hours.

The seminar is designed to support teacher candidates during the associate teaching experience. Students receive support and assistance in completing Florida Educator Accomplished Practices (FEAP) electronic portfolios. Students share, reflect, and discuss their daily experiences in class during culminating experience in the field.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 491. Applied Research in Education. 3 Credit Hours.

Introduction to basic research methods, ethics in education research, and the implications of research on the practice of teaching. Assist a TAL faculty member with a research project.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 493. Online Teaching and Leadership. 3 Credit Hours.

Introduction to teaching-learning process in online learning environments, including asynchronous modalities, assessment and evaluation, technology and digital copyright usage.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 495. Individual Study. 1-3 Credit Hours.

Individual work on a special project under faculty guidance. Application for Admission to Advanced Individual Study will be required.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

TAL 496. Undergraduate Research Honors. 1-3 Credit Hours.

Individual work on a special project under faculty guidance. Application for Admission to Advanced Individual Study will be required.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

TAL 501. Classroom Based Assessment. 1-3 Credit Hours.

Principles and classroom applications of educational measurement and assessment.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 502. Classroom Based Research. 3 Credit Hours.

Application of research principles to evaluation and improvement of teacher effectiveness. Use of scientific methods in problem solving and decision making in the classroom. Student experiences in the planning, conduct, analysis and reporting of classroom research are included.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

TAL 503. Technology Applications in Education. 3 Credit Hours.

This course is designed to help you better understand why and how to use modern technologies in educational settings. Throughout the course, you will identify and share accessible technological resources, participate in hands-on activities, conduct mini-teaching, and create technology-enhanced instructional materials. You will examine the affordances and constraints of a variety of technologies including mobile learning, computer-based visualizations, web-based curriculum platforms, augmented and mixed reality, and online collaboration tools. You will discuss with the instructor and peers critical issues and policy relevant to the effective use of technologies in K-12 classrooms or informal learning environments.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 504. Building Positive Relationships in Inclusive Secondary Schools. 3 Credit Hours.

Designed to assist general education teachers in meeting the needs of diverse secondary school students. Focus on students with disabilities, language and culture in the classroom, and developing culturally competent classroom management methods.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 506. Issues and Strategies for ESOL. 3 Credit Hours.

This course provides a comprehensive foundation in ESOL (English for Speakers of Other Languages) competencies based on Florida's mandates and TESOL standards. Theory and practice will be emphasized in the areas of applied linguistics, cross cultural communication and understanding, methods of teaching, assessment, and curriculum and material development.

Corequisite: TAL 429.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

TAL 508. Language Development for Linguistically and Culturally Diverse Students. 3 Credit Hours.

Course will provide an introduction to theories of linguistics, first and second language acquisition, as well as foundations of English learner education. Readings and lectures will serve to highlight the development of language and literacy, including challenges faced by students for whom Standard English is a second language and/or a second dialect. This course will be the first in a two- course ESOL sequence.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

TAL 517. Curriculum, Assessment, Teaching and Learning for Physical Science. 3 Credit Hours.

Analysis of content knowledge, pedagogy, and materials appropriate for teaching physical science in the elementary school. The course content focuses on instructional practice with an emphasis on developing teacher content knowledge in physical science, pedagogy, and student literacy in physical science.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 518. Curriculum, Assessment, Teaching and Learning for Number, Operations, and Algebra. 3 Credit Hours.

This course examines topics that address the mathematical ideas underlying number, operations and algebra. Related curriculum, instructional and assessment issues will be also discussed.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 522. Curriculum, Assessment, Teaching and Learning in the Earth Sciences. 3 Credit Hours.

Analysis of content knowledge, pedagogy, and materials appropriate for teaching Earth science in the elementary school. The course content focuses on instructional practice with an emphasis on developing teacher content knowledge in Earth science, pedagogy, and student literacy in life science.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 523. Curriculum, Assessment, Teaching and Learning for Data Analysis and Probability. 3 Credit Hours.

Data in the elementary school: how to gather (biased and unbiased samples), store, manage, represent, analyze. Probabilistic inferences in elementary school: chance, odds, counting, related topics.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

TAL 524. Education and the Arts. 3 Credit Hours.

Exploration of the fine and performing arts and their relation to PreK-12 education. Emphasis is placed on experiential learning and methods of incorporating the arts in school curricula. The course also includes a focus on the value of the arts to the individual and society.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 526. Practicum in Reading. 3 Credit Hours.

Supervised practicum in reading and writing. Emphasis is on assessment and interventions for elementary students with a range of academic, linguistic and cultural challenges in becoming proficient readers.

Components: PRA.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 527. Language and Assessment in ESOL. 3 Credit Hours.

Study of language systems with a focus on understanding and applying linguistic terms. Course prepares teachers to conduct informal and formal assessment procedures with English language learners. Field experience with English language learners is required.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

TAL 528. ESOL Curriculum, Methods, and Assessment.. 3 Credit Hours.

This course focuses on applying TESOL theories, principles, and current research to the development and use of instructional materials, curriculum, and methods. The course will enhance participant's knowledge of the regular English language arts curriculum in comparison with the ESOL curriculum.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

TAL 531. Educating Exceptional Students. 3 Credit Hours.

A survey course in special education emphasizing characteristics and problems associated with various categories of exceptional learners. Policy, issues, and trends in special education will be discussed.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 540. Instruction and Assessment in the Secondary School.. 3 Credit Hours.

Research-based instructional processes in the secondary school.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 541. Instruction and Assessment in Secondary English Language Arts. 3 Credit Hours.

Analysis of methods, materials, and content appropriate for teaching language arts in the secondary school.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 542. Instruction and Assessment in Secondary Mathematics. 3 Credit Hours.

Analysis of methods, materials, and content appropriate for teaching mathematics in the secondary school.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

TAL 543. Instruction and Assessment in Secondary Science. 3 Credit Hours.

Analysis of methods, content and assessments appropriate for teaching science in the secondary school.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 544. Instruction and Assessment in Secondary Social Studies. 3 Credit Hours.

Analysis of methods, materials, and content appropriate for teaching the social sciences in the secondary school.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 545. Methods of Teaching in the Elementary School. 3 Credit Hours.

Theories and research-based practices for reading/language arts, science, social studies, and math instruction for all learners, including diverse populations in elementary classrooms.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

TAL 550. Language and Early Reading Instruction. 3 Credit Hours.

Factors related to emergent literacy with an emphasis on diverse aspects of language that influence literacy and learning; development of emergent literacy and word perception; emergent literacy curriculum development; appropriate assessment and instructional techniques. Understanding of reading as a process of student engagement in fluent decoding and construction of meaning. Writing intensive.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

TAL 552. Reading Comprehension. 3 Credit Hours.

Development of comprehension, rate, and study skills; reading in the content areas; evaluation of materials, organization of programs; issues, problems, and exceptional readers. Emphasis is placed on understanding reading as a process of student engagement in fluent decoding of words and construction of meaning.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

TAL 553. Mentoring and Internship in Classroom Teaching. 3-6 Credit Hours.

A comprehensive program of supervised teaching in elementary or secondary class rooms.

Components: LEC.

Grading: SUS.

Typically Offered: Fall & Spring.

TAL 554. Literacy and Learning Strategies in the Content Area. 3 Credit Hours.

Literacy instruction in content areas for grades 6 through 12; instructional methods and materials for development of language arts, reading, and study skills. Emphasis on appropriate materials, motivation, and support for students with exceptional needs and English language learners.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 557. Exceptional Student Education and Classroom Management. 1-5 Credit Hours.

Introduction to theories and methods of effective classroom management and learning environments, perceptions of disabilities, addressing disruptive behaviors in classrooms and behavioral assessment.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 558. ESOL Strategies and Classroom Management. 1-5 Credit Hours.

This course provides a general overview of foundation in ESOL (English for Speakers of Other Languages) competencies based on Florida's mandates and ESOL Standards. Theory and practice will be emphasized in the areas of applied linguistics, cross cultural communication and understanding, methods of teaching, assessment, and curriculum and material development. A Classroom Management Plan will be developed based on current issues and effective classroom strategies for diverse populations.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 568. Education Reform, Policy, and the Social Organization of Schooling. 3 Credit Hours.

This course is designed to introduce students to the politics and policy debates in American education, including how the U.S. K-12 public education is organized as a socially-constructed system. We will examine the politics of a variety of recent reforms at the local, federal and state levels and their impact on institutions, students and the public.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 569. Teaching and Management for Diverse Classrooms. 3 Credit Hours.

This course will emphasize building a classroom culture and community that meets the needs of all students, including learners with disabilities and learners with culturally and linguistically diverse backgrounds. A history of major legal requirements for diverse populations is examined, including the meaning of learning differences, definitions and causes of disabilities, language acquisition processes, and methods for teaching diverse populations. An introduction to theories and methods of effective classroom management for building learning communities is integrated throughout the course.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 570. Student Teaching in the Elementary School. 9 Credit Hours.

A comprehensive semester-long program in observation and supervised teaching in the elementary school. The student spends full-time in an elementary school participating in all activities of the teacher under the guidance of school and university personnel.

Corequisite: TAL 580.

Components: PRA.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 572. Student Teaching in the Secondary School.. 6-9 Credit Hours.

A comprehensive program in observation and supervised teaching in the secondary school. The student spends full-time in a secondary school participating in all activities of the teacher under the guidance of school and university personnel.

Corequisite: TAL 580.

Components: PRA.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

TAL 577. Human Development, Learning and Schooling. 3 Credit Hours.

Major theories of child development and learning will be discussed with a focus on how they apply to teaching and learning in K-12 schools.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 580. Seminar on Teaching. 1-3 Credit Hours.

Topical seminar to accompany associate teaching

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

TAL 584. Topics in the Professional Development and Supervision of Teachers.. 3 Credit Hours.

Topics include the preparation of clinical teachers to induct, guide, and supervise the field experiences of students and associate teachers; techniques in the observation and supervision of in-service teachers; creation and implementation of professional development plans; reading in the research on teacher development across the career.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

TAL 590. Topics in Education. 3 Credit Hours.

Review of emerging policy, practice, empirical research and scholarly writing on important educational issues for which formal course title and syllabus have not been developed and formalized in the UM Bulletin. Allows for experimental instructional formats. Course number indicates appropriate student audience. See Course Notes for specific topic.

Components: SEM.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

TAL 591. Workshop in Education. 1-6 Credit Hours.

A critical study of practical problems of teachers. Significant problems are defined, literature and research are reviewed, and individual or small group projects are required.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

TAL 593. Online Teaching and Leadership. 3 Credit Hours.

Introduction to teaching-learning process in online learning environments, including asynchronous modalities, assessment and evaluation, technology and digital copyright usage.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 595. Research Honors Project. 2 Credit Hours.

Faculty mentored research project. This course is restricted to students in the SEHD who have been accepted into the Research Honors Program and are working with a Faculty mentor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 596. Research Honors Project. 2 Credit Hours.

Faculty mentored research project. This course is restricted to students in the SEHD who have been accepted into the Research Honors Program and are working with a Faculty mentor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 597. Research Honors Project - Thesis Writing. 2 Credit Hours.

Faculty mentored research project. This course is restricted to students in the SEHD who have been accepted into the Research Honors Program and are working with a Faculty mentor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 598. Research Honors Project - Seminar. 1 Credit Hour.

Faculty mentored research project. This course is restricted to students in the SEHD who have been accepted into the Research Honors Program and are working with a Faculty mentor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 599. Workshop in Education. 1-6 Credit Hours.

A critical study of practical problems of teachers. Significant problems are defined, literature and research are reviewed, and individual or small group projects are required.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

TAL 600. Human Learning. 3 Credit Hours.

This course provides an overview of major theories of human development from childhood through adulthood. This course will focus on the individual learner as influenced by individual- and social-learning processes; the interrelationships between human learning and development; social settings for learning such as classroom, business, and informal learning environments; the applications of learning theories and models; the learning of language(s), content, social practices, and reasoning processes. Emphasis will be placed on how social, cultural, and linguistic diversity interact to create variation in human learning.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

TAL 601. Educational Assessment and Accountability. 3 Credit Hours.

This course covers the principles and classroom applications of educational measurement and assessment as well focuses on accountability policies and practices at the school, district, state and federal levels.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 602. Organizational Learning. 3 Credit Hours.

This course provides an overview on how organizations adapt and change, including changes that could be thought of as constituting “learning.” Changes in shared values, structures, and practices can facilitate and/or hinder an organization’s capacity to gather, select, and process information, to retain that information, and to act upon knowledge valued and created by members. Emphasis is placed on how participants’ own careers fit within their employment or field-placement sites as learning organizations and how their efforts can help their sites to learn.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

TAL 603. Technology Applications in Education. 3 Credit Hours.

This course is designed to help you better understand why and how to use modern technologies in educational settings. Throughout the course, you will identify and share accessible technological resources, participate in hands-on activities, conduct mini-teaching, and create technology-enhanced instructional materials. You will examine the affordances and constraints of a variety of technologies including mobile learning, computer-based visualizations, web-based curriculum platforms, augmented and mixed reality, and online collaboration tools. You will discuss with the instructor and peers critical issues and policy relevant to the effective use of technologies in K-12 classrooms or informal learning environments. As a graduate level course, you will need to conduct a small-scale research that investigates the effectiveness of a technology-enhanced learning environment.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 604. Building Positive Relationships in Inclusive Secondary Schools. 3 Credit Hours.

Designed to assist general education teachers in meeting the needs of diverse secondary school students. Focus on students with disabilities, language and culture in the classroom, and developing culturally competent classroom management methods.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 605. Mentoring and Internship in Classroom Teaching. 3-6 Credit Hours.

A comprehensive program of supervised teaching in elementary or secondary class rooms.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 606. Issues and Strategies for ESOL. 3 Credit Hours.

This course provides a comprehensive foundation in ESOL (English for Speakers of Other Languages) competencies based on Florida’s mandates and TESOL standards. Theory and practice will be emphasized in the areas of applied linguistics, cross cultural communication and understanding, methods of teaching, assessment, and curriculum and material development.

Corequisite: TAL 679.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

TAL 607. Instructional Leadership. 3 Credit Hours.

An examination of the components of effective supervision of instruction. Leadership theories which apply to educational settings; legal rights and responsibilities of students, teachers and administrators will be covered. As well as the examination of various models of teaching.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

TAL 608. Language Development for Linguistically and Culturally Diverse Students. 3 Credit Hours.

Course will provide an introduction to theories of linguistics, first and second language acquisition, as well as foundations of English learner education. Readings and lectures will serve to highlight the development of language and literacy, including challenges faced by students for whom Standard English is a second language and/or a second dialect. This course will be the first in a two- course ESOL sequence.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

TAL 609. Practicum in Reading. 3 Credit Hours.

Supervised practicum in reading and writing. Emphasis is on assessment and interventions for elementary students with a range of academic, linguistic and cultural challenges in becoming proficient readers.

Components: PRA.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 610. Literacy and Learning Strategies in the Content Area. 3 Credit Hours.

Literacy instruction in content areas for grades 6 through 12; instructional methods and materials for development of language arts, reading, and study skills. Emphasis on appropriate materials, motivation, and support for students with exceptional needs and English language learners.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 611. Topics in the Professional Development and Supervision of Teachers.. 3 Credit Hours.

Topics include the preparation of clinical teachers to induct, guide, and supervise the field experiences of students and associate teachers; techniques in the observation and supervision of in-service teachers; creation and implementation of professional development plans; reading in the research on teacher development across the career.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

TAL 612. Building Positive Relationships with Diverse Learners. 3 Credit Hours.

An examination of the principles of various theoretical perspectives of classroom management and discipline. Applications to the management of behavior problems of children and adolescents. Contemporary research analyzed and discussed. Writing intensive course.

Co-requisite: TAL 670.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

TAL 613. Prescriptive Teaching of Exceptional Students. 3 Credit Hours.

Techniques for individualization of instruction for exceptional students, including educational prescription, and curriculum adaptation.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

TAL 614. Assessment in Special Education. 3 Credit Hours.

A survey of assessment instruments used to assess and evaluate exceptional students in inclusive and special education settings. Emphasis is on assessments for students in K-12 settings with a range of academic, linguistic, and cultural challenges in becoming proficient learners. Graduate students will complete a research paper using APA writing format.

Prerequisite: TAL 629.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 615. Reading in the Elementary School. 3 Credit Hours.

Extending competencies in teaching reading, including exceptional children in the regular classroom, with emphasis on applying findings from research in reading to classroom practices. 20 hours of field experience required for all students who are not currently teaching.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

TAL 616. Mathematics in the Elementary School. 3 Credit Hours.

Content, methods, and research appropriate for teaching mathematics in the elementary school, including exceptional children in the regular classroom. Content is defined as a pre-algebra mathematics. 20 hours of field experience required for all students who are not currently teaching. Writing intensive course.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

TAL 617. Science in the Elementary School. 3 Credit Hours.

Extending competencies of elementary school teachers in teaching science to children, including exceptional children in the regular classroom. Development of science programs based on research which has classroom applications. 20 hours of field experience required for all students who are not currently teaching.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

TAL 618. Social Studies in the Elementary School. 3 Credit Hours.

Extending competencies in teaching social studies to children, including exceptional children in the regular classroom, with an emphasis on research applications. 20 hours of field experience required for all students who are not currently teaching.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

TAL 619. Exceptional Student Education and Classroom Management. 1-5 Credit Hours.

Introduction to theories and methods of effective classroom management and learning environments, perceptions of disabilities, addressing disruptive behaviors in classrooms and behavioral assessment.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 620. Teaching and Management for Diverse Classrooms. 3 Credit Hours.

This course will emphasize building a classroom culture and community that meets the needs of all students, including learners with disabilities and learners with culturally and linguistically diverse backgrounds. A history of major legal requirements for diverse populations is examined, including the meaning of learning differences, definitions and causes of disabilities, language acquisition processes, and methods for teaching diverse populations. An introduction to theories and methods of effective classroom management for building learning communities is integrated throughout the course.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 621. Student Teaching in the Elementary School. 9 Credit Hours.

A comprehensive semester-long program in observation and supervised teaching in the elementary school. The student spends full-time in an elementary school participating in all activities of the teacher under the guidance of school and university personnel.

Components: PRA.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 622. Student Teaching in the Secondary School.. 6-9 Credit Hours.

A comprehensive program in observation and supervised teaching in the secondary school. The student spends full-time in a secondary school participating in all activities of the teacher under the guidance of school and university personnel.

Components: PRA.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

TAL 623. Seminar on Teaching. 1-3 Credit Hours.

Topical seminar to accompany associate teaching

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

TAL 624. Education and the Arts. 3 Credit Hours.

Exploration of the fine and performing arts and their relation to PreK-12 education. Emphasis is placed on experiential learning and methods of incorporating the arts in school curricula. The course also includes a focus on the value of the arts to the individual and society.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 625. Online Teaching and Leadership. 3 Credit Hours.

Introduction to teaching-learning process in online learning environments, including asynchronous modalities, assessment and evaluation, technology and digital copyright usage.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 626. Workshop in Education. 1-6 Credit Hours.

A critical study of practical problems of teachers. Significant problems are defined, literature and research are reviewed, and individual or small group projects are required.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

TAL 627. Understanding Culture in the Classroom. 3 Credit Hours.

This course explores the conflicts and the strategies for resolution between the patterns of culture in the classroom and the patterns of culture that school children bring to the classroom - patterns which are learned in their families and communities.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

TAL 628. Internship in Special Education Settings. 3-6 Credit Hours.

A comprehensive program of supervised teaching in special education settings. The student spends two full semesters employed as a full-time teacher while under the guidance of school and university personnel.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

TAL 629. Educating Exceptional Students. 3 Credit Hours.

A survey course in special education emphasizing characteristics and problems associated with various categories of exceptional learners. Policy, issues, and trends in special education will be discussed.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 630. Instructing Students Who Have Literacy Challenges. 3 Credit Hours.

Administration and interpretation of instructional assessments with instructional strategies and materials based upon scientifically based reading research for the prevention and remediation of reading difficulties.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 631. Assessment of Reading and Related Learning Disabilities. 3 Credit Hours.

Theories and procedures for screening, diagnosis, and progress-monitoring of reading and related learning disabilities. Includes instruction and supervised clinical experiences in administration and interpretation of assessments with an emphasis on prevention, identification, and remediation of reading and related learning disabilities.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

TAL 632. Intervention for Reading and Related Learning Disabilities. 3 Credit Hours.

Theories and procedures for screening, diagnosis, and progress-monitoring of reading and related learning disabilities. Includes instruction and supervised clinical experiences in administration and interpretation of assessments with an emphasis on prevention, identification, and intervention of reading and related learning disabilities.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

TAL 633. Reading Comprehension. 3 Credit Hours.

Development of comprehension, rate, and study skills; reading in the content areas; evaluation of materials, organization of programs; issues, problems, and exceptional readers. Emphasis is placed on understanding reading as a process of student engagement in fluent decoding of words and construction of meaning.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

TAL 634. Language and Reading Instruction. 3 Credit Hours.

Extending competencies of K-12 school teachers in teaching reading to children, including exceptional children in the regular classroom. Emphasis on applying findings from research in reading and writing to classroom practices.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 635. Inclusive Models of Teaching. 3 Credit Hours.

This course focuses on models of inclusion and the educational roles to support student success in inclusive settings. Topics addressed include: differentiated staffing patterns; working as a member of team; successful collaborative practices; effective communication; including differentiation of instruction and application of principles of Universal Design for Learning (UDL); co-teaching; strategies for working effectively with students, families, parents, guardians, administrators, general education teachers, paraprofessionals, and other professionals, including students, families, and team members; and creating school partnerships.

Prerequisite: TAL 629. And TAL 614.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 636. Universal Design for Learning and Assistive Technology Strategies for Transition. 3 Credit Hours.

This course focuses on evidence-based interventions and models of support for students with disabilities in K-12 settings and strategies for preparing students for transition from school. Topics addressed include: strategies for using Assistive Technology effectively; strategies for enhancing self advocacy and self determination for students with disabilities; strategies for enhancing family involvement in career development and post school employment; transition services and models; preparing students with disabilities for employment and postsecondary education; residential alternatives; recreation and leisure for students with disabilities.

Requisite: Graduate Standing.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 637. Field Experience Seminar I. 0 Credit Hours.

This hybrid zero credit course has been designed to provide additional support for students in our teacher preparation programs. Students will enroll in this course while they participate in a series of field experiences where they gain practical experience integrating theory and practice while working with students in K-12 settings. Major topics include: the Florida Educator Accomplished Practices, Live Text, and guidelines and procedures.

Corequisite: TAL 612.

Components: SEM.

Grading: CNC.

Typically Offered: Fall & Spring.

TAL 638. Language Arts and Culture in the Classroom. 3 Credit Hours.

Extending competencies in the language arts including linguistic and cultural diversity and children with disabilities in elementary classrooms. Emphasis on research applications. 20 hours of field experience required for all students who are not currently teaching. Writing intensive course.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

TAL 639. Field Experience Seminar II. 0 Credit Hours.

This hybrid zero credit course has been designed to provide additional support for students in our teacher preparation programs. Students will enroll in this course while they participate in a series of field experiences where they gain practical experience integrating theory and practice while working with students in K-12 settings. Major topics include: the Florida Educator Accomplished Practices, Live Text, and guidelines and procedures.

Co-requisite: TAL 606.

Components: LAB.

Grading: CNC.

Typically Offered: Fall & Spring.

TAL 640. Typical and Atypical Child Development. 3 Credit Hours.

Theories and research in the development of children from conception through eight years of age. Factors which influence development and the relationship of typical development to patterns of delayed and atypical development. Writing intensive course.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

TAL 641. Working with Families of Young Children with Disabilities: Strategies and Medical Issues. 3 Credit Hours.

This course will address issues related to working with families of young children with special educational and health needs. This will include strategies for effective communication and collaboration with all members of the interdisciplinary team. This is a writing intensive course.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

TAL 642. Evaluation and Assessment in Infant and Early Childhood Special. 3 Credit Hours.

Students will become familiar with a variety of formal and informal screening, evaluation, assessment instruments, and procedures currently in use with children birth to eight. They will learn criteria for selecting and using developmentally and culturally appropriate instruments and become familiar with the multi-, inter-, and trans-disciplinary team approaches. Students will write formal reports and develop an IEP and an IFSP. May require field experience.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

TAL 643. Intervention Strategies in Infant and Early Childhood Special Education. 3 Credit Hours.

The focus of this course will be the implementation of IEPs and IFSPs through the use of developmentally appropriate curriculum, methods, and intervention strategies for infants, toddlers, and young children with special needs. This will include implementation and adaptation of existing curriculum and materials for young children to meet the special needs of this population. May require field experience. Writing Intensive course.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

TAL 644. Early Childhood Curriculum Development. 3 Credit Hours.

Development of curriculum for children from birth to eight years of age. Emphasis on application of research findings. 20 hours of field experience required.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

TAL 645. Methods for Communications and Language in Young Children with Disabilities. 3 Credit Hours.

This course will focus on language theories, models, and methods for birth-eight year olds. The course will present an overview of normal development in communication and discuss conditions that might impede progress as well as signs that would suggest a problem is present. This course may require field experience.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

TAL 646. Working with Children who Exhibit Challenging Behaviors. 3 Credit Hours.

Challenging behaviors in young children; influences of culture, language, ethnicity; applying Response to Intervention in Preschool settings; evidence-based classroom and behavior management strategies; planning intensive individualized interventions; applying positive behavioral support.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 647. Language and Early Reading Instruction. 3 Credit Hours.

Factors related to emergent literacy with an emphasis on diverse aspects of language that influence literacy and learning; development of emergent literacy and word perception; emergent literacy curriculum development; appropriate assessment and instructional techniques. Understanding of reading as a process of student engagement in fluent decoding and construction of meaning. Writing intensive.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

TAL 648. Practicum/Internship with Infants and Toddlers with Disabilities. 3 Credit Hours.

A comprehensive program in observations and supervised teaching in a school/center for infants and toddlers with disabilities (0-3 yrs.). The student spends full time in the school/center participating in all activities of the teacher under the guidance of school and university personnel.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

TAL 649. Practicum/Internship with Children with Disabilities (3-5 yrs.). 1-6 Credit Hours.

A comprehensive program in observation and supervised teaching in a school/center for children with disabilities (3-5 yrs.). The student spends full time in the school/center participating in all activities of the teacher under the guidance of school and university personnel.

Components: PRA.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

TAL 650. Early Reading Instruction and Literature for Young Children. 3 Credit Hours.

Study of literature for young children emphasizing multicultural literature and use of literature across the curriculum. Development of emergent literacy; examination of emergent literacy curriculum as well as appropriate assessment and instruction techniques. Emphasis on understanding or reading as a process.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 651. Affective, Relational, and Cultural Factors and Processes in Learning. 3 Credit Hours.

This course explores the impacts of non-cognitive factors on learning and the inter-relationships among what are usually thought of as cognitive and non-cognitive spheres of learning. At times, there may be conflicts between cultural practices as found in learning settings (including classrooms, businesses, and informal learning environments) and the practices into which learners have been enculturated by families and communities; at other times, an individual's identity and the values being imparted in a learning environment may work synergistically. The course includes a critical examination of the sources of these factors on human and organizational learning programs and practices.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

TAL 652. Assessment of Human and Organizational Learning. 3 Credit Hours.

This course provides an overview of the assessment of learners in educational, business, work place, and informal settings, with an emphasis on considerations related to cultural and linguistic diversity. Topics include classroom-based assessment, high-stakes assessment in educational settings, testing for job placement and certification, and program evaluation. Among the assessment techniques to be covered are cognitive interviews, the analysis of group-based processes, discourse analysis, and focus-group work.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

TAL 654. STEM Methods for Diverse Learners. 3 Credit Hours.

Research-based instructional practices and processes to meet the needs of all learners, including diverse populations, for mathematics/science education in schools.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

TAL 655. Applied Linguistics. 3 Credit Hours.

In-depth study of phonology, morphology, syntax, semantics and pragmatics of spoken and written discourse and the application to second language acquisition theories. Issues of nonstandard dialects and creoles as well as their impact on literacy challenges will be discussed. Globalization of English and linguistic imperialism will be addressed.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 659. Practicum in Education and Social Change. 3 Credit Hours.

This practicum course is the culminating project for the Education and Social Change Master's Program. Participants will review the literature, design, and present an action project within the context of a school or community setting.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 660. Instruction and Assessment in the Secondary School.. 3 Credit Hours.

Research-based instructional processes in the secondary school.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 661. Instruction in Secondary English.. 3 Credit Hours.

Analysis of methods, materials, and content appropriate for teaching language arts in the secondary school.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

TAL 662. Instruction in Secondary Mathematics. 3 Credit Hours.

Analysis of methods, materials, and content appropriate for teaching mathematics in the secondary school.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

TAL 663. Instruction in Secondary Science. 3 Credit Hours.

Analysis of methods, materials, and content appropriate for teaching science in the secondary school.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

TAL 664. Instruction in Secondary Social Studies. 3 Credit Hours.

Analysis of methods, materials, and content appropriate for teaching the social sciences in the secondary school.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

TAL 665. Methods of Teaching in the Elementary School. 3 Credit Hours.

Theories and research-based practices for reading/language arts, science, social studies, and math instruction for all learners, including diverse populations in elementary classrooms.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

TAL 666. Introduction to the Politics of Education, Teaching, and Learning. 3 Credit Hours.

Survey overview of political debates involving education as a nested and loosely-coupled system where pressures at one level can be supported or countermanded at another. Historical and critical take on present-day debates. Depending on student interests, may go in-depth on topics such as economic politics, cultural politics, state and local control.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

TAL 667. Education Reform, Policy, and the Social Organization of Schooling. 3 Credit Hours.

This course is designed to introduce students to the politics and policy debates in American education, including how the U.S. K-12 public education is organized as a socially-constructed system. We will examine the politics of a variety of recent reforms at the local, federal and state levels and their impact on institutions, students and the public.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 668. Human Development, Learning and Schooling. 3 Credit Hours.

Major theories of child development and learning will be discussed with a focus on how they apply to teaching and learning in K-12 schools.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 669. Teacher and Student Well-Being in Education. 3 Credit Hours.

This will be an intensive, 600 level course specifically designed for students taking the Master's degree in Education and Social Change. The main thrust of the course will be to link theory and research on personal, organizational, and collective well-being with educational success and school reform. Well-being is a positive state of affairs, brought about by the simultaneous satisfaction of personal, relational, organizational, and community needs. In this course we will examine the signs, sources, and strategies of well-being in individuals, relationships, organizations and communities. The course will focus on applications of theory and research to the well-being of students, parents, teachers, and schools. We will explore the organizational well-being of schools and the policy changes needed to improve the linkages between community development and educational success of children living in poverty. Some of the questions that will be explored in the course include: What is well-being? How is your personal well-being related to the well-being of other people, organizations, and communities? What is the role of values in promoting a just society? What strategies might work for engaging relevant constituencies in educational and social change? The course will be divided into five sections as follows:

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 670. Teacher Preparation Seminar I. 0 Credit Hours.

This hybrid zero credit course has been designed to provide additional support for students in our teacher preparation programs. Students will enroll in this course while they participate in a series of field experiences where they gain practical experience integrating theory and practice while working with students in K-12 settings. Major topics include: the Florida Educator Accomplished Practices, Live Text, and guidelines and procedures.

Corequisite: TAL 612.

Components: LEC.

Grading: SUS.

Typically Offered: Fall & Spring.

TAL 671. Curriculum, Assessment, Teaching and Learning for Physical Science. 3 Credit Hours.

Analysis of content knowledge, pedagogy, and materials appropriate for teaching physical science, K-16. The course content focuses on instructional practice with an emphasis on developing teacher content knowledge in physical science, pedagogy, and student literacy in physical science.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 672. Curriculum, Assessment, Teaching and Learning for Number, Operations, and Algebra. 3 Credit Hours.

This course examines topics that address the mathematical ideas underlying number, operations and algebra. Related K-16 curriculum, instructional and assessment issues will be also discussed.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 673. Curriculum, Assessment, Teaching and Learning for Measurement and Geometry. 3 Credit Hours.

Topics involving measurement and geometry in the K-16 mathematics curriculum, how students learn and reason, assessment, instructional strategies.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

TAL 674. Internship in the Elementary School. 3-6 Credit Hours.

A comprehensive program of supervised teaching in a K-6 classroom in the elementary school. The student spends a full semester employed as a full-time teacher while under the guidance of school and university personnel.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 675. Curriculum, Assessment, Teaching and Learning in the Earth Sciences. 3 Credit Hours.

Analysis of content knowledge, pedagogy, and materials appropriate for teaching Earth science, K-16. The course content focuses on instructional practice with an emphasis on developing teacher content knowledge in Earth science, pedagogy, and student literacy in life science.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 676. Curriculum, Assessment, Teaching and Learning for Data Analysis and Probability. 3 Credit Hours.

Data in the K-16 mathematics: how to gather (biased and unbiased samples), store, manage, represent, analyze. Probabilistic inferences in K-16 mathematics: chance, odds, counting, related topics.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

TAL 677. Applied Research in Education. 3 Credit Hours.

A graduate course in bilingual education emphasizing different research methods educators and researchers can utilize to gauge and improve student learning.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 679. Teacher Preparation Seminar II. 0 Credit Hours.

This hybrid zero credit course has been designed to provide additional support for students in our teacher preparation programs. Students will enroll in this course while they participate in a series of field experiences where they gain practical experience integrating theory and practice while working with students in K-12 settings. Major topics include: the Florida Educator Accomplished Practices, Live Text, and guidelines and procedures.

Co-requisite: TAL 606.

Components: LEC.

Grading: SUS.

Typically Offered: Offered by Announcement Only.

TAL 680. Foundations of Bilingual Education. 3 Credit Hours.

This course will focus on the historical foundations of bilingual education in the U. S., current models of bilingual or dual language programs in PK-12 school settings, and contemporary understandings of bilingualism/biliteracy development using sociolinguistic and sociocultural perspectives.

Components: DIL.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 681. Principles of Curriculum Development and Engagement for TESOL. 3 Credit Hours.

Components of curriculum and instructional management and engagement in ESOL classrooms. Pupil/teacher interaction, curriculum organization, student assessment and evaluation, materials development and adoption, utilization of resources, and classroom organization.

Requisite: Graduate Standing.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 682. Methods of Teaching Content Areas in TESOL. 3 Credit Hours.

This course examines subject matter education for English language learners (ELLs) in the K-12 and international English as a foreign language (EFL) settings. Best practices are investigated and applied within different teaching contexts with a focus on helping students gain access to core subject knowledge.

Requisite: Graduate Standing.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 683. Introduction to Theories and Practice of TESOL. 3 Credit Hours.

Theory and practical methodology of language and literacy instruction and assessment to children, adolescents, and adults for whom English is not their first language, in alignment with current state, national, and professional standards (as applicable). There will be a focus on inquiry into instructional approaches based on contemporary theories of learning, standards-based and data-driven lesson planning, and reflective practices in the teaching and assessment of English learners.

Requisite: Graduate Standing.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 684. Advances Techniques in TESOL. 3 Credit Hours.

This course addresses advanced techniques in TESOL. The course focuses on methods and approaches for teaching English language learners and specific strategies to deliver instruction in the content areas.

Requisite: Graduate Standing.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 685. Language Assessment. 3 Credit Hours.

This course will familiarize students with the nature of and current methodologies of language assessment within a framework of psychometric and linguistic.

Requisite: Graduate Standing.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 686. Principles of First and Second Language Acquisition. 3 Credit Hours.

This course will familiarize students with the principles and processes at work in the acquisition of first and other languages. The course focuses on similarities and differences in the ways that first and second languages are learned and factors that influence the learning process for both.

Participants will become familiar with current research related to language acquisition through course lectures, interactive course activities and individual as well as collaborative presentations.

Requisite: Graduate Standing.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 687. Home Language Strategies. 3 Credit Hours.

As a culminating course in the Bilingual/Biliteracy program track, this course will review theories in bilingual development, sociolinguistics, and language teaching in Spanish to build Spanish language proficiency for dual language teachers. There will also be an emphasis on communicating with Spanish-speaking parents of K-12 English learners.

Requisite: Graduate Standing.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 689. Language and Literacy for Academic Learning. 3 Credit Hours.

This course introduces key concepts and practical teaching approaches for learning the academic literacies needed to be successful in school contexts. Review of language theories and research concerning teaching academic literacy for education are highlighted throughout the course and embedded within disciplinary contexts for different subject areas (i.e., mathematics, social studies/history, English language arts, and science). Linguistic pedagogy is a central focus of the course to examine applications of language theory in K-12 classrooms serving English learners.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 690. Topics in Education. 3 Credit Hours.

Review of emerging policy, practice, empirical research and scholarly writing on important educational issues for which formal course title and syllabus have not been developed and formalized in the UM Bulletin. Allows for experimental instructional formats. Course number indicates appropriate student audience. See Course Notes for specific topic.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

TAL 691. Workshop in Education. 1-6 Credit Hours.

A critical study of practical problems of teachers. Significant problems are defined, literature and research are reviewed, and individual or small group projects are required.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

TAL 692. Curriculum, Assessment, Teaching and Learning for the Life Sciences. 3 Credit Hours.

Analysis of content knowledge, pedagogy, and materials appropriate for teaching life science, K-16. The course content focuses on instructional practice with an emphasis on developing teacher content knowledge in life science, pedagogy, and student literacy in life science.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 700. Professional Seminar. 1 Credit Hour.

The TAL Pro-seminar consists of a series of interactive sessions at which faculty, doctoral students, and guest speakers have the opportunity to discuss current topics in education research. Its purpose is to enhance the culture of scholarship and collegiality within the Department and to provide informal guidance to doctoral students on research and career directions in education.

DOCTORAL STANDING.

Components: SEM.

Grading: SUS.

Typically Offered: Fall & Spring.

TAL 701. Teacher in American Society. 3 Credit Hours.

An historical, philosophical, and sociological analysis of the teaching profession in American society. The role and status of teachers in American culture will be discussed. Contemporary issues such as the union movement, status assignment, rewards and incentives, and the role of the teacher as an instrument in the definition of the culture will also be covered.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

TAL 702. The Social and Cultural Foundation of Education. 3 Credit Hours.

This course is an interdisciplinary seminar reviewing the major literature in the Social and Cultural Foundation of Education. Classic, Modern and Post-Modern texts will be read with an emphasis on the literature written after 1980 (Post-Modern). Emphasis will be placed on the exploration of key policy questions, as well as the analysis of key sociological concepts related to the field such as hegemony, cultural reproduction, social capital and privilege. The course is intended to provide a "baseline" for understanding the field.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 703. Issues and Trends in Multicultural Education. 3-6 Credit Hours.

The study and critical examination of the theory and practice of multicultural education. Development of a personal theory of effective education for pluralism is included.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

TAL 704. Introduction to the Learning Sciences. 3 Credit Hours.

In this course we will explore perspectives and research on domain-specific and domain-general learning in and out of schools, especially those typically considered in the field of the Learning Sciences. We will examine various perspectives researchers use to inform their work and how these perspectives provide insight into what it means to learn and know. The course objectives include the following: -Understand key questions addressed in research on learning -Understand foundational and modern theories and perspectives in learning -Understand how various learning theories are applied in domain-specific/general research contexts and their limitations -Develop and articulate your own perspectives and research questions on learning.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 705. Design of online learning environments. 3 Credit Hours.

This course provides an overview of technology applications in learning environments, including history, theoretical foundations, design processes, and available technologies. The course includes an exploration of online learning applications/software, instructional design considerations, and curriculum development for online settings. Topics could include multi-literacies, digital youth network, media and connected learning, web-based learning, AI and machine based learning models.

TAL 704 OR TAL 600.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

TAL 706. Design of Formal Learning Environments. 3 Credit Hours.

This course on instructional design provides an overview of theoretical approaches to learning that can be used to analyze learning environments, of learning goals for creation and sequencing of learning activities, and of how resources can be deployed in support effective learning. Topics can include the use of theoretical learning trajectories, tenets and applications of universal design, and social support and intellectual scaffolds for learning.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

TAL 707. Design for workplace related learning. 3 Credit Hours.

This course deepens participants' understandings of workplace training and professional development by relating learning to needs assessments; instructional design techniques; program planning, marketing, and delivery techniques; and evaluation of adult learning programs within a variety of organizational settings. Emphasis is placed on constructing training and professional development programs that are meaningful to a diverse workforce and that achieve individual and organizational outcomes to improve an individual's and the organization's performance.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

TAL 708. Design of Out-of-School, Informal Learning. 3 Credit Hours.

This graduate seminar focuses on learning concepts and practices in and out of formal (school) instructional settings. People learn across a variety of places and over their entire lifespans; much of this learning is elective or interest-driven, in the sense that people voluntarily engage in activity in order to learn. In this we course, we consider how learning is organized within and across a variety of informal settings, including state and national parks, museums, theater organizations, zoos, aquariums, sports teams, one-on-one performance coaching, after school programs, non-profit community centers, in families or home environments, in virtual or online social spaces, and even in interactions between medical personnel and their clients. This course will include ties to sociocultural theories of development and learning as applied to out-of-school, informal contexts. The course provides a review of new empirical research and an overview of theoretical approaches to learning that can be used to analyze informal learning environments. The course will involve theoretical and empirical readings with group discussion, but also visits from and to people who are involved in learning in informal settings.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

TAL 709. Applied Research and Development in Learning Sciences - Seminar I. 1-3 Credit Hours.

Students define and conceptualize a group-based project on learning within their particular employment settings. Groups will develop and implement a plan for a well-focused first effort. The project and its results may be submitted as a digital artifact making use of multiple media in a single language (such as English, French, Italian, Spanish, Portuguese or Chinese) by a team where that language was used to implement the plan and where its use will facilitate the project's completion. Each individual member of the team submits a paper defining their unique contributions to the project in such a way that it is clear that the work built upon and drew from course work in the Learning Sciences. Individual contributions must be substantive and should be complementary. Projects must be approved by advisor before it is implemented; if a language other than English will be employed, it must also be approved by faculty who will review and evaluate it.

Components: SEM.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

TAL 710. Introduction to Research. 3 Credit Hours.

This graduate course focuses on diverse philosophies and epistemologies of research and the various methodologies that arise from them. Students will develop an understanding of and appreciation for a range of complementary educational research traditions. The goal is to enable students to participate meaningfully and critically in multiple discourse communities that employ and/or produce research bearing on substantive local, national, and international issues in education.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 711. Video Analysis Methods. 3 Credit Hours.

Video-based data has become ubiquitous in educational research. This methods course is designed to facilitate learning how to use video-based research methods in educational research. Despite the growing interest in video-based approaches, we are still beginning to theorize about various points of view when collecting and analyzing video data. There are practical questions about collecting video data and a growing number of software programs to support data analysis. The goal of this course is to learn about video-based methods for data analysis by critically engaging with how others do video analysis and by doing it collectively in the classroom and individually in a final paper.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

TAL 712. Applied Research and Development in the Learning Sciences - Seminar 2. 1-3 Credit Hours.

Students build upon, (re)define, (re)conceptualize, (re)develop and (re)implement their group-based project from TAL709 by using the research methods employed in its evaluation. The advanced project and its results may be submitted as a digital artifact making use of multiple media in a single language (such as English, French, Italian, Spanish, Portuguese or Chinese) by a team where that language was used to implement the plan and where its use will facilitate the project's completion. Each individual member of the team submits a paper defining their unique contributions to the project in such a way that it is clear that the work built upon and drew from course work in the Learning Sciences. Individual contributions must be substantive and should be complementary. Projects must be approved by advisor before it is implemented; if a language other than English will be employed, it must also be approved by faculty who will review and evaluate it.

Components: SEM.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

TAL 720. Research in Residence - Masters. 1 Credit Hour.

Masters-degree and Ed.S. students enrolled for credit as determined by advisor. Credit awarded when thesis is accepted.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

TAL 730. Topics in Language and Literacy Learning. 1-3 Credit Hours.

Review of emerging policy, practice, empirical research and scholarly writing on important educational issues for which formal course title and syllabus have not been developed and formalized in the UM Bulletin. Allows for experimental instructional formats. Course number indicates appropriate student audience.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 731. Language Policy and Planning (K-12). 3 Credit Hours.

The course focuses on the areas that have been of particular interest to sociolinguists and language planners, namely, status planning, corpus planning, prestige planning, language-in-education planning, the language rights of linguistic minorities and the more recent movements from macro issues on language policy and planning (LPP) to micro issues involved in indexing linguistic, ethnic and racial identities. In addition, the course will address matters of migration, imperialism, state formation and political conflicts due to LPP in the United States as well as in countries in Latin America, the Caribbean, Africa, Asia and Europe.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 732. Seminar in Reading. 3 Credit Hours.

Seminar providing intensive study of contemporary topics in reading. Open to advanced graduate students in reading.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 734. Theory and Research in Reading. 3 Credit Hours.

This course explores the intellectual roots of theories of reading and how these are used to generate testable research hypotheses about linguistic, psychological, social, and cultural factors that influence and sustain reading development and reading performance. The course surveys works that have influenced research and theory in the field of reading from its inception in the early 1900's—through the work of experimental psychologists such as Huey—to present times. The readings and lectures will include work that represents the influence of the intellectual traditions of the introspectionists, behaviorism, cognitive psychology, constructionism, socio-cultural theory, and cognitive neuroscience.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 735. Theory and Research in Writing. 3 Credit Hours.

Seminar that explores the complementary relationship between reading and writing through the reading and analysis of theoretical and research literature on writing theory and writing instruction.

Components: PRA.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 736. Pidgins, Creoles and African-American English in Sociolinguistic Research. 3 Credit Hours.

The course examines the typology of languages that emerged in North and South America as well as in the Caribbean as a result of sociolinguistic contact between European languages and west African languages, namely, pidgins, creoles and African-American English. The course also examines current debates on the extent to which the superstrate and substrate languages as well as the principles of Universal Grammar and the Language Bioprogram Hypothesis have contributed to the linguistic structures of Atlantic Pidgins, Creoles and African-American and Creole cultures are explored. Additionally, the course addresses the sociolinguistic research that advocates dialect diversity and the affirmation of vernacular languages as a means of social and educational reform.

Requisite: Graduate Standing.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

TAL 752. Seminar in Reading/Learning Disabilities. 3-12 Credit Hours.

Contemporary topics in reading and learning disabilities. Rotating topics and faculty. Open only to advanced graduate students in reading and learning disabilities pursuing specialist or doctoral degrees. Specialist students enroll for a total of six hours, and doctoral students for a total of 12 hours. Course may be repeated for a total of 12 credits. Subtitles describing the topics to be offered will be shown in parentheses in the printed schedule, following the title.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

TAL 753. Cognitive Psychology in Special Education. 3 Credit Hours.

Learn about different cognitive theorists and discuss various theoretical positions as to their strengths and weaknesses within and across theories. Address theory refinement over time and the application of theory to research practice. Review literature in a systematic manner and write an integrated and purposeful review of research. Develop a research proposal that is theory-based. Participate in the peer review process.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 754. Disability and Diversity: Critical Views. 3 Credit Hours.

Examines critical issues in the cultural/historical conceptualization of the field of special education against the background of cross-cultural views of disabilities.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 755. Current Issues in Special Education. 3 Credit Hours.

Current issues and trends in special education from historical, societal, policy, practice, and research perspectives. Topics may include identification, referral, and eligibility; inclusion and Least Restrictive Environment; parent involvement; participation of students with disabilities in high-stakes testing; cultural/linguistic diversity; the disproportionate placement of minorities; and teacher qualifications, certification, and education.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 756. Research in Special Education. 3 Credit Hours.

Critical analysis of empirical research studies in selected areas of special education research, focusing on research designs, data analysis methods, and interpretation of findings.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 757. Seminar in Special Education. 3-12 Credit Hours.

Study in special interest areas in special education. May be taken for up to 12 credits.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

TAL 758. Topics in Special Education. 1-3 Credit Hours.

Review of emerging policy, practice, empirical research and scholarly writing in important educational issues for which format course title and syllabus have not been developed and formalized in the UM Bulletin. Allows for experimental instructional formats. Course number indicates appropriate student audience. See Course Notes for specific topics.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 770. Topics in STEM Education. 1-3 Credit Hours.

Review of emerging policy, practice, empirical research and scholarly writing on important educational issues for which format course title and syllabus have not been developed and formalized in the UM Bulletin. Allows for experimental instructional formats. Course number indicates appropriate student audience. See Course Notes for specific topics.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 772. Instructional Design and Technology in STEM Education. 3 Credit Hours.

This course is designed to help you take an engineering approach in instructional design, development, and evaluation in STEM education. The course focuses on instructional systems development with a particular emphasis on technology-enhanced K-12 STEM education environments. We will develop an in-depth theoretical understanding and practical skills of instructional design and technology.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 773. STEM Teaching and Teacher Education. 3 Credit Hours.

Advanced and specialized topics in research on the teaching and learning of science, technology, engineering and mathematics (STEM) including the development of teachers across their careers, professional development, design experiments, and teacher-learning in and out of school.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 774. STEM Learning. 3 Credit Hours.

Provides an overview of the historical roots and current state of the learning sciences, as they apply to the study of learning in science, technology, engineering and mathematics (STEM). Organized around reading, discussion and synthesis of research.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 775. STEM Curriculum and Policy. 3 Credit Hours.

Study of mathematics and science curricula, with the inclusion of engineering and technology as applied science and mathematics. Study of the competing forces that shape curriculum including standards documents, state and national policy, conceptions of the disciplines, modern and postmodern analyses of curriculum theory.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 776. Assessment in STEM Education. 3 Credit Hours.

Overview of the theoretical and research frameworks for student assessment in science, technology, engineering and mathematics (STEM). Topics include classroom-based assessment, testing for high stakes and other purposes, national and international comparisons in mathematics and science achievement and factors impacting on STEM-related persistence and careers.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 777. STEM-Education Research Practicum. 3 Credit Hours.

Defining an empirical or theoretical research issue, arguing for its importance; framing the study based on related research; designing, implementing and documenting appropriate research methods; reporting and interpreting the results; writing and submitting a manuscript – in the fields that comprise STEM-education.

Components: PRA.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 778. Diversity and Equity in STEM Education. 3 Credit Hours.

Issues of unequal student achievement, course taking, degree-seeking, and careers that rely on science, engineering, technology and mathematics (STEM). Focus is on social-demographic groups defined along lines of race, ethnicity, social class, gender language, and their interactions. Historical and social antecedents, current day policies and practices, extant research consequences and future trends.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

TAL 790. Advance Topics in Education. 3 Credit Hours.

Review of emerging policy, practice, empirical research and scholarly writing on important educational issues for which formal course title and syllabus have not been developed and formalized in the UM Bulletin. Allows for experimental instructional formats. Course number indicates appropriate student audience. See Course Notes for specific topic.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 793. Advanced Individual Study. 1-3 Credit Hours.

Individual work on a special project under faculty guidance. Application for Admission to Advanced Individual Study form will be required.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

TAL 794. Advanced Individual Study. 1-3 Credit Hours.

Individual work on a special project under faculty guidance. Application for Admission to Advanced Individual Study form will be required.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

TAL 796. Practicum/Internship: Elementary Exceptional Student Education Classroom. 1-6 Credit Hours.

A comprehensive program of observations and supervised teaching in an elementary exceptional student education classroom. The student spends full time in the classroom participating in all activities of the teacher under the guidance of school and university personnel.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 801. Advanced Individual Study for Doctoral Students. 1-3 Credit Hours.

Individual work on a special project under faculty guidance. Application for Admission to Advanced Individual Study form will be required.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 810. Master's Thesis. 1-6 Credit Hours.

The student working on his/her master's or Ed.S. thesis enrolls for credit. In most departments no to exceed six, as determined by his/her advisor.

Credit is not awarded until the thesis has been accepted.

Components: THI.

Grading: SUS.

Typically Offered: Fall & Spring.

TAL 815. Post-Candidacy Thesis Research. 1-12 Credit Hours.

Masters-degree and Ed.S. students enrolled for credit as determined by advisor. Credit awarded when thesis is accepted.

Components: THI.

Grading: SUS.

Typically Offered: Offered by Announcement Only.

TAL 825. Continuous Registration - Master's Study.. 1 Credit Hour.

To establish residence for non-thesis master's study who are preparing for major examinations or working on culminating project. Credit not granted. Regarded as full time residence.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 830. Pre-Candidacy Dissertation Research.. 1-12 Credit Hours.

Doctoral students enrolled for credit as determined by advisor. Credit is awarded when dissertation is accepted.

Components: THI.

Grading: SUS.

Typically Offered: Fall & Spring.

TAL 835. Doctor of Education Dissertation. 1-12 Credit Hours.

Required of all candidates for the Ed.D. The student enrolls for credit as determined by his/her advisor. Credit is not awarded until the doctoral project has been accepted. Total enrollment may not exceed 12 credits.

Components: LEC.

Grading: SUS.

Typically Offered: Offered by Announcement Only.

TAL 840. Post-Candidacy Dissertation Research.. 1-12 Credit Hours.

Doctoral students enrolled for credit as determined by advisor. Credit is awarded when dissertation is accepted.

Components: THI.

Grading: SUS.

Typically Offered: Fall & Spring.

TAL 850. Research in Residence. 1 Credit Hour.

Doctoral students enrolled for credit as determined by advisor. Credit awarded when dissertation is accepted.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

TAL 862. Principles of Curriculum Development and Classroom Management for TESOL. 3 Credit Hours.

Components of curriculum and instructional management in ESOL classrooms. Pupil/ teacher interaction, curriculum organization, student assessment and evaluation, materials development and adoption, utilization of resources, and classroom organization will be covered.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

TAL 878. Teaching in the Elementary School (YR). 3-6 Credit Hours.

A comprehensive year-long program in observation and supervised teaching in the elementary school. The student spends full time in an elementary school participating in all activities of the teacher under the guidance of school and university personnel following the calendar of the school system.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

Theatre Arts (THA)

THA 101. Introduction to Theatre. 3 Credit Hours.

Intro survey course in theatre--what it is now, how it works, its practitioners and the relationship of theatre to the contemporary world. Attendance at Ring Theatre productions is required.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

THA 102. Introduction to the Audition. 2 Credit Hours.

Students will learn the methods and techniques used to create a successful performance audition. The student will learn how to choose appropriate audition material and how to rehearse the material for an effective and professionally-minded audition.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

THA 103. Introduction to Theatre Crafts. 1 Credit Hour.

Students will learn the techniques and methods used to create costumes, scenery and stage properties for theatrical productions. Lectures and hand-on projects will allow students to practice their skills in scenic construction, scenic painting, sewing, and costume crafting.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

THA 104. Performance Practicum. 3 Credit Hours.

Students will be cast in and rehearse a performance piece with a stage director. Students will learn effective methods for memorizing text and best professional practices in their collaboration with the director and artistic team. The piece will be performed in front of a live audience at the end of the course.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

THA 105. Introduction to Acting. 3 Credit Hours.

Basic tools of acting craft including analysis, physical action and reacting in the moment explored through exercises, scripted work and readings. A doing class, making attendance essential.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

THA 106. Introduction to Acting for the Musical Theatre. 3 Credit Hours.

Basic tools of Musical Theatre Acting craft including vocal approaches for the actor, theatrical and musical analysis, physical action and an introduction to musical theatre acting styles explored through exercises, scripted work with an extensive listening component.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

THA 108. Introduction to Standardized Patient Simulation. 3 Credit Hours.

Standardized patients are actors who are trained to realistically portray a specific patient's history, subtext, personality, physical infirmities and emotional states within a simulated interview or simulated physical examination session with a medical student. Students will learn basic acting skills and physiological knowledge needed to support and serve interactive clinical training.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

THA 111. Acting I-A. 2 Credit Hours.

Introduction to the elements of drama and theatre, and to the basic tools of acting craft.

Requisite: BFA Performance or Musical Theatre majors only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

THA 112. Acting I-B (Script Analysis). 2 Credit Hours.

Continued work on basic tools of craft including script analysis.

Requisite: BFA Performance or Musical Theatre majors only.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

THA 113. Movement I-A. 2 Credit Hours.

Basic movement for the actor (self-use training): physical awareness and correct habits, mind/body connections, muscle tension release, body alignment, coordination, balance, flexibility and strength. Begin study of the Alexander Technique.

Requisite: BFA Performance or Musical Theatre majors only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

THA 114. Movement I-B. 2 Credit Hours.

Advanced movement for the actor; study physical/emotional choices for characters through physical centers, develop process for character's physical development through observations, explore spatial awareness, rhythm, kinesthetic body, and sensory awareness. Continued study of the Alexander Technique.

Requisite: BFA Performance or Musical Theatre majors only.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

THA 116. Dance I-A. 2 Credit Hours.

Beginning ballet and jazz for Musical Theatre with strong focus on technique and terminology.

Requisite: BFA Performance or Musical Theatre majors only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

THA 117. Dance I-B. 2 Credit Hours.

Continuation of THA 116.

Requisite: BFA Performance or Musical Theatre majors only.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

THA 120. Freshman Studio I. 1-2 Credit Hours.

First year theatre laboratory with strong focus on ensemble, rehearsal, and performance skills.

Requisite: BFA Performance or Musical Theatre majors only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

THA 121. Freshman Studio II. 1-2 Credit Hours.

A continuation of THA 120.

Requisite: BFA Performance or Musical Theatre majors only.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

THA 131. Musical Theatre Skills I. 2 Credit Hours.

The first semester of a four semester practical course sequence designed to teach musical skills, techniques, keyboard skills and theory relevant to the contemporary musical theater actor.

BFA Musical Theatre majors (THTR7_BFA) only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

THA 132. Musical Theatre Skills II. 2 Credit Hours.

The second semester of a four semester practical course sequence designed to teach musical skills, techniques, keyboard skills and theory relevant to the contemporary musical theater actor.

BFA Musical Theatre majors (THTR7_BFA) only.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

THA 140. Introduction to Dance. 3 Credit Hours.

Beginning dance skills and stylistic elements of theatrical forms of dance (repeatable).

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

THA 141. Introduction to Scenic, Costume, and Light Design in Theatre and Film. 2 Credit Hours.

Beginning facets of the scenic, costume, and lighting design process mainly for theater, and some aspects of film. Students will learn the basic role of scenic, costume, and lighting designers in theater and film. The course will put students into practice of the professional process by which theatrical designers analyze a text, provide visual research, create preliminary drawings, and create final drawings for stage designs. The main objective of the course is to develop "designer's eye". Each project will challenge students to cultivate artistry, creativity, and skills to search metaphor for designs. This introductory course serves as the prerequisite of most of higher level theatrical design courses. It is important for all students who are interested in taking other design or drawing courses to gain knowledge of the basic design languages and tools in this course. Students are required to take the accompanying THA 143 Lab in order to gain more hands-on experience with the use, maintenance, and operation of actual theatrical equipment

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

THA 142. Introduction to Theatre Technology. 2 Credit Hours.

A hands-on course providing skills in the operations necessary to execute scenic or lighting design: basic scenery construction, materials and techniques, scenic painting and lighting hang and focus procedures.

Components: EXP.

Grading: GRD.

Typically Offered: Fall & Spring.

THA 143. Backstage Crew Lab. 1 Credit Hour.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

THA 144. Production Crew Lab. 1 Credit Hour.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

THA 150. Musical Theatre Vocal Techniques. 1 Credit Hour.

Fundamentals of Vocal Productions explored through group lessons. Enrollment limited to first-year BFA students. May be taken twice for credit. BFA Musical Theatre majors (THTR7_BFA) only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

THA 160. Dance Styles. 3 Credit Hours.

A variety of ethnic dance forms that will vary from one semester to the next. Different cultural dance styles will be offered on a rotating basis.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

THA 161. Beginning/ Intermediate Tap. 3 Credit Hours.

Beginning/intermediate tap class. Not a lecture class; students will be dancing during each class period. Tap shoes are required.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

THA 162. Intermediate Advanced Tap. 3 Credit Hours.

Intermediate advanced tap class, Not a lecture class; students will be dancing during each class period. Tap shoes are required.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

THA 191. Introductory Applied Music Theatre Voice I. 1 Credit Hour.

One-half hour individual lessons tailored to the individual needs of the students. Enrollment is limited to first-year BFA music theater students. BFA Musical Theatre majors (THTR7_BFA) only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

THA 192. Introductory Applied Music Theatre Voice II. 1 Credit Hour.

One-half hour individual lessons tailored to the individual needs of the student. Enrollment is limited to first-year BFA music theater students. BFA Musical Theatre majors (THTR7_BFA) only.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

THA 194. Singing for Actors. 1-2 Credit Hours.

Fundamentals of singing to include breath control, tone production, articulation. An ensemble approach to exploring and gain self-confidence in the skill of singing for the American musical stage.

Requisite: Theatre Performance Major or Additional (THA2_BFA, THTR2_AS_A).

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

THA 196. Singing for the Stage I-A. 1-2 Credit Hours.

The selection of learning process and performance of Musical Theatre Songs with emphasis on lyrics.

BFA Musical Theatre majors (THTR7_BFA) only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

THA 197. Singing for the Stage I-B. 1-2 Credit Hours.

Continuation of THA 196.

BFA Musical Theatre majors (THTR7_BFA) only.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

THA 198. Voice and Speech I-A. 2 Credit Hours.

Fundamentals of relaxation and breath management, alignment, tone production, pitch and resonance. Anatomy and physiology of the vocal structures. Introduction to the International Phonetic Alphabet (IPA).

Requisite: BFA Performance or Musical Theatre majors only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

THA 199. Voice and Speech I-B. 2 Credit Hours.

Development of General American speech production and articulation skills through further phonetic study. Explorations in range, inflection, resonance, tempo and rhythm within the application of voice to text.

Requisite: BFA Performance or Musical Theatre majors only.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

THA 206. Acting for Musical Theatre. 3 Credit Hours.

Prerequisite: THA 105 OR THA 106.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

THA 208. Intermediate Standardized Patient Training. 3 Credit Hours.

Standardized patients are healthy people who are trained to realistically portray a specific patient's history, subtext, personality, physical infirmities and emotional states within a simulated interview or simulated physical examination session with a medical student. Students with previous SP experience will learn intermediate acting skills and work with patient histories that deal with behavioral health.

Prerequisite: THA 108.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

THA 211. Acting II-A. 2 Credit Hours.

Intensive scene study for sophomore conservatory actors. Basic tools of craft developed through use of contemporary plays, script analysis, and rehearsal techniques.

Requisite: BFA Performance or Musical Theatre majors only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

THA 212. Acting II-B. 2 Credit Hours.

A continuation of THA 211.

Requisite: BFA Performance or Musical Theatre majors only.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

THA 216. Dance II-A. 1 Credit Hour.

Intermediate Musical Theatre dance taught through ballet and jazz, with an emphasis on technique and style.

Requisite: BFA Performance or Musical Theatre majors only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

THA 217. Dance II-B. 2 Credit Hours.

A continuation of THA 216 incorporating characterization and additional style.

Requisite: BFA Performance or Musical Theatre majors only.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

THA 231. Music Theatre Skills II. 2 Credit Hours.

The third semester of a four semester practical course sequence designed to teach musical skills, techniques, keyboard skills and theory relevant to the contemporary musical theatre actor.

BFA Musical Theatre majors (THTR7_BFA) only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

THA 232. Music Theatre Skills IV. 2 Credit Hours.

The fourth and final semester of a four semester practical course sequence designed to teach musical skills, techniques, keyboard skills and theory relevant to the contemporary musical theatre actor.

Prerequisite: THA 231.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

THA 240. Introduction to Dance II. 3 Credit Hours.

Continuation of THA 140 (repeatable).

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

THA 241. Basic Costume Sewing and Scenic Painting. 3 Credit Hours.

Basic scenic painting and costume construction techniques. Scenic painting includes fundamentals in wood, marbles, brick, stones, lights and shadows. Costume construction includes fundamentals in hand/machine sewing, dyeing, distressing and pattern reading.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

THA 242. Drafting for the Theatre. 3 Credit Hours.

Drafting standards and techniques used for the theatre to produce scenic and lighting plans. Hand drafting and computer aided drafting.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

THA 243. Beginning Theatre Design How to Sketch Your Idea. 3 Credit Hours.

Basic sketching, mechanical drawing and rendering techniques used for costume and scenic design. Basic black and white figure drawing, lights and shadows and perspective elevations.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

THA 244. Theatre Design and Collaboration - Three Dimensional Creativity for Scenery and Costumes.. 3 Credit Hours.

Advanced training in drawing and rendering used for costume and scenic design for the theatre. Color costume plates and scenic renderings.

Prerequisite: THA 243.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

THA 245. Technical Planning for Theatrical Productions. 3 Credit Hours.

Characteristics and structure of Scenery, Properties, Scenic Art, Costumes, Lighting, Sound and Video departments for theatrical performance. Study of each production department's budgeting, scheduling and logistical needs.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

THA 246. Survey of Design for Theater and Live Entertainment.. 3 Credit Hours.

Principles and procedures of the design and technical production aspects of theatre and live entertainment.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

THA 247. Master Electrician for the Stage. 3 Credit Hours.

Training for the position of Master Electrician and Assistant Lighting Designer (or theatrical productions. Practical application of production planning, lighting paperwork, overseeing lighting crews, advanced electrical theory, power distribution, and creative problem solving.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

THA 248. Introduction to Design for Film. 3 Credit Hours.

Various aspects of costume design and production in films by introduction to the designer' roles, design models, design language, and collaborative efforts in film to the student. Later in the semester students will experience developing their own designs through simpler projects, such as designing a song or scene from novels.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

THA 251. Intermediate Acting I. 3 Credit Hours.

Basic tools of the actor's craft are developed through script work, scene study, and improvisational techniques.

Prerequisite: THA 105.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

THA 252. Intermediate Acting II. 3 Credit Hours.

A continuation of THA 251 focusing on script analysis and choice making for scene work.

Prerequisite: THA 251.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

THA 253. Special Topics in Voice for the Stage. 3 Credit Hours.

Study of vocal production in both broad and specialized areas including general vocal training for stage or public speaking, voice over techniques and dialects.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

THA 254. Movement for Actors. 3 Credit Hours.

Physical range and control, physicalization and condition of character, and stage violence.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

THA 281. History of Western Theatre Architecture. 3 Credit Hours.

Covers the evolution of performance spaces in Europe and the United States, from Ancient Greek structures to modern-day multi-venue Performing Arts complexes.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

THA 291. Beginning Applied Music Theatre Voice I. 1 Credit Hour.

One-Hour individual lessons tailored to the individual needs of the students. Enrollment is limited to second-year BFA music theater students. BFA Musical Theatre majors (THTR7_BFA) only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

THA 292. Beginning Applied Music Theatre Voice II. 1 Credit Hour.

One-hour Individual lessons tailored to the individual needs of the student. Enrollment is limited to second-year BFA music theater students. BFA Musical Theatre majors (THTR7_BFA) only.

Components: LAB.

Grading: GRD.

Typically Offered: Spring.

THA 294. Singing for Actors II-A. 2 Credit Hours.

Development of musical theatre singing technique for BFA Acting majors. Skills to be developed include proper breathing, tone, articulation, lyric interpretation, and physical presentation. Course is repeatable.

Requisite: Theatre Performance Major or Additional (THA2_BFA, THTR2_AS_A).

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

THA 296. Singing for the Stage II-A. 1 Credit Hour.

A continuation of ideas presented in THA 196 and 197.

BFA Musical Theatre majors (THTR7_BFA) only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

THA 297. Singing for the Stage II-B. 1 Credit Hour.

The study of material derived from the popular music canon (pop, rock, et al), melding contemporary vocal styling with the traditional narrative aims of theatrical storytelling. The incorporation of concurrent musical theatre skills training in the creation of vocal arrangements.

BFA Musical Theatre majors (THTR7_BFA) only.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

THA 298. Voice and Speech II-A. 1 Credit Hour.

Improvement of individual voice and speech skills: through in-depth examination of habitual speech formation and vocal patterns. Application of the IPA within American accent study.

Requisite: BFA Performance or Musical Theatre majors only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

THA 299. Voice and Speech II-B. 2 Credit Hours.

Strengthening the connection between the acting impulse and speaking voice. Extended voice production within scene work. Introduction to Shakespeare's verse structure.

Requisite: BFA Performance or Musical Theatre majors only.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

THA 301. Theater and the Holocaust. 3 Credit Hours.

Through readings, research, class discussions and personal reflections this course explores the philosophical and historical context of Holocaust-related plays written in the aftermath of World War II.

Prerequisite: ENG 106.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

THA 302. People, Places and Play: Theatre that Changed the World. 3 Credit Hours.

An examination through the lens of the drama, the seminal events that brought about the death of romanticism and gave birth to the modern era. Emphasis is placed on social change as evidenced through theatre as a mirror to the world in events, dramatic literature and the people that shaped it from the Revolutions of 1848 to the present; exploring the great minds outside the world of theatre and the effect this had on the great minds in the theatre. *Not open to Theatre Majors or Minors: for BGS students only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

THA 311. Acting III-A. 2 Credit Hours.

An in-depth study of acting Shakespeare, focusing on text and physicality. The source material may include texts of fellow Elizabethan/Jacobean playwrights as well as other 16th/17th Century European playwrights. The student is expected to incorporate period movement and style, voice technique, and acting skills studied in prerequisite and concurrent courses

Requisite: BFA Performance or Musical Theatre majors only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

THA 312. Acting III-B. 2 Credit Hours.

A continuation of THA 311 with focus on high style and Comedy of Manners. May include Shaw, Wilde, and Coward.

Requisite: BFA Performance or Musical Theatre majors only.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

THA 313. Movement II-A. 1 Credit Hour.

Period Movement: special movement requirements and techniques for four different periods of history - 16th, 17th, 18th and 19th centuries, including manners, etiquette, social mores, history and costume.

Requisite: BFA Performance or Musical Theatre majors only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

THA 314. Movement II-B. 1 Credit Hour.

Fundamentals of mask work through the study of a "personal clown"; the character mask and/or an in-depth study of Commedia dell'Arte masks and character types.

Requisite: BFA Performance or Musical Theatre majors only.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

THA 315. Auditioning I. 2 Credit Hours.

First semester of a two semester sequence designed to aid BFA students in the development of material and techniques necessary for professional audition circumstances.

Requisite: BFA Performance or Musical Theatre majors only.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

THA 316. Dance III-A. 2 Credit Hours.

Advanced Musical Theatre Dance incorporating high technical proficiency for expression, characterization and style.

Requisite: BFA Performance or Musical Theatre majors only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

THA 317. Dance III-B. 2 Credit Hours.

A continuation of THA 316.

Requisite: BFA Performance or Musical Theatre majors only.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

THA 341. Sound for the Theatre. 3 Credit Hours.

A basic sound design class to develop an ear for music and sound.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

THA 342. Scenic Design. 3 Credit Hours.

Techniques for analyzing, planning and designing stage scenery, executing color rendering and stage models.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

THA 343. Costume Design. 3 Credit Hours.

Techniques for analyzing, planning, and designing theatrical costumes. Executing color rendering plates.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

THA 344. Lighting Design. 3 Credit Hours.

Techniques for analyzing, planning and designing theatrical lighting. Executing light plots and corresponding paperwork.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

THA 345. Scenic Materials and Structures. 3 Credit Hours.

Materials used in scenic construction and advantages of each. Students will perform basic structural analysis on scenery built with these materials and will study rigging systems and knots used in backstage work.

Prerequisite: THA 142.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

THA 347. Stage Make-Up. 3 Credit Hours.

A lecture-laboratory course in make-up for the stage, television and motion picture.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Summer.

THA 350. Musical Theatre Vocal Techniques II. 1 Credit Hour.

Advanced Musical Theatre Vocal Techniques explored through group or private lessons.

BFA Musical Theatre majors (THTR7_BFA) only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

THA 351. Auditioning and Preparing for the Profession. 3 Credit Hours.

How to succeed in the theatre profession. Students will prepare audition pieces and learn resume preparation, headshots, interviewing, and other aspects of searching for and obtaining work. Not for BFA Students.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

THA 352. Singing for the Musical Theater. 3 Credit Hours.

The process of acting and singing a song for a musical play or review. Song selection, technical and acting mechanics, and how to deliver the song using 16 and 32 bar material.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

THA 356. Improvisational Acting. 3 Credit Hours.

An introduction to the basic craft of Improvisational Acting through an exploration of short form and long form improvisational acting styles.

Prerequisite: THA 252.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

THA 364. The Theatre Industry. 3 Credit Hours.

Producing trends on Broadway, the Road, and Regional Theatre. The basics of producing, managing, and marketing a play from securing the performance rights to closing night.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

THA 365. Principles of Stage Management. 3 Credit Hours.

The study of the basic work of a theatrical stage manager from pre-production to post production, including preliminary work, auditions, rehearsals, coordinating of departments, technical & dress rehearsals, performance and post production duties. Much class time is devoted to discussing the role of the stage manager as a theatre collaborator. Also discussed are stage and business techniques as applied to the entertainment industry with a focus on strengthening organizational and interpersonal skills in order to function successfully as an effective leader.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

THA 366. Theatre Management Practicum I. 3 Credit Hours.

Practical experience on the annual season ticket campaign, marketing, finances, house management, and facilities management at the Jerry Herman Ring Theater. Open only to Theatre Management majors.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

THA 367. Theatre Management Practicum II. 3 Credit Hours.

Practical experience on the annual season ticket campaign, marketing, finances, house management, and facilities management at the Jerry Herman Ring Theater. Open only to Theatre Management majors.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

THA 369. Producing New Plays and Musicals. 3 Credit Hours.

The components needed to produce a new body of theatrical work. Topics that will be discussed are the selection of a creative team, developmental timelines, budgeting, and approaches to managing a new work from both a business and creative perspective. This is a hands-on class that will span the entire process from creation of a script to performance.

Prerequisite: THA 364.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

THA 370. Popular Culture and Entertainment: Performance, Spectacle, and Audience Experience. 3 Credit Hours.

An exploration of the ways in which performance uses spectacle to create events that captivate audiences. What purpose does popular entertainment serve for the general public in different eras? How does entertainment encourage us to play? What does this playful diversion do for us as individuals? Why do artists use spectacle to manipulate our experience and perception of the world?

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

THA 375. Introduction to Playwriting. 3 Credit Hours.

Understanding of the basic principles involved in play construction.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

THA 376. Beg, Borrow and Steal: Adapting for the Stage. 3 Credit Hours.

A writing workshop supplemented with readings, discussions, and staging in which classical texts are adapted into new stage translations for contemporary audiences. Utilizing today's best theatre acting/directing methodologies, students will complete a series of short adaptation exercises as well as a longer, co-directed project.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

THA 377. Make Them Laugh: How to Write Comedy. 3 Credit Hours.

Analysis of comedic masters in order to create your own comedic material.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

THA 381. Play Analysis I. 3 Credit Hours.

Play structure from the viewpoints of the actor, director, designer, and audience. Understanding the play and making production choices.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

THA 382. Play Analysis II. 3 Credit Hours.

A continuation of THA 381. Emphasis on non-realistic theatre.

Components: LAB.

Grading: GRD.

Typically Offered: Spring.

THA 383. Queer Theatre: Body Politics/Staging Sexuality. 3 Credit Hours.

Examines theatrical representations of GLBTQ issues in the U.S. from the 1960s to the present, in terms of the aesthetic/political project of "Queer Theater." Considering theater as a transformative social form, students will have opportunities for creative practice and scholarship. May be taken for Writing Credit.

Prerequisite: ENG 106.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

THA 384. Music in the American Theatre: Its Dramaturgy, Music, and Cultural. 3 Credit Hours.

A survey of the history of musical theater in America, from its earliest days with American colonial works to our present era of Internet-facilitated global artistic exchange. As a result, the course encompasses a vibrant diversity of intimately related musical-theatrical forms, styles, methods, and cultural responses, represented by such heterogeneous labels as ballad opera, minstrel show, operetta, and mega-musical, to name just a few.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

THA 385. History of Interior Design and Furniture. 3 Credit Hours.

The history and evolution of western interior decor and furniture design from Classical Greece through the present. Lectures and design exercises highlight changing aesthetics in architectural design, interior design and the decorative arts for theatrical designers and production designers for film. Requisite: Sophomore Standing or Higher.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

THA 386. History of Fashion. 3 Credit Hours.

A history of clothing and other visual elements that provide a research background for theatrical design, prehistoric through present.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

THA 388. African American Theatre History. 3 Credit Hours.

African-Americans struggles for self-definition against prevailing hegemonies using theatre as a tool for expressing the truth of their identities.

Prerequisite: ENG 106.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

THA 391. Intermediate Applied Music Theatre Voice I. 1 Credit Hour.

One-hour individual lessons tailored to the individual needs of the student. Enrollment is limited to third-year BFA music theater students. BFA Musical Theatre majors (THTR7_BFA) only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

THA 392. Intermediate Applied Music Theatre Voice II. 1 Credit Hour.

One-hour individual lessons tailored to the individual needs of the student. Enrollment is limited to third-year BFA music theater students. BFA Musical Theatre majors (THTR7_BFA) only.

Components: LAB.

Grading: GRD.

Typically Offered: Spring.

THA 396. Singing for the Stage III-A. 1-2 Credit Hours.

Instruction and coaching of advanced vocal and audition material drawn from American musical theatre.

BFA Musical Theatre majors (THTR7_BFA) only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

THA 398. Voice and Speech III-A. 1 Credit Hour.

Application of voice and speech in classic texts-particularly that of Shakespeare and translation plays. Accent monologues and scenes.

Requisite: BFA Performance or Musical Theatre majors only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

THA 399. Voice and Speech III-B. 1 Credit Hour.

Accent monologues and scenes. Independent accent study culminating in student presentations. Compilation of monologue rep book.

Requisite: BFA Performance or Musical Theatre majors only.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

THA 401. Internship. 1-3 Credit Hours.

Prescribed work and study at a theatre, opera, or dance company as it pertains to the major's concentration of study. Collateral reports, readings, conference s with faculty supervisor.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

THA 402. Internship. 3 Credit Hours.

Continuation of THA 401.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

THA 403. Internship. 3 Credit Hours.

Continuation of THA 402.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

THA 404. Internship. 3 Credit Hours.

Continuation of THA 403.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

THA 410. Independent Study. 1-3 Credit Hours.

Individualized instruction on special topics.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

THA 411. Acting IV-A. 2 Credit Hours.

An in-depth scene study from the works of 19th Century European playwrights writing in the styles of Naturalism and Realism. Playwrights may include but are not limited to Ibsen, Strindberg and Chekhov. A focus on incorporating period movement and style, voice technique, and the further development of acting skills studied in prerequisite courses.

Requisite: BFA Performance or Musical Theatre majors only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

THA 412. Acting IV-B. 2 Credit Hours.

Scene study focusing on contemporary playwrights who use elevated language. May include Pinter, Stoppard, Mamet, Anouilh, Churchill, and others.

Requisite: BFA Performance or Musical Theatre majors only.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

THA 413. Movement III-A. 3 Credit Hours.

Unarmed combat for the stage: basic and advanced techniques including punches, slaps, kicks, rolls and fight choreography. As sanctioned by the Society of American Fight Directors (SAFD).

Requisite: BFA Performance or Musical Theatre majors only.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

THA 414. Movement III-B. 3 Credit Hours.

Weapons for the stage: basic and advanced techniques of armed combat including rapier, rapier and dagger, broadsword and/or quarterstaff as sanctioned by the Society of American Fight Directors (SAFD).

Requisite: BFA Performance or Musical Theatre majors only.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

THA 415. Auditioning I. 2 Credit Hours.

A course dedicated to the business of theatre for actors. Students will prepare three to five audition pieces. Covers headshots, resumes, income tax situations, unions, and methods of searching for and obtaining work.

Requisite: BFA Performance or Musical Theatre majors only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

THA 416. Auditioning-II. 2 Credit Hours.

Continuation of THA 415.

Requisite: BFA Performance or Musical Theatre majors only.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

THA 420. Senior Studio. 3 Credit Hours.

Rehearsal and production of a showcase culminating in a New York performance for agents and casting directors.

Requisite: BFA Performance or Musical Theatre majors only.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

THA 421. The American Theatre: Industry Journeys and Careers. 3 Credit Hours.

Theatre business career paths of the American theatre, lecture by prominent industry leaders from around the nation with theatre department faculty.

Topics of study include Broadway, Off Broadway, touring productions, regional theatres and performing arts center management; as well as business skills development including knowledge and interview evaluation.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

THA 431. Musical Theatre Styles I. 2-3 Credit Hours.

Focus on the preparation of a professional musical theatre audition book. Emphasis on all current musical theatre song styles. 16 and 32 bar audition cuts, full songs and appropriate monologues.

Requisite: BFA Performance or Musical Theatre majors only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

THA 432. Musical Theatre Styles II. 2-3 Credit Hours.

Musical scene study class exploring scenes from various styles and genres of musical theatre. Scenes will consist of spoken dialogue and singing. Continuation of THA 431.

Requisite: BFA Performance or Musical Theatre majors only.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

THA 441. Design Studio I. 3 Credit Hours.

Hands on practicum training working as a designer or technical craftsperson for a mainstage or studio production; or as an assistant designer or assistant technical craftsperson for a mainstage production. Repeatable once for credit toward major.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

THA 442. Design Studio II. 3 Credit Hours.

Hands on practicum training working as a designer or technical craftsperson for a mainstage or studio production; or as an assistant designer or assistant technical craftsperson for a mainstage production. Repeatable once for credit toward major.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

THA 451. Advanced Acting: Classical Poetic Text. 3 Credit Hours.

An introduction to styles focusing on the Greeks, Shakespeare, Restoration and other plays on poetic language.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

THA 452. Advanced Acting: Contemporary Poetic Text. 3 Credit Hours.

Acting and scene study focusing on contemporary playwrights who use poetic language, such as Mamet, Stoppard, Pinter, Shepard, Vogel, and Churchill.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

THA 453. Theatre Arts Capstone. 3 Credit Hours.

An opportunity to implement the knowledge and skills gained in course work in the areas of design and technical theatre, acting, directing, and playwriting within a student-driven, faculty-supervised, collaborative performance project. This course is the required capstone for seniors majoring in Theatre Arts but open to and repeatable for underclassmen.

Components: PRA.

Grading: GRD.

Typically Offered: Spring.

THA 455. Acting for the Camera. 3 Credit Hours.

An advanced set of professional skills and practices for motion picture acting through scene work, episodic series work and collaboration. Upon completion of this class each actor will have performed in staging and shooting exercises and a variety of shot scenes. They will work with an editor to cut their reels, collaborate with a variety of directors, learn how camera and editing affects performance and learn to work efficiently and optimally on a professional film set.

Prerequisite: THA 312.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

THA 456. Improvisational Acting II. 3 Credit Hours.

The further study of improvisational skills and the development of long form techniques.

Prerequisite: THA 365.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

THA 459. Stage Management Practicum. 3 Credit Hours.

Practical experience as a stage manager for a production. Weekly individual meetings with instructor for analysis of performance and evaluation.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

THA 461. Play Direction I. 3 Credit Hours.

The art and craft of stage direction.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

THA 462. Play Direction II. 3 Credit Hours.

A continuation of THA 461 in which the student directs a one act play. Enrollment limited.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

THA 463. Advanced Stage Management I. 3 Credit Hours.

A study of stage management techniques and practices as applied to the professional theatre: Career preparation including cover letter and resume skills. This course provides discussion on the Actor's Equity LORT Rule Book, the discovery and understanding of personality types and traits, goal setting and cue calling skills.

Prerequisite: THA 365.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

THA 464. Advanced Stage Management II. 3 Credit Hours.

Advanced stage management techniques and practices as applied to the professional theatre: Touring, including an analysis of the basic practices and procedures of Advance Calls, Route Sheets and Itineraries. Cueing: reading, writing and calling in "Dance Eights." This course also provides leadership assessments and an examination of leadership styles and methodologies.

Prerequisite: THA 463.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

THA 465. Broadway and the Road. 3 Credit Hours.

An examination of the historical and contemporary practices of Broadway production taught through a series of lectures by renowned guest speakers from the theatre industry. Topics discussed include the career paths of experts in the field, business structures, current developments and trends on Broadway and in commercial Broadway tours.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

THA 466. Theatrical Unions. 3 Credit Hours.

History of theatrical unions in America. Major unions and their contracts: actors, directors and choreographers, playwrights, composers and lyricists, designers and non-union personnel management and organizational structure.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

THA 467. Producing for Regional Theatre. 3 Credit Hours.

History of American Regional Theatre. Forming the non-profit corporation; the mission statement; the Board of Directors; legal and tax requirements; budgeting and record keeping; staffing and organizational management.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

THA 468. Professions of the American Theatre. 3 Credit Hours.

A detailed examination of several administrative professions in the theatre and the roles these professions play in play production. Careers studied include casting direction, company management, artistic direction, development, marketing, education and literary management.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

THA 469. Producing Musical Theatre II. 3 Credit Hours.

Designed to develop, refine, rehearse, mount, and present a new musical.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

THA 471. Directing the Actor for Film. 3 Credit Hours.

The craft of directing actors for work before a camera.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

THA 472. Where Stage and Film Meet. 3 Credit Hours.

The relationship between theatre and film combining a theoretical-critical as well as a practical perspective. Viewing of seminal films and readings from a selection of texts from the early days of cinema until the 2000's touch on the point of view or critics, playwrights, and directors. Also explores the concept of theatricality in film, or the ways in which different theatrical practices, concepts, and techniques can play fundamental roles in filmmaking.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

THA 475. Lyric Writing for Musical Theatre. 3 Credit Hours.

Lyric-writing laboratory for musical theatre, operating on a workshop model. Following a study of musical theater's basic lyrical forms and functions, students will, on a weekly basis, craft their own theatre lyrics - intended to be set to music-according to studied models and will share them in a safe, collaborative environment for consideration and critique.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

THA 481. Theatre History I. 3 Credit Hours.

Theatre history from the Greeks through European Renaissance.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

THA 482. Theatre History II. 3 Credit Hours.

Theatre history from the 17th century to the present.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

THA 485. Playwriting II. 3 Credit Hours.

Further examination of dramatic writing techniques including Hero's Journey model, adaptation and experimental structures.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

THA 487. Advanced Projects. 3 Credit Hours.

Advanced practical projects in directing, stage management, dramatic writing or dramaturgy. Repeatable up to four times for credit towards minor.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

THA 491. Advanced Applied Music Theatre Voice I. 1 Credit Hour.

One-hour individual lessons tailored to the individual needs of the student. Enrollment is limited to fourth-year BFA music theater students. BFA Musical Theatre majors (THTR7_BFA) only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

THA 492. Advanced Applied Music Theatre Voice II. 1 Credit Hour.

One-hour individual lessons tailored to the individual needs of the student. Enrollment is limited to fourth-year BFA music theater students. BFA Musical Theatre majors (THTR7_BFA) only.

Components: LAB.

Grading: GRD.

Typically Offered: Spring.

Theory and Composition (MTC)

MTC 101. Composition I. 2 Credit Hours.

Course covers elementary principles of composition; class performance of composition projects is also included. Required of theory-composition majors.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MTC 102. Composition II. 2 Credit Hours.

Continuation of MTC 101.

Prerequisite: MTC 101.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MTC 107. Skills Lab I. 1 Credit Hour.

Chamber-music ensemble (vocal or instrumental) for intensive work on aural skills (transcription, sight-singing, etc.), analysis of literature in and through performance, and improvisation, with focus on music of the Baroque and Classical periods.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

MTC 108. Skills Lab II. 1 Credit Hour.

Chamber-music ensemble (vocal or instrumental) for intensive work on aural skills (transcription, sight-singing, etc.), analysis of literature in and through performance, and improvisation, with focus on music of the Baroque and Classical periods.

Pre or Corequisite: MTC 141.

Components: LAB.

Grading: GRD.

Typically Offered: Spring.

MTC 109. Music Theory Skills I. 3 Credit Hours.

A first course in music theory and musicianship for non-music majors; covers basic literacy, fundamentals, tonal harmony, and elements of musical form in a wide variety of traditional and contemporary styles and genres. Includes intensive training in aural and singing skills.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MTC 110. Music Theory Skills II. 3 Credit Hours.

Course is designed for students deficient in the knowledge of the basic fundamentals of music. Includes the study of notation, keys, scales, and chord construction. Credits do not count toward music degree requirements.

Prerequisite: MTC 109.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MTC 111. Music Theory I. 1-3 Credit Hours.

Introduction to basic concepts of melody, harmony, rhythm, and formal structure through analysis and writing. Topics include intervals, scales, elementary melodic and four-part writing, phrase structure and cadences, and diatonic harmony. Laboratory: MTC 121.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MTC 12. Composition Forum. 0 Credit Hours.

A weekly forum for all Music Theory/Composition majors, both undergraduate and graduate. Course involves guest lectures by visiting composers and performers, presentations of faculty compositions, and group discussions of important compositional and theoretical issues.

Components: FOR.

Grading: CNC.

Typically Offered: Fall & Spring.

MTC 140. Experiential Musicianship I. 3 Credit Hours.

Study of tonal harmony, voice leading, and elements of musical form, covering diatonic procedures and basic modulation, using the chorales of J.S. Bach, with other repertoire, as models for composition.

Corequisite: Must Pass MTC 107 with a C or Higher.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MTC 141. Experiential Musicianship II. 3 Credit Hours.

Continuation of MTC 140, enlarging the study of tonal harmony and voice leading, covering harmony of the Classical period and sectional musical forms through small rondo and compound ternary, culminating in a large independent model-composition project for each student.

Corequisite: MTC 108.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MTC 148. Electronic Music Ensemble. 1 Credit Hour.

An in-depth study and performance of electroacoustic music compositions.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MTC 15. Media Writing and Production forum. 0 Credit Hours.

This course provides a weekly forum for sharing information about issues, current developments, and other matters related to commercial music composition and production as a field of study and as a profession. The course is required for all undergraduate MWP majors during each semester.

Components: FOR.

Grading: CNC.

Typically Offered: Fall & Spring.

MTC 182. Composition Workshop. 1 Credit Hour.

Variety of composition concepts and problems are dealt with through assignments and projects with special emphasis on practical considerations.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

MTC 197. Studio Rhythm Section. 1 Credit Hour.

A performing ensemble of student-generated contemporary musical repertoire.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MTC 199. Ensemble Ibis for New Music. 1 Credit Hour.

An in-depth study and performance of 20th century music.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MTC 201. Composition III. 2 Credit Hours.

Principles of composition with special emphasis on stylistic considerations.

Prerequisite: MTC 102.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MTC 202. Composition IV. 2 Credit Hours.

Continuation of MTC 201.

Prerequisite: MTC 201.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MTC 203. Pop Composition I. 2 Credit Hours.

Introduces students to the concept of form in commercial music through a survey of representative past and current works. Emphasis is placed on acoustic repertoire. Assignments include leadsheet transcriptions and an introduction to the 3, 4, and 5-piece rhythm section.

Pre or Corequisite: MTC 141.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MTC 204. Pop Composition II. 2 Credit Hours.

Continuation of MTC 203. Survey of lyrics from different pop genres. Compositional assignments are for rhythm section and vocalist, and include the writing and setting of lyrics.

Prerequisite: MTC 203.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MTC 207. Skills Lab III. 1 Credit Hour.

Chamber-music ensemble for intensive work on aural skills (transcription, sight-singing, sight-reading, etc.), analysis of literature excerpts in performance, and improvisation, with focus on tonal music of the Classical period and the nineteenth century.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

MTC 208. Skills Lab IV. 1 Credit Hour.

Chamber-music ensemble for intensive work on aural skills (transcription, sight-singing, sight-reading, etc.), analysis of literature excerpts in performance, and improvisation, with focus on selected music of the twentieth century.

Components: LAB.

Grading: GRD.

Typically Offered: Spring.

MTC 240. Experiential Musicianship III. 3 Credit Hours.

Continuation of MTC 141; study of advanced tonal harmony, voice leading, and larger musical forms, based primarily on music of the Classical period and the nineteenth century.

Pre or Corequisite: MTC 141.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MTC 241. Experiential Musicianship IV. 3 Credit Hours.

Continuation of MTC 240; study of materials and techniques in composition of music from the early and middle twentieth century, based on works by Debussy, Stravinsky, Schoenberg, Bartok, and other models.

Prerequisite: MTC 240.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MTC 301. Composition V. 2 Credit Hours.

Individual compositional projects with an emphasis on smaller formal structure.

Prerequisite: MTC 202.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MTC 302. Composition VI. 2 Credit Hours.

Individual compositional projects including all media with an emphasis on extended formal structures.

Prerequisite: MTC 301.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MTC 303. Music for Media. 3 Credit Hours.

Project-based lecture course designed to provide students the opportunity to compose and realize a varied array of music projects for media applications including music branding "logos" radio/television ID packages, and 30-second television ads. Particular emphasis is placed on the technical considerations, aesthetic issues and the psychology of music as they relate to advertising on radio and television.

Prerequisite: MTC 204.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MTC 304. Multimedia Projects.. 3 Credit Hours.

Project-based lecture course designed to provide students the opportunity to compose and realize the music for a series of commercial multimedia including television program themes/bumpers, sound design and FX, film trailers, and corporate/industrial videos. Emphasis is placed on making appropriate stylistic and compositional choices, as well as developing real-world deadline/time- management skills.

Prerequisite: MTC 303.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MTC 311. Analysis and Experience. 3 Credit Hours.

Musical analysis and its relationship to listening and performance. An introduction to musical aesthetics is also included.

Prerequisite: MTC 241.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MTC 312. 20th and 21st Century Techniques. 3 Credit Hours.

Analysis of twentieth century compositional resources. Topics include Impressionism, expanded tonal resources, Neo-classicism, serialism, post-serialism, aleatoric procedures, minimalism, and other recent trends.

Prerequisite: MTC 241.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MTC 313. 18th Century Counterpoint. 3 Credit Hours.

Two-part keyboard counterpoint in the style of J. S. Bach, beginning with a modified species approach and including composition of dance-suite movements and inventions. Introduction to three-part writing is also included.

Prerequisite: MTC 240.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MTC 401. Composition VII. 2 Credit Hours.

Individual compositional projects including all media with an emphasis on advanced problems in composition.

Prerequisite: MTC 302.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MTC 402. Composition VIII. 1 Credit Hour.

Advanced Composition. Continuation of MTC 401.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MTC 403. Advanced Music Editing. 3 Credit Hours.

Project-based practicum course designed to provide students the opportunity to compose, record and reproduce a wide variety of music projects that combine the use of pre-existing as well as new musical elements. Particular emphasis is placed on technical considerations, aesthetic issues, and the commercial viability of the end product.

Prerequisite: MTC 304.

Components: PRA.

Grading: GRD.

Typically Offered: Fall.

MTC 404. Live Performance Musical Direction. 3 Credit Hours.

Project-based practicum course in collaboration with other Performance department, designed to provide students the opportunity to prepare music for a live concert and serve as Musical Director (MD) thereof. Particular emphasis is placed on musical material (repertoire, arrangements, score/parts preparation), rehearsal techniques, and real-time/live performance direction/conducting.

Prerequisite: MTC 403.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MTC 416. Orchestration. 3 Credit Hours.

The uses and possibilities of orchestral instruments as well as scoring for various instrumental groups, including the symphony orchestra.

Prerequisite: MTC 240, or MSJ 240, or MMI 240.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MTC 452. Media Production Project Lab. 2 Credit Hours.

Laboratory component to MTC 404. Course can only be taken concurrently with MTC 404.

Components: LAB.

Grading: GRD.

Typically Offered: Spring.

MTC 493. Special Projects in Music Theory and Composition. 1-3 Credit Hours.

Advanced individual instruction pertaining to faculty member's area of expertise and student's area of interest. This course includes a culminating project.

Requisites: Undergrad Music Students Only and Dean's Approval and Signature.

Components: IND.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MTC 494. Special Topics in Music Theory and Composition. 1-3 Credit Hours.

Advanced group/classroom instruction pertaining to faculty to faculty member's expertise and students' areas of interest.

Components: SEM.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MTC 499. Senior Recital. 1 Credit Hour.

A public recital of original compositions required of all Music Composition majors.

Components: PRA.

Grading: GRD.

Typically Offered: Fall & Spring.

MTC 501. The Aesthetics of Music. 3 Credit Hours.

Survey of thought and discourse about the nature, roles, values, experiences, and meanings of music. Variety of perspectives, including those of the listener, performer, and composer are addressed. Application to musical interpretation and criticism is included.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MTC 505. Analysis and History of Electroacoustic and Acousmatic Music. 2 Credit Hours.

Course examines electroacoustic and acousmatic music from both a historical/literature and analytical perspective. Analytical techniques with a focus on an ecological analysis approach will be conducted as well as a survey of electroacoustic, acousmatic, and digital music.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MTC 506. Digital Editing and Sequencing. 3 Credit Hours.

Computers as control devices for music synthesis and digital manipulation of pre-recorded sounds. Topics include interfacing sequencing software with software synthesizers, performance techniques, and sound design using samples.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MTC 507. Studio Licensing. 2 Credit Hours.

Licensing for access to Digital Arts and Media Writing Studios. Topics covered include digital audio recording and editing, sound synthesis/design, audio signal processing, sound analysis and spatial placement of sound. Course includes studio-use qualifying exams.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MTC 511. Film Scoring I. 3 Credit Hours.

Seminar in the aesthetics and psychology of mood music, sound-film synchronization, timing techniques, and scoring procedures. Analysis and performance of student projects is included.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MTC 512. Film Scoring II. 3 Credit Hours.

Adaptation of previous semester's techniques to television scripts and performed music. Pre-recording, direct recording, and dubbing procedures are included as well as preparation and performance of complete film cues. Each student is required to conduct his/her project.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MTC 515. Choral Arranging. 3 Credit Hours.

Arranging for choir and vocal groups with and without instrumental accompaniment in all styles.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MTC 516. Advanced Orchestration. 3 Credit Hours.

Scoring for the symphonic orchestra with an emphasis on recent techniques.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MTC 517. Analysis of Popular Music Since 1950. 3 Credit Hours.

Course examines popular music in the second half of the Twentieth Century from a music analytical perspective. Critical skills needed for this analysis are identified and developed. Analytical techniques for understanding the determination and utilization of musical elements and structures in contemporary popular music are applied. Various contemporary genres and some precursors are examined and particular stylistic determinants of their compositional and performance models are discussed.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MTC 518. Advanced Counterpoint. 3 Credit Hours.

Three-voice fugal writing in Bach's style, followed by compositional projects in a variety of twentieth-century contrapuntal styles.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MTC 521. Multimedia for Musicians. 3 Credit Hours.

Presents an overview and introduction to the creation of multimedia projects for presentation on the Web. Focus is placed on building websites, and the creation of multimedia content for online delivery. Software tools for the manipulation of digital media, including audio and video, are utilized in the realization of course projects.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MTC 567. Electronic and Computer Music Seminar. 1-3 Credit Hours.

Advanced techniques and applications in electronic and computer music. Topics may include electronic projects in composition, performance, research, programming, or other as approved by instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MTC 593. Special Projects in Music Theory and Composition. 1-3 Credit Hours.

Advanced individual instruction pertaining to faculty member's area expertise and student's area of interest. This course includes a culminating project.

Components: IND.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MTC 594. Special Topics in Music Theory and Composition. 1-3 Credit Hours.

Advanced group/classroom instruction pertaining to faculty member's expertise and students' areas of interest.

Components: SEM.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MTC 601. The Aesthetics of Music. 3 Credit Hours.

Survey of thought and discourse about the nature, roles, values, experiences, and meanings of music. Variety of perspectives, including those of the listener, performer, and composer are addressed. Application to musical interpretation and criticism is included.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MTC 605. Analysis and History of Electroacoustic and Acousmatic Music. 2 Credit Hours.

Course examines electroacoustic and acousmatic music from both a historical/literature and analytical perspective. Analytical techniques with a focus on an ecological analysis approach will be conducted as well as a survey of electroacoustic, acousmatic, and digital music.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MTC 606. Digital Editing and Sequencing. 3 Credit Hours.

Computers as control devices for music synthesis and digital manipulation of pre-recorded sounds. Topics include interfacing sequencing software with software synthesizers, performance techniques, and sound design using samples.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MTC 607. Studio Licensing. 2 Credit Hours.

Licensing for access to Digital Arts and Media Writing Studios. Topics covered include digital audio recording and editing, sound synthesis/design, audio signal processing, sound analysis and spatial placement of sound. Course includes studio-use qualifying exams.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MTC 611. Film Scoring I. 3 Credit Hours.

Seminar in the aesthetics and psychology of mood music, sound-film synchronization, timing techniques, and scoring procedures. Analysis and performance of student projects is included.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MTC 612. Film Scoring II. 3 Credit Hours.

Adaptation of previous semester's techniques to television scripts and performed music. Pre-recording, direct recording, and dubbing procedures are included as well as preparation and performance of complete film cues. Each student is required to conduct his/her project.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MTC 615. Choral Arranging. 3 Credit Hours.

Arranging for choir and vocal groups with and without instrumental accompaniment in all styles.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MTC 616. Advanced Orchestration. 3 Credit Hours.

Scoring for the symphonic orchestra with an emphasis on recent techniques.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MTC 617. Analysis of Popular Music Since 1950. 3 Credit Hours.

Course examines popular music in the second half of the Twentieth Century from a music analytical perspective. Critical skills needed for this analysis are identified and developed. Analytical techniques for understanding the determination and utilization of musical elements and structures in contemporary popular music are applied. Various contemporary genres and some precursors are examined and particular stylistic determinants of their compositional and performance models are discussed.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MTC 618. Advanced Counterpoint. 3 Credit Hours.

Three-voice fugal writing in Bach's style, followed by compositional projects in a variety of twentieth-century contrapuntal style

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MTC 621. Multimedia for Musicians. 3 Credit Hours.

Presents an overview and introduction to the creation of multimedia projects for presentation on the Web. Focus is placed on building websites, and the creation of multimedia content for online delivery. Software tools for the manipulation of digital media, including audio and video, are utilized in the realization of course projects.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MTC 667. Electronic and Computer Music Seminar. 1-3 Credit Hours.

Advanced techniques and applications in electronic and computer music. Topics may include electronic projects in composition, performance, research, programming, or other as approved by instructor

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MTC 693. Special Projects in Music Theory and Composition. 1-3 Credit Hours.

Advanced individual instruction pertaining to faculty member's area of expertise and student's area of interest. This course includes a culminating project.

Components: IND.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MTC 694. Special Topics in Music Theory and Composition. 1-3 Credit Hours.

Advanced group/classroom instruction pertaining to faculty member's expertise and students' areas of interest.

Components: SEM.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MTC 705. Digital Art and Sound Design. 2 Credit Hours.

Software-based techniques of sound synthesis. Topics will include synthesis using Ircam Tools, Max/Msp, Jitter, Csound, and PureData.

Prerequisite: MTC 507.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MTC 711. Theory Pedagogy. 3 Credit Hours.

Seminar in methods and materials pertinent to the teaching of theory in high school and college.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MTC 712. Advanced Comprehensive Theory. 3 Credit Hours.

Music theory as a research discipline is expanding in every conceivable direction, including a growing involvement with the non-Western canon, conscious inclusion of context and interpretation, and a heightened awareness of methodological advances in other disciplines. Students will become acquainted and engage with influential methodological paradigms of the last fifty years through weekly reading/analysis assignments and seminar discussions.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MTC 713. Twentieth Century Idioms. 3 Credit Hours.

Relevant modes of perception, influences, and technical devices in 20th-century music.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MTC 715. Composition Seminar I. 2 Credit Hours.

Creative work in composition requiring a multi-movement work scored for full orchestra, symphonic band, or chorus with orchestra or band.

Components: LSN.

Grading: GRD.

Typically Offered: Fall.

MTC 716. Composition Seminar II. 2 Credit Hours.

Continuation of MTC 615.

Prerequisite: MTC 715.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MTC 717. Analytical Techniques. 3 Credit Hours.

Examination and practice of various techniques used in the analysis of music.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MTC 719. Introduction to Schenkerian Analysis. 3 Credit Hours.

A first course in the theory and analytical practice of Heinrich Schenker. Students will learn the principles and techniques of Schenkerian analysis and will apply them to the study of works in smaller sectional forms.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MTC 730. Introduction to Spectralism. 3 Credit Hours.

To give the student a further understanding of the art and techniques of spectral composition, through listening, research, analysis, and composition (optional).

Requisite: Must be in the School of Graduate Music.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MTC 746. Studio Production. 2 Credit Hours.

Recording studio production procedures. Topics include artist and material selection, session planning, and analysis of the producer's role. Course may be repeated for credit.

Components: LAB.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MTC 748. Electronic Music Ensemble. 1 Credit Hour.

An in-depth study and performance of electroacoustic music compositions.

Components: ENS.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MTC 763. Virtual Orchestration. 3 Credit Hours.

This project-based seminar/lab is designed to expose students to the basics of MIDI orchestration with particular emphasis on the creation of fully-realized mock-ups.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MTC 767. Advanced Electronic and Computer Music Seminar. 1-3 Credit Hours.

Advanced techniques and applications in electronic and computer music. Topics may include electronic projects in composition, performance, research, programming, or other as approved by instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MTC 782. Composition Workshop. 1 Credit Hour.

Variety of composition concepts and problems are dealt with through assignments and projects with special emphasis on practical considerations.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

MTC 793. Special Projects in Music Theory and Composition. 1-3 Credit Hours.

Advanced individual instruction pertaining to faculty member's area of expertise and student's area of interest. This course includes a culminating project.

Requisites: Graduate Music Students Only.

Components: IND.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MTC 794. Special Topics in Music Theory and Composition. 1-3 Credit Hours.

Advanced group/classroom instruction pertaining to faculty member's expertise and students' areas of interest.

Requisites: Graduate Music Students Only.

Components: SEM.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MTC 796. Studio Production Ensemble. 1 Credit Hour.

A performing ensemble of student-generated contemporary musical repertoire.

Components: LAB.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MTC 797. Studio Rhythm Section. 1 Credit Hour.

A performing ensemble of student-generated contemporary musical repertoire.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MTC 799. Ensemble Ibis for New Music. 1 Credit Hour.

An in-depth study and performance of 20th century music.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MTC 810. Master's Thesis. 1-6 Credit Hours.

The student working on his/her master's thesis enrolls for credit, in most departments not to exceed six, as determined by his/her advisor. Credit is not awarded until the thesis has been accepted.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

MTC 813. Master's Media Writing Project. 1-3 Credit Hours.

The student working on his/her master's media writing project enrolls for credit as determined by his/her advisor. Credit is not awarded until the project paper is accepted.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

MTC 820. Research in Residence. 1 Credit Hour.

Used to establish research in residence and maintain full-time enrollment for the master's degree after the student has completed the required hours of thesis or project credit.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

MTC 831. Doctoral Essay. 1-12 Credit Hours.

Required of all candidates for the D.M.A. The student will enroll for credit as determined by his/her advisor, but not for less than a total of 12. Not more than 12 hours of MTC 731 may be taken in a regular semester, nor more than six in a summer session.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

MTC 850. Research in Residence. 1 Credit Hour.

Used to establish research in residence and maintain full-time enrollment for the DMA after the student has completed the required hours of doctoral essay credit.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

University Internship (UMI)

UMI 105. UMI 105: University Internship Part Time 1.00 Credit Hour. 1 Credit Hour.

A part-time 1 credit internship (minimum of 160 hours) designed to provide opportunities for career exploration, skill development, and exposure to career field. Completion of at least one semester of coursework at UM is required.

Components: LEC.

Grading: CNC.

Typically Offered: Fall, Spring, & Summer.

UMI 110. UMI 110: University Internship Full Time 1.00 Credit Hour. 1 Credit Hour.

A full-time 1 credit internship (minimum of 320 hours) designed to provide opportunities for career exploration, skill development, and exposure to career field. Completion of at least one semester of coursework at UM is required.

Components: LEC.

Grading: CNC.

Typically Offered: Fall, Spring, & Summer.

UMI 205. UMI 205: University Internship Part Time 1.00 Credit Hour. 1 Credit Hour.

A part-time 1 credit internship (minimum of 160 hours) designed to provide opportunities for career exploration, skill development, and exposure to career field. Completion of at least one semester of coursework at UM is required.

Components: LEC.

Grading: CNC.

Typically Offered: Fall, Spring, & Summer.

UMI 210. UMI 210: University Internship Full Time 1.00 Credit Hour. 1 Credit Hour.

A full-time 1 credit internship (minimum of 320 hours) designed to provide opportunities for career exploration, skill development, and exposure to career field. Completion of at least one semester of coursework at UM is required.

Components: LEC.

Grading: CNC.

Typically Offered: Fall, Spring, & Summer.

UMI 305. UMI 305: University Internship Part Time 1.00 Credit Hour. 1 Credit Hour.

A part-time 1 credit internship (minimum of 160 hours) designed to provide opportunities for career exploration, skill development, and exposure to career field. Completion of at least one semester of coursework at UM is required.

Components: LEC.

Grading: CNC.

Typically Offered: Fall, Spring, & Summer.

UMI 310. UMI 310: University Internship Full-time 1.00 Credit Hour. 1 Credit Hour.

A full-time 1 credit internship (minimum of 320 hours) designed to provide opportunities for career exploration, skill development, and exposure to career field. Completion of at least one semester of coursework at UM is required.

Components: LEC.

Grading: CNC.

Typically Offered: Fall, Spring, & Summer.

UMI 405. UMI 405: University Internship Part Time 1.0 Credit Hour. 1 Credit Hour.

A part-time 1 credit internship (minimum of 160 hours) designed to provide opportunities for career exploration, skill development, and exposure to career field. Completion of at least one semester of coursework at UM is required.

Components: LEC.

Grading: CNC.

Typically Offered: Fall, Spring, & Summer.

UMI 410. UMI 410: University Internship Full Time 1.0 Credit Hour. 1 Credit Hour.

A full-time 1 credit internship (minimum of 320 hours) designed to provide opportunities for career exploration, skill development, and exposure to career field. Completion of at least one semester of coursework at UM is required.

Components: LEC.

Grading: CNC.

Typically Offered: Fall, Spring, & Summer.

UMI 605. University Internship. 1 Credit Hour.

A part-time 1-credit internship (minimum of 160 hours) designed to provide opportunities for career exploration, skill development, and exposure to career field. Completion of at least one semester of coursework at UM is required.

Components: LEC.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

UMI 610. University Internship. 1 Credit Hour.

A full-time 1-credit internship (minimum of 320 hours) designed to provide opportunities for career exploration, skill development, and exposure to career field. Completion of at least one semester of coursework at UM is required.

Components: LEC.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

University of Miami Experience (UMX)

UMX 100. The University of Miami Experience. 0 Credit Hours.

The University of Miami Experience (UMX 100) is a graded, comprehensive virtual self-paced course specifically designed to assist first year students, transfer students included, in making a successful transition to the University of Miami. The course creates opportunities for students to learn skills integral to developing connections with students, staff, administrators, and faculty. UMX provides an opportunity for students to utilize UM resources necessary for success in college and beyond. Specifically, students will be exposed to campus leadership opportunities, academic and career planning, university traditions, study abroad opportunities, personal wellness programs, as well as advising and registration through videos, power points, blogs, threaded discussions, and more. These resources and opportunities are only a click away for the students enrolled.

Components: DIL.

Grading: GRD.

Typically Offered: Fall.

Urban Studies (URB)

URB 201. Metropolitan Miami. 3 Credit Hours.

This course provides interdisciplinary perspectives on the urbanization of South Florida and on Miami's urban milieu. The course uses the case of Metropolitan Miami to introduce and illustrate a range of basic concepts in urban studies.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

URB 301. Cities in Time and Space. 3 Credit Hours.

This course provides interdisciplinary perspectives on the city, urbanity, and urbanization through a series of wide-ranging historical-geographical contexts.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

Vocal Performance (MVP)

MVP 101. Choir Ensemble Placeholder. 1 Credit Hour.

Ensemble placeholder course for new students to enroll in before ensemble placement auditions during Frost Orientation. Please note, you will have to drop this course and enroll in your correct ensemble when receive your official ensemble placement from Dr. Karen Kennedy.

Components: ENS.

Grading: GRD.

Typically Offered: Fall.

MVP 144. Vocal Techniques for Non-Majors. 1 Credit Hour.

Class instruction in fundamentals of singing, breath control, tone production, diction, and solo singing for non-music majors. Basic music reading skills are taught.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

MVP 147. Men's Chorale. 1 Credit Hour.

This ensemble is open to the entire university community. Students will work on all aspects of choral singing, including skills in basic musicianship. This ensemble presents two or three concerts per semester.

Components: ENS.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MVP 148. Women's Chorale. 1 Credit Hour.

This ensemble is open to the entire university community. Students will work on all aspects of choral singing, including skills in basic musicianship. This ensemble presents two or three concerts per semester.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MVP 167. Music Theatre Workshop. 1 Credit Hour.

Participation in a fully-staged production or supervised classwork and projects which integrate the skills of the musical theatre singer/actor.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MVP 180. Symphonic Choir. 1 Credit Hour.

Study and performance of choral literature appropriate for large choir, including choral orchestral masterworks.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MVP 181. Choral Conducting I. 2 Credit Hours.

This course provides practical procedures and materials for beginning conducting students. Students demonstrate basic conducting patterns, preparations, and releases in all meters.

Requisite: Frost School of Music.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MVP 182. Choral Conducting II. 2 Credit Hours.

This course provides practical procedures and materials for advanced conducting students. Students demonstrate refined skills in conducting musical styles and independence of gesture. A strong emphasis is placed on conducting of mixed meters.

Requisite: Frost School of Music.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MVP 184. Chamber Singers. 1 Credit Hour.

An ensemble of eighteen to twenty undergraduate and graduate students, the ensemble performs challenging chamber choir repertoire from the Renaissance through the Twentieth Century.

Components: ENS.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MVP 185. UM Chorale. 1 Credit Hour.

This ensemble performs significant choral literature with an emphasis on music of the Twentieth-Century and on choral/orchestral works including opera. Open to all qualified undergraduate students, regardless of major.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MVP 188. Opera Theater I. 1 Credit Hour.

Typically taken in the first semester of freshman year by vocal performance majors. Basic stage techniques will be studied and mastered. The learning process repertoire, basic acting and performance techniques will be addressed. Methods of communication of text and emotion will be studied and applied. Emphasis will be on solo repertoire with possible participation in fall opera production.

Requisite: Frost School of Music.

Components: ENS.

Grading: GRD.

Typically Offered: Fall.

MVP 189. Opera Theater II. 1 Credit Hour.

Typically taken in the second semester of the first year by vocal performance majors. Further research, development and application of stage deportment, character development, acting skills, communication of emotion and text. Repertoire will include solo songs, arias and small ensembles and possible participation in spring opera production.

Requisite: Frost School of Music.

Components: ENS.

Grading: GRD.

Typically Offered: Spring.

MVP 196. Singing for the Stage I-A. 1 Credit Hour.

The selection, learning process, and performance of Musical Theatre Songs with emphasis on tone production and style.

Requisite: Frost School of Music.

Components: LAB.

Grading: GRD.

Typically Offered: Spring.

MVP 197. Singing for the Stage I-B. 1 Credit Hour.

Continuation of MVP 196.

Requisite: Frost School of Music.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MVP 205. Acting for Opera. 2 Credit Hours.

This course is designed to combine acting techniques with singing, dealing specifically with challenges presented to the singing actor and including musical styles and periods, period fashion and props, movement, and stage techniques for recitative, aria and ensemble performance.

Requisite: Frost School of Music.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MVP 206. Acting for Opera - Intermediate. 2 Credit Hours.

Course designed to continue to develop acting and character development skills for operatic performance.

Requisite: Frost School of Music.

Components: LAB.

Grading: GRD.

Typically Offered: Spring.

MVP 250. Lyric Diction for Singers - English and Italian. 2 Credit Hours.

Designed for voice majors and principals, focus on pronunciation skills for singing in English and Italian. International Phonetic Alphabet and rules for singers Italian languages will be applied to Art Song, Opera, and Oratorio.

Requisite: Frost School of Music.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

MVP 252. Lyric Diction for Singers - German and French. 2 Credit Hours.

Designed for voice majors and principals, focus on pronunciation skills for singing in German and French. International Phonetic Alphabet and rules for singers. Italian languages will be applied to Art Song, Opera, and Oratorio.

Requisite: Frost School of Music.

Components: LAB.

Grading: GRD.

Typically Offered: Spring.

MVP 288. Opera Theater III. 1 Credit Hour.

Taken by vocal performance majors in the first semester sophomore year, this course is designed to combine acting techniques with singing, dealing specifically with challenges unique to the singing actor and including musical styles and periods, period fashion and props, movement, and stage technique for recitative, aria and ensemble performances. Movement will be more specific to stage requirements, but include dance steps and period movement.

Requisite: Frost School of Music.

Components: ENS.

Grading: GRD.

Typically Offered: Fall.

MVP 289. Opera Theater IV. 1 Credit Hour.

Typically taken in the 2nd semester, sophomore year by vocal performance majors. Course designed to continue to develop acting and character development skills and apply techniques learned in Opera Theater I, II, and III.

Requisite: Frost School of Music.

Components: ENS.

Grading: GRD.

Typically Offered: Spring.

MVP 294. Singing for Actors. 1 Credit Hour.

The preparation of song literature and audition material for actors (can be repeated for credit).

Requisite: Frost School of Music.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MVP 296. Singing for the Stage II-A. 1 Credit Hour.

Instruction in auditioning methods and materials for American musical theatre.

Requisite: Frost School of Music.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MVP 297. Singing for the Stage II-B. 1 Credit Hour.

Instruction in preparing vocal material for musical scenes drawn from American musical theatre.

Requisite: Frost School of Music.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

MVP 388. Opera Theater V. 1 Credit Hour.

Typically taken in the first semester, junior year vocal performance majors. Course designed to continue to develop acting and character development skills and apply techniques learned in Opera Theater I, II, III and IV.

Requisite: Frost School of Music.

Components: ENS.

Grading: GRD.

Typically Offered: Fall.

MVP 389. Opera Theater VI. 1 Credit Hour.

Typically taken in the 2nd semester, junior year by vocal performance majors. Course designed to continue to develop acting and character development skills and apply techniques learned in Opera Theater I-V.

Requisite: Frost School of Music.

Components: ENS.

Grading: GRD.

Typically Offered: Fall.

MVP 399. Junior Recital. 1 Credit Hour.

A public recital of one half-hour or more. Course required of all Vocal Performance majors.

Requisite: Frost School of Music.

Components: PRA.

Grading: GRD.

Typically Offered: Fall & Spring.

MVP 415. Auditioning I. 2 Credit Hours.

Students prepare three to five audition pieces, photos, and resumes. Income tax, unions, opportunity, and methods of searching for and obtaining work is included. Course culminates in a seven to ten day trip to New York attending auditions.

Requisite: Frost School of Music.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

MVP 416. Auditioning II. 2 Credit Hours.

Continuation of MVP 415.

Requisite: Frost School of Music.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MVP 431. Musical Theatre Styles I. 3 Credit Hours.

Course topics include creating a character through song and dialogue, making transition from songs in to and out of scenes, and becoming comfortable and familiar with the style and performance unique to musical theatre.

Requisite: Frost School of Music.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

MVP 488. Opera Theater VII. 1 Credit Hour.

Typically taken by Vocal Performance majors in the first semester, senior year. Course designed to continue to develop acting and character development skills and apply techniques learned in Opera Theater I-VI.

Requisite: Frost School of Music.

Components: ENS.

Grading: GRD.

Typically Offered: Fall.

MVP 489. Opera Theater VIII. 1 Credit Hour.

Typically taken by Vocal Performance majors in the 2nd semester, senior year. course designed to continue to develop acting and character development skills and apply techniques learned in Opera Theater I-VIII.

Requisite: Frost School of Music.

Components: ENS.

Grading: GRD.

Typically Offered: Spring.

MVP 493. Special Projects in Vocal Performance or Choral Conducting. 1-3 Credit Hours.

Advanced individual instruction pertaining to faculty member's area expertise and student's area of interest. This course includes a culminating project.

Requisite: Frost School of Music.

Components: IND.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MVP 494. Special Topics in Vocal Performance or Choral Conducting. 1-3 Credit Hours.

Advanced group/classroom instruction pertaining to faculty to faculty member's expertise and students' areas of interest.

Components: SEM.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MVP 499. Senior Recital. 1 Credit Hour.

A public recital of one hour or more. Course is required of all performance majors.

Requisite: Frost School of Music.

Components: PRA.

Grading: GRD.

Typically Offered: Fall & Spring.

MVP 508. Choral Score Study. 2 Credit Hours.

In depth study of selected choral or choral/orchestral works related to literature being performed by university ensembles during the academic year.

Requisite: Frost School of Music.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MVP 538. Vocal Pedagogy. 2-3 Credit Hours.

Course covers methods and concepts in the teaching of singing. Emphasis is placed on psychological, physiological, and acoustical principles involved in voice production with practical application, observing and teaching individual and class voice in a supervised environment.

Requisite: Frost School of Music.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MVP 552. Vocal Performance Preparation. 1 Credit Hour.

Musical preparation of a wide range of assigned vocal literature from all periods for performance in forums, juries, and recitals. Special emphasis is on musical values, styles, translations of texts, diction, pronunciation of Italian, German, French, and English, and memorization.

Requisite: Frost School of Music.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

MVP 580. Opera Production. 1 Credit Hour.

Opera production for main stage production, scenes, and other productions. Open only to students that are cast in productions, as determined by audition and faculty decision. Typically taken by vocal performance majors.

Requisite: Frost School of Music.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MVP 588. Voice Performance in Salzburg, Austria. 0 Credit Hours.

Course is conducted at Salzburg College, Austria. Students receive comprehensive and intensive vocal training from University of Miami faculty as well as distinguished guest artists. A class in vocal repertoire is also included.

Requisite: Must be in Salzburg Program.

Components: LEC.

Grading: AUD.

Typically Offered: Summer.

MVP 593. Special Projects in Vocal Performance or Choral Conducting. 1-3 Credit Hours.

Advanced individual instruction pertaining to faculty member's area expertise and student's area of interest. This course includes a culminating project.

Requisite: Frost School of Music.

Components: IND.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MVP 594. Special Topics in Vocal Performance or Choral Conducting. 1-3 Credit Hours.

Advanced group/classroom instruction pertaining to faculty member's expertise and students' areas of interest.

Components: SEM.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MVP 608. Choral Score Study. 2 Credit Hours.

In depth study of selected choral or choral/orchestral works related to literature being performed by university ensembles during the academic year.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MVP 638. Vocal Pedagogy. 2-3 Credit Hours.

Course covers methods and concepts in the teaching of singing. Emphasis is placed on psychological, physiological, and acoustical principles involved in voice production with practical application, observing and teaching individual and class voice in a supervised environment.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MVP 652. Vocal Prfrm Prep. 1 Credit Hour.

Musical preparation of a wide range of assigned vocal literature from all periods for performance in forums, juries, and recitals. Special emphasis is on musical values, styles, translations of texts, diction, pronunciation of Italian, German, French, and English, and memorization.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

MVP 680. Opera Production. 1 Credit Hour.

Opera production for main stage production, scenes, and other productions. Open only to students that are cast in productions, as determined by audition and faculty decision. Typically taken by vocal performance

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MVP 693. Special Projects in Vocal Performance or Choral Conducting. 1-3 Credit Hours.

Advanced individual instruction pertaining to faculty member's area of expertise and student's area of interest. This course includes a culminating project.

Components: IND.

Grading: GRD.

Typically Offered: Fall & Spring.

MVP 694. Special Topics in Vocal Performance or Choral Conducting. 1-3 Credit Hours.

Advanced group/classroom instruction pertaining to faculty member's expertise and students' areas of interest.

Components: SEM.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MVP 710. Vocal Literature for Teaching: English. 3 Credit Hours.

Study of the historical body of English language vocal repertoire as it relates to voice classification, age, and technical development of a singer.

Requisite: Frost School of Music.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MVP 711. Vocal Literature for Teaching: Italian. 3 Credit Hours.

The student working on his/her recital paper enrolls for credit as determined by his/her advisor. Credit is not awarded until the paper has been accepted.

Requisite: Frost School of Music.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MVP 712. Vocal Literature for Teaching: German. 3 Credit Hours.

Study of the historical body of German vocal repertoire as it relates to voice classification, age, and technical development of a singer.

Requisite: Frost School of Music.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MVP 713. Vocal Literature for Teaching: French. 3 Credit Hours.

Study of the historical body of French vocal repertoire as it relates to voice classification, age, and technical development of a singer.

Requisite: Frost School of Music.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MVP 714. Vocal Literature for Teaching: Musical Theater. 3 Credit Hours.

The student enrolls for recital credit during the semester in which he/she presents the Artist Diploma Recital.

Requisite: Frost School of Music.

Components: PRA.

Grading: GRD.

Typically Offered: Fall & Spring.

MVP 730. Studio Teaching Techniques. 1 Credit Hour.

Application of the principles studied in MVP 638. Candidates will be assigned students for applied voice study, under supervision of the instructor.

Requisite: Frost School of Music.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

MVP 732. Teaching the Singer Actor. 2 Credit Hours.

Exploring teaching techniques for developing the skills of the singer.

Requisite: Frost School of Music.

Components: LAB.

Grading: GRD.

Typically Offered: Spring.

MVP 736. Voice Disorders. 3 Credit Hours.

Assessment and treatment of the human voice. Course promotes an understanding of the terminology, clinical assessment, and therapy protocols used in treating the dysfunctional or damaged voice.

Requisite: Frost School of Music.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MVP 738. Advanced Vocal Pedagogy. 3 Credit Hours.

Course addresses advanced methods and concepts in the teaching of singing. Emphasis is placed on psychological, physiological, and acoustical principles involved in voice production; historical perspectives; and comparative pedagogical publications. Includes practical application, observation and teaching individual and class voice in a supervised environment.

Requisite: Frost School of Music.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MVP 739. Vocal Pedagogy Internship. 1 Credit Hour.

Observation in the field of choice, including, but not limited to studio work, medical setting or speech pathology setting.

Requisite: Frost School of Music.

Components: PRA.

Grading: GRD.

Typically Offered: Fall.

MVP 747. Men's Chorale. 1 Credit Hour.

This ensemble is open to the entire university community. Students will work on all aspects of choral singing, including skills in basic musicianship. This ensemble presents two or three concerts per semester.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MVP 748. Women's Chorale. 1 Credit Hour.

This ensemble is open to the entire university community. Students will work on all aspects of choral singing, including skills in basic musicianship. This ensemble presents two or three concerts per semester.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MVP 750. Lyric Diction for Singers - English and Italian. 1 Credit Hour.

Class designed for voice majors and principals, with a focus on the development of pronunciation skills for teaching and singing in English. International Phonetic Alphabet is presented as a learning tool.

Requisite: Frost School of Music.

Components: THI.

Grading: GRD.

Typically Offered: Fall.

MVP 752. Lyric Diction for Singing - German and French. 1 Credit Hour.

Class designed for voice majors and principals, with a focus on the development of pronunciation skills for teaching and singing in German. International Phonetic Alphabet is used as a learning tool.

Components: LAB.

Grading: GRD.

Typically Offered: Spring.

MVP 772. Choral Conducting: Major Work Emphasis. 1 Credit Hour.

Course focus is placed on major choral-orchestral works with particular emphasis on two or three major works. In addition, conductors preparation for choral-orchestral works, including instrument transportation, score preparation, musical line, historical context, and score marking, are included.

Requisite: Frost School of Music.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MVP 773. Choral Conducting Workshop: Smaller Choral Works. 1 Credit Hour.

Study of smaller choral works by Poulenc, Hindemith, Ravel, Debussy, Brahms, Mendelssohn, Schubert, Schumann, etc., with emphasis on style, interpretation, and gesture.

Requisite: Frost School of Music.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MVP 780. Symphonic Choir. 1 Credit Hour.

Study and performance of choral literature appropriate for large choir, including choral orchestral masterworks.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MVP 784. Chamber Singers. 1 Credit Hour.

An ensemble of eighteen to twenty undergraduate and graduate students. The ensemble performs challenging chamber choir repertoire from the Renaissance through the Twentieth Century.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MVP 785. UM Chorale. 1 Credit Hour.

This ensemble performs significant choral literature with an emphasis on music of the Twentieth-Century and on choral/orchestral works including opera. Open to all qualified graduate students, regardless of major.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MVP 788. Opera Theater. 1 Credit Hour.

Taken by Graduate Students in Vocal Performance. The preparation and public performance of staged operatic scenes and operas with supplemental classes in acting skills, stage movement and characterization.

Requisite: Frost School of Music.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MVP 793. Special Projects in Vocal Performance or Choral Conducting. 1-3 Credit Hours.

Advanced individual instruction pertaining to faculty member's area of expertise and student's area of interest. This course includes a culminating project.

Requisite: Frost School of Music.

Components: IND.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MVP 794. Special Topics in Vocal Performance or Choral Conducting. 1-3 Credit Hours.

Advanced group/classroom instruction pertaining to faculty member's expertise and students' areas of interest.

Requisite: Frost School of Music.

Components: SEM.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MVP 8. Voice Forum. 0 Credit Hours.

A weekly informal recital setting and performance class for voice principals and majors with guest artists, master classes, and faculty presentations. Required for all two, three, and four credit applied voice students.

Requisite: Frost School of Music.

Components: FOR.

Grading: CNC.

Typically Offered: Fall & Spring.

MVP 805. Masters Project. 1 Credit Hour.

Masters Project for the Masters Degree in Vocal Performance. Students will develop a portfolio for professional use.

Components: THI.

Grading: SUS.

Typically Offered: Fall & Spring.

MVP 811. Master's Recital Paper. 1-3 Credit Hours.

The student working on his/her recital paper enrolls for credit as determined by his/her advisor. Credit is not awarded until the paper has been accepted.

Requisite: Frost School of Music.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

MVP 812. Master's Recital. 1 Credit Hour.

The student enrolls for recital credit during the semester in which he/she presents the master's recital.

Requisite: Frost School of Music.

Components: THI.

Grading: SUS.

Typically Offered: Fall & Spring.

MVP 813. Masters Second Recital. 1 Credit Hour.

Optional second recital in the Masters Degree in Vocal Performance. Taken with advisor approval.

Components: THI.

Grading: SUS.

Typically Offered: Fall & Spring.

MVP 814. Artist Diploma Recital. 1 Credit Hour.

The student enrolls for recital credit during the semester in which he/she presents the Artist Diploma Recital.

Requisite: Frost School of Music.

Components: THI.

Grading: SUS.

Typically Offered: Fall & Spring.

MVP 820. Research in Residence. 1 Credit Hour.

Used to establish research in residence and maintain full-time enrollment for the master's degree after the student has completed the required hours of thesis or project credit.

Requisite: Frost School of Music.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

MVP 831. Doctoral Essay. 1-12 Credit Hours.

Required of all candidates for the D.M.A. The student will enroll for credit as determined by his/her advisor, but not for less than a total of 12. Not more than 12 hours of MVP 731 may be taken in a regular semester, nor more than six in a summer session.

Requisite: Frost School of Music.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

MVP 832. Doctoral Recital. 1-2 Credit Hours.

Required of all candidates for the D.M.A.

Requisite: Frost School of Music.

Components: PRA.

Grading: SUS.

Typically Offered: Fall & Spring.

MVP 850. Research in Residence. 1 Credit Hour.

Used to establish research in residence and maintain full-time enrollment for the DMA after the student has completed the required hours of doctoral essay credit.

Requisite: Frost School of Music.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MVP CD6. Conducting. 1-2 Credit Hours.

Applied lesson in conducting for masters students majoring in choral conducting.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MVP CD7. Conducting. 1-2 Credit Hours.

Applied lesson in conducting for doctoral students majoring in choral conducting.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MVP VO1. Voice. 2 Credit Hours.

1-hour lesson and 50 minute studio class for voice students. Technical Requirements: Demonstrate a beginning concept of breath management, legato connection for moderate length phrases, clear articulation and projection of vowels and consonants in English, emotional connection to and communication of text, release of vibrato in sustained singing, and jury repertoire, language, and performance requirements (See Guidelines for Voice Study).

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MVP VO3. Voice. 2 Credit Hours.

1-hour lesson and 50 minute studio class for voice students. Technical Requirements: Demonstrate evidence of upper range extension with fully supported sound and appropriate modification of resonators, ability to self-prepare a song, knowledge of musical styles and historical periods of music, effective communication of song literature, an established warm-up regiment and technical exercises as prescribed by the voice teacher, and jury repertoire, language, and performance requirements (See Guidelines for Voice Study).

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MVP VO5. Voice. 1-4 Credit Hours.

Private studio lessons for providing progress towards establishing an efficient and balanced concept of posture, breath management, phonation, resonance with clarity of articulation in required languages, the ability to sustain a professional sound and perform with established skills for vocal, physical and emotional communication in voice juries and performances of concert and opera, and the skills for a professional career as a classical singer.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MVP VO6. Voice. 1-2 Credit Hours.

Private lessons for providing progress towards establishing an efficient and balanced concept of posture, breath management, phonation, resonance with clarity of articulation in required languages, the ability to sustain a professional sound in the upper register and perform with established skills for vocal, physical and emotional communication in voice juries and performances of concert and opera, and the potential for a professional career as a classical singer.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MVP VO7. Voice. 1-2 Credit Hours.

Private lessons for providing progress towards establishing an efficient and balanced concept of posture, breath management, phonation, resonance with clarity of articulation and workable knowledge of required languages, the ability to sustain a professional sound in the upper register and perform with advanced skills for vocal, physical and emotional communication in voice juries and performances of concert and opera, and the potential for a professional career as a classical singer and/or teacher of music.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MVP VOC. Voice. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Demonstrate consistent breath support, firmly established legato line, evidence of musical phrasing, consistent vibrato, ability to execute technical exercises evenly throughout the range, and jury repertoire, language, and performing (See Guidelines for Voice Study).

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MVP VOD. Voice. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Demonstrate consistent breath support, firmly established legato line, evidence of musical phrasing, consistent vibrato, ability to execute technical exercises evenly throughout the range, and jury repertoire, language, and performing (See Guidelines for Voice Study).

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MVP VOF. Voice. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Demonstrate evidence of upper range extension with fully supported sound and appropriate modification of resonators, ability to self-prepare a song, knowledge of musical styles and historical periods of music, effective communication of song literature, an established warm-up regimen and technical exercises as prescribed by the voice teacher, and jury repertoire, language, and performance requirements (See Guidelines for Voice Study).

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MVP VOG. Voice. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Demonstrate perfect facility in required lyric languages, ability to evaluate performances critically and coherently, facility with register changes in upper range, polished and artistic performing with accuracy in pitch, rhythm, good posture, breath management, phonation, and resonance in addition to jury repertoire, language, and performance requirements (See Guidelines for Voice Study).

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MVP VOH. Voice. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Demonstrate perfect facility in required lyric languages, ability to evaluate performances critically and coherently, facility with register changes in upper range, polished and artistic performing with accuracy in pitch, rhythm, good posture, breath management, phonation, and resonance in addition to jury repertoire, language, and performance requirements (See Guidelines for Voice Study).

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MVP VOS. Secondary Voice. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Demonstrate a beginning concept of breath management, legato connection for moderate length phrases, clear articulation and projection of vowels and consonants in English, emotional connection to and communication of text, release of vibrato in sustained singing, and jury repertoire, language, and performance requirements (See Guidelines for Voice Study).

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

Womens and Gender Studies (WGS)

WGS 201. Introduction to Women's and Gender Studies. 3 Credit Hours.

Conceptions of masculinity and femininity; gender relations; gender inequalities; the intersections of gender with other categories of identity such as class, race, sexuality, and stages in the life cycle; and the broad impact of gender on society.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

WGS 202. Introduction to LGBTQ Studies. 3 Credit Hours.

Introduction to the Lesbian, Gay, Bisexual, Transgender and Queer Studies minor. The LGBTQ Studies program is designed to allow students to explore sexuality and sexual minorities from a variety of perspectives. The course will provide students with an introduction to a broad array of LGBTQ issues including visual and performing arts, literature, languages, history, social science, various theories, public policy and the law, families and other types of intimate relationships, crime, popular culture, and LGBTQ identities and communities. It will be a core to the LGBTQ minor. The history of LGBTQ Studies extends to the beginnings of the LGBTQ movements of the last third of the previous century. Today, the field addresses work in a broad range of scholarly disciplines including biological and cultural studies, in literature and anthropology, in the health sciences, history, and the visual arts. It ranges from archival research to the elaboration of queer theory, from the analysis of constitutional law to questions of public health, from the study of popular culture to investigations into the development and social construction of sexual identity. Students are usually only exposed to these studies at the upper division levels of the curriculum in disparate departments. An introductory course will make these upper division courses more accessible and meaningful, as well as serve as the basic core to the minor in LGBTQ studies.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

WGS 210. Popular representations of Queer sexualities. 3 Credit Hours.

Critical analysis of queer subjects in popular culture.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

WGS 220. European Sexualities. 3 Credit Hours.

The history of European sexuality from the Greeks to present day.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

WGS 301. Feminist Inquiries. 3 Credit Hours.

A history of feminist thought, central issues in contemporary feminist theory, the emergence of feminist methodologies across a range of disciplines, and the ways in which feminist inquiry transforms our understanding of key issues across the curriculum. Writing Credit.

Prerequisite: WGS 201.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

WGS 305. Queer Studies. 3 Credit Hours.

Gay, lesbian, bisexual, transgender, transexual, and queer identities; alternative family structures; queer theory; and current debates over the meaning and validity of sexuality as a way of understanding human sexual desire, emotions and behavior.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Summer.

WGS 315. Gender, Race, and Class. 3 Credit Hours.

Conceptions and intersections of gender, race, and class in historical and contemporary cultures; the impact of these experiences on individuals and society as a whole.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

WGS 320. Comparative Perspectives on Gender and Sexuality. 3 Credit Hours.

A comparative study of gender identities, gender relations, and sexualities in different cultures and societies. Writing Credit.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

WGS 335. LGBTQ Communities. 3 Credit Hours.

Sociology of Lesbian, Gay, Bisexual Transgendered and Queer communities and identities. The history, methods, theory and concepts of social science research on these topics over the last half century and examines contemporary issues.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

WGS 344. Gender and Politics. 3 Credit Hours.

Compares the roles played by men and women in political systems worldwide; examines public policy outcomes with significant gender-based effects, including policies on sexuality & reproductive health, gender-based violence, work & the family, and access to education.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

WGS 345. Religion and Gender. 3 Credit Hours.

Religious constructions of gender identity within Christianity, with some attention to Judaism and Islam. The second Genesis creation account, which focuses on the figures of Adam and Eve, will be the focal point of our studies. An emphasis will be placed on the manner in which sexism functions within historical and present-day religious thought and practice, as well as alternative understandings of male and female identity.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

WGS 347. Issues in Reproductive Medicine. 3 Credit Hours.

Social, economic, political, legal, religious, philosophical, and psychological aspects of the global reproductive medicine industry and related genetic technologies.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

WGS 348. Mental Illness, Gender, and Psychiatry. 3 Credit Hours.

An investigation of often unquestioned ideas surrounding mental illness, including the definition of mental illness itself, in the context of the burgeoning field of disability studies. The course focusses on giving a voice to those who suffer from mental illness while critiquing the mainstream discourse of mental illness as articulated and managed by mental health professionals. Particular attention is placed on the role of gender in the discourse of mental illness.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

WGS 350. Special Topics in Women's and Gender Studies. 3 Credit Hours.

Content varies by semester.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

WGS 360. Special Topics in Women's and Gender Studies: Arts and Humanities. 3 Credit Hours.

Special topics approaching gender and sexuality from the disciplinary perspectives of the arts and humanities.

Prerequisite: WGS 201 or WGS 202.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

WGS 361. Gender and Language. 3 Credit Hours.

The ways in which language is used in the constitution of gender, from a cross-linguistic and cross-cultural perspective.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

WGS 370. Special Topics in Women's and Gender Studies: People and Society. 3 Credit Hours.

Content varies by semester.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

WGS 405. Gender and Sexuality in Cultural Context. 3 Credit Hours.

How cultural values shape our understanding and experience of gender and sexuality; how those values are produced and policed; and the impact of codes of conduct for gender relations on individuals and society as a whole within a specific cultural milieu. Writing Credit.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

WGS 410. Gender, Sex, and the Law. 3 Credit Hours.

The impact of legal institutions and laws in shaping and regulating gender relations and sexual practices; the evolving relationship between legal codes and social values for women and men. Writing Credit.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

WGS 420. Interpreting Bodies. 3 Credit Hours.

Perceptions, representations, and regulation of the physical body as a gendered and sexual site, as a source of pleasure, as a means of social validation, and as an object of coercion. Writing Credit.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

WGS 450. Special Topics in Women's and Gender Studies. 3 Credit Hours.

Content varies by semester.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

WGS 469. LGBTI Politics. 3 Credit Hours.

The empirical variation in public policies towards issues of concern to lesbian, gay, bisexual, transgender, and intersex citizens. Examines the social scientific literature on social movements to identify the factors which have helped or hindered LGBTI rights activists' efforts to improve the legal status of LGBTI citizens.

Prerequisite: POL 201 or POL 202 or WGS 202 or WGS 301.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

WGS 471. Sex Babies and the State. 3 Credit Hours.

In one of the most profound revolutions of the past century, gender roles have irreversibly changed and equal rights for women and men has become a stated goal in western societies, even if not the reality. This course examines policies on reproduction, work and the family in advanced industrialized countries including Latin American Countries.

Prerequisite: POL 202.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

WGS 499. Independent Study. 1-3 Credit Hours.

By arrangement with instructor; content varies.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

WGS 501. Senior Research Project. 3 Credit Hours.

A student initiated research project with a faculty member of the student's choice and approved by the Program director. Writing Credit.

Requisite: Plan of Women and Gender Studies.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

WGS 505. Senior Thesis. 3 Credit Hours.

Women's and Gender Studies majors with a cumulative GPA of at least 3.5 in WGS courses and an overall GPA of at least 3.0 may earn departmental honors by completing an honors thesis instead of the senior research project. Candidates for departmental honors are responsible for finding a faculty member who is willing to serve as thesis adviser and then must complete a thesis proposal of approximately 400 words which must be approved by the thesis adviser and then the program director. Most students will take this course twice, for a total of six credits. Writing Credit.

Requisite: Plan of Women and Gender Studies.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

WGS 590. Women's and Gender Studies Internship. 1-3 Credit Hours.

Internship in a community organization focusing on issues of gender or sexuality. Students arrange the internship and propose an exhibit, project, term paper, or other materials that will be presented for academic credit at the end of the internship to the Director of the Women's and Gender Studies Program and a faculty sponsor for approval prior to beginning the internship. Open only to WGS majors or minors or LGBTQ Studies minors with junior or senior standing.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

INDEX

A	
A.D. in Instrumental Conducting or Performance	1288
A.D. in Keyboard Performance	1293
A.D. in Vocal Performance	1315
About the Graduate School	1346
Academic Policies	80
Accelerated Accounting Programs	378
Accelerated BSN	901
Accelerated MBA in Real Estate	1001
Accounting	377
Accounting Business Administration (ACC)	1378
Admission	63
Admission	94
Admissions	1350
Adult Student Access Program	555
Advanced Placement/Credit	63
Aerospace Studies	119
Aerospace Studies (AIS)	1390
Africana Studies	120
Africana Studies (AAS)	1391
Alumni Rate and Policy	45
American Studies	123
American Studies (AMS)	1392
Anthropology	126
Anthropology	928
Anthropology (APY)	1394
Applied Marine Physics (AMP)	1403
Applied Music (MAP)	1403
Arabic (ARB)	1404
Architecture	104
Architecture	918
Architecture (ARC)	1407
Art and Art History	131
Art and Art History	931
Art (ART)	1430
Art History (ARH)	1443
Arts and Sciences	114
Arts and Sciences	928
Astronomy	140
Atmospheric Science - Meteorology	717
Atmospheric Science (ATM)	1450

Atmospheric Sciences	1145
Attendance	1360
B	
B.A. in Africana Studies	121
B.A. in American Studies	123
B.A. in Anthropology	127
B.A. in Art (General Study)	134
B.A. in Art History	132
B.A. in Biology	148
B.A. in Chemistry	156
B.A. in Classics - Classical Civilization Track	167
B.A. in Classics - Greek Track	169
B.A. in Classics - Latin and Greek Track	172
B.A. in Classics - Latin Track	171
B.A. in Computer Science	175
B.A. in Criminology	188
B.A. in Economics	190
B.A. in Ecosystem Science and Policy	194
B.A. in English	211
B.A. in English - Concentration in British Literary History	213
B.A. in English - Concentration in Creative Writing	216
B.A. in English - Concentration in Women's Literature	219
B.A. in French	262
B.A. in Geography	224
B.A. in Geological Sciences	230
B.A. in Geological Sciences	727
B.A. in German	267
B.A. in History	230
B.A. in International Studies	234
B.A. in Latin American Studies	241
B.A. in Marine Affairs	735
B.A. in Philosophy	288
B.A. in Political Science	314
B.A. in Public Administration	321
B.A. in Religion and Health Care	330
B.A. in Religious Studies	333
B.A. in Sociology	337
B.A. in Spanish	271
B.A. in Studio Art	136
B.A. in the George Feldenkreis Program in Judaic Studies	237
B.A. in Theatre Arts	342
B.A. in Women's and Gender Studies	361
B.A. or B.S. in Mathematics	247

B.A. or B.S. in Psychology	325
B.A./M.A in Latin American Studies (Fellows in Latin American Studies)	243
B.A./M.A. in Latin American Studies	963
B.A./M.P.S. in Marine Ecosystems and Society	1160
B.A.M. Bachelor of Arts in Music	783
B.B.A. in Accounting	380
B.B.A. in Business Technology	395
B.B.A. in Economics	402
B.B.A. in Entrepreneurship	443
B.B.A. in Finance	416
B.B.A. in Health Sector Management and Policy	436
B.B.A. in Human Resource Management	447
B.B.A. in International Finance and Marketing	419
B.B.A. in Legal Studies	387
B.B.A. in Management	449
B.B.A. in Marketing	468
B.B.A. in Real Estate	422
B.F.A. in Art	138
B.F.A. in Theatre Arts - Acting	345
B.F.A. in Theatre Arts - Design/Technical Production	348
B.F.A. in Theatre Arts - Musical Theatre	350
B.F.A. in Theatre Arts - Stage Management	353
B.F.A. in Theatre Arts - Theatre Management	356
B.M. in Instrumental Performance	788
B.M. in Keyboard Performance	793
B.M. in Media Writing and Production	841
B.M. in Music Business Entertainment Industries	810
B.M. in Music Education with Minor in Education	798
B.M. in Music Theory and Composition	847
B.M. in Music Therapy with Minor in Psychology	803
B.M. in Musicianship, Artistry Development, and Entrepreneurship	817
B.M. in Professional Studies	822
B.M. in Studio Music and Jazz Instrumental	852
B.M. in Studio Music and Jazz Voice	857
B.M. in Vocal Performance	861
B.S. + M.S. in Computer Science - Five Year	181
B.S. / M.S. in Chemistry Five-Year	160
B.S. Dual Major in Chemistry and Physics	304
B.S. Dual Major in Engineering and Physics	307
B.S. Dual Major in Marine Science and Physics	308
B.S. in Aerospace Engineering	697
B.S. in Aerospace Engineering and B.S. in Mechanical Engineering Dual Degree	710

B.S. in Applied Physics	296
B.S. in Architectural Engineering	629
B.S. in Biochemistry and Molecular Biology or Nutrition	141
B.S. in Biology	150
B.S. in Biomedical Engineering - Biomaterials and Tissue	602
B.S. in Biomedical Engineering - Electrical	605
B.S. in Biomedical Engineering - Mechanical	608
B.S. in Biomedical Engineering - Premed	611
B.S. in Chemistry	158
B.S. in Civil Engineering	627
B.S. in Computer Engineering	646
B.S. in Computer Engineering - Software Engineering Option	648
B.S. in Computer Science	178
B.S. in Ecosystem Science and Policy	199
B.S. in Electrical Engineering	656
B.S. in Electrical Engineering - Audio Engineering Option	653
B.S. in Engineering Science	675
B.S. in Environmental Engineering	632
B.S. in Environmental Engineering/M.S. in Civil Engineering	636
B.S. in Exercise Physiology	577
B.S. in Geography	225
B.S. in Geological Sciences	230
B.S. in Geological Sciences	729
B.S. in Industrial Engineering	680
B.S. in Mechanical Engineering	699
B.S. in Microbiology and Immunology	252
B.S. in Music Engineering Technology	826
B.S. in Neuroscience	283
B.S. in Pure Physics	311
B.S./M.S. Five-Year Program in Biomedical Engineering	1085
B.S./M.S. in Architectural Engineering	636
B.S./M.S. in Biomedical Engineering - Biomaterials and Tissue Concentration	614
B.S./M.S. in Biomedical Engineering - Electrical Concentration	616
B.S./M.S. in Biomedical Engineering - Mechanical Concentration	619
B.S./M.S. in Biomedical Engineering - Premed Concentration	622
B.S./M.S. in Civil Engineering	635
B.S./M.S. in Civil Engineering	1103
B.S./M.S. in Computer Engineering	660
B.S./M.S. in Computer Engineering - Software Engineering Option	663
B.S./M.S. in Computer Science Five-Year	943
B.S./M.S. in Electrical Engineering	670
B.S./M.S. in Electrical Engineering - Audio Engineering Option	667

B.S./M.S.- Mechanical Engineering	707
B.S.A.T. Athletic Training	573
B.S.B.A. in Accounting	383
B.S.B.A. in Business Analytics	464
B.S.B.A. in Business Technology	398
B.S.B.A. in Economics	407
B.S.B.A. in Entrepreneurship	452
B.S.B.A. in Finance	425
B.S.B.A. in Health Sector Management and Policy	439
B.S.B.A. in Human Resource Management	455
B.S.B.A. in International Finance and Marketing	428
B.S.B.A. in Legal Studies	390
B.S.B.A. in Management	458
B.S.B.A. in Marketing	471
B.S.B.A. in Real Estate	431
B.S.C. Advertising - Advertising Creative Track	539
B.S.C. Advertising - Advertising Management Track	542
B.S.C. Advertising - General Advertising Track	545
B.S.C. Broadcast Journalism	520
B.S.C. Communication Studies - General Track	507
B.S.C. Communication Studies - Intercultural Track	509
B.S.C. Communication Studies - Organizational Track	511
B.S.C. Communication Studies - Public Advocacy Track	513
B.S.C. Electronic Media	523
B.S.C. in Interactive Media	486
B.S.C. Journalism	526
B.S.C. Media Management	532
B.S.C. Motion Pictures - Business Track	488
B.S.C. Motion Pictures - Critical Studies Track	491
B.S.C. Motion Pictures - General Track	494
B.S.C. Motion Pictures - Production Track	498
B.S.C. Motion Pictures - Screenwriting Track	501
B.S.C. Public Relations - General Track	547
B.S.C. Public Relations - Practice Track	550
B.S.E.D. Elementary/Exceptional Student Education (ESE) with ESOL and Reading Endorsements	584
B.S.E.D. Human and Social Development - Community and Program Development (HSDC)	564
B.S.E.D. Human and Social Development - Human and Social Development Studies (HSDS)	566
B.S.E.D. Human and Social Development - Individual and Relational Development (HSDI)	568
B.S.E.D. Sport Administration	575
B.S.in Architectural Engineering/Master of Architecture	637
B.S.M.A.S in Marine Science / Biology	747
B.S.M.A.S in Marine Science / Computer Science	753

B.S.M.A.S. in Marine Biology and Ecology739

B.S.M.A.S. in Marine Science / Chemistry750

B.S.M.A.S. in Marine Science / Geological Sciences732

B.S.M.A.S. in Marine Science / Geological Sciences756

B.S.M.A.S. in Marine Science / Meteorology759

B.S.M.A.S. in Marine Science / Microbiology and Immunology762

B.S.M.A.S. in Marine Science / Physics765

B.S.M.A.S. in Marine Science with a Second Major743

B.S.M.A.S. in Meteorology722

B.S.M.A.S. in Meteorology and Marine Science717

B.S.M.A.S. in Meteorology and Mathematics720

B.S.M.A.S. in Oceanography771

B.S/M.S.- Industrial Engineering689

Bachelor of Architecture107

Bachelor of Arts in Music (MUS)783

Bachelor of General Studies555

Bachelor of Science in Architectural Engineering and Master of Architecture109

BArch/MBA1002

Biochemistry and Molecular Biology140

Biochemistry and Molecular Biology1189

Biochemistry and Molecular Biology (BMB)1458

Biology147

Biology933

Biology (BIL)1464

Biomedical Engineering599

Biomedical Engineering1085

Biomedical Engineering (BME)1485

Biomedical Sciences1196

Biostatistics1200

Biostatistics (BST)1500

BSHS - General Track872

BSHS - Health Management and Policy Track875

BSHS - Pre-Medical Track879

BSHS - Pre-Occupational Therapy Track882

BSHS - Pre-Pharmacy Track886

BSHS - Pre-Physical Therapy Track889

BSN to DNP - Nurse Anesthesia Track1325

BSPH - Public Health913

Business364

Business989

Business (BUS)1502

Business Law386

Business Law (BSL)	1511
Business Technology	394
Business Technology (BTE)	1515
C	
Camner Center for Academic Resources	51
Cancer Biology	1203
Cancer Biology (CAB)	1523
Cane Cards	52
Career Services	52
Cellular Physiology and Molecular Biophysics	1270
Certificate in Accounting Practice (online)	1027
Certificate in Applied Behavior Analysis	986
Certificate in Applied Learning Sciences	1075
Certificate in Arts Leadership	1304
Certificate in Arts Management	1304
Certificate in Arts Presenting Fundamentals	1305
Certificate in Business	1028
Certificate in Corporate Finance (online)	1028
Certificate in Criminology and Criminal Justice	947
Certificate in Criminology and Criminal Justice	989
Certificate in Financial Decision Making (online)	1029
Certificate in Geospatial Technology	227
Certificate in Geospatial Technology	952
Certificate in Higher Education Administration/Enrollment Management	1058
Certificate in Higher Education Administration/Student Life and Development	1059
Certificate in Instrumental Performance	792
Certificate in Jazz Performance	860
Certificate in Keyboard Performance	797
Certificate in Latino Mental Health Counseling	1060
Certificate in Leadership	1030
Certificate in Legal Aspects of Music Business	1305
Certificate in Music Business Fundamentals	1305
Certificate in Music Entrepreneurship	1305
Certificate in Music Rights Administration and Licensing	1305
Certificate in Public Administration	984
Certificate in Public Health	1274
Certificate in Sustainability	205
Certificate in Tour and Live Entertainment Administration	1306
Certificate in Vocal Performance	864
Certificate in Women's Health	1070
Certificate Program in Medical Physics	1087
Certified B.S. in Chemistry	163
Chemistry	154

Chemistry	940
Chemistry (CHM)	1525
Chinese (CHI)	1535
Cinema and Interactive Media	484
Cinema and Interactive Media	1033
Cinema and Interactive Media (CIM)	1538
Civil, Architectural and Environmental Engineering	625
Civil, Architectural and Environmental Engineering	1101
Civil, Architectural, and Environmental Engineering (CAE)	1555
Classics	166
Classics (CLA)	1568
Clinical and Translational Investigation	1206
Clinical and Translational Investigation (CTI)	1573
Communication	477
Communication	1030
Communication (COM)	1574
Communication Studies	505
Communication Studies	1037
Communication Studies (COS)	1577
Commuter Student Involvement	54
Computer Engineering - Pre-Med Option	651
Computer Science	174
Computer Science	942
Computer Science (CSC)	1583
Continuing and International Education	555
Cost, Fees, Billing and Payment	1356
Counseling Center	54
Course Information	27
Course Listing	1378
Credit Certificate Programs	557
Criminology	187
Criminology	946
D	
D.M.A. in Choral Conducting	1315
D.M.A. in Composition	1307
D.M.A. in Instrumental Conducting	1289
D.M.A. in Instrumental Performance	1290
D.M.A. in Jazz Composition	1310
D.M.A. in Jazz Performance Instrumental/Vocal	1310
D.M.A. in Keyboard Performance	1294
D.M.A. in Keyboard Performance and Pedagogy	1293
D.M.A. in Multiple Woodwinds	1290
D.M.A. in Vocal Pedagogy and Performance	1316

D.M.A. in Vocal Performance	1317
D.P.T. Doctor of Physical Therapy (Entry Level)	1265
Dance (DAN)	1593
Dean of Students	55
Definitions	1347
Dermatology	1209
Disability Services	55
Disciplinary and Grievance Procedures for Graduate Students	1366
Doctor of Philosophy in Communication	1042
Doctoral	993
Doctoral Degree	99
Doctorate of Philosophy in Business	993
Doctorate of Philosophy in Economics	995
Dual M.S. in Civil Engineering with the University of Bologna	1110
E	
Early Admission	64
Economics	190
Economics	402
Economics (ECO)	1596
Ecosystem Science and Policy	194
Ecosystem Science and Policy (ECS)	1604
Ed.D. in Applied Learning Sciences	1076
Ed.S. Early Childhood Special Education	1077
Education	208
Education and Human Development	559
Education and Human Development	1053
Educational and Psychological Studies	562
Educational and Psychological Studies	1057
Educational and Psychological Studies (EPS)	1613
Electrical & Computer Engineering (ECE)	1630
Electrical and Computer Engineering	641
Electrical and Computer Engineering	1118
Electrical Engineering - Pre-Med Option	658
Engineering	209
Engineering	592
Engineering	1082
Engineering Science	675
Engineering Science - Premed Concentration	678
English	209
English	950
English (ENG)	1650
Environmental / Interdisciplinary	1132
Epidemiology and Public Health (EPH)	1671

Estate Planning	1682
Ethics, Student Rights and Responsibilities	1366
Executive and Professional MBA Programs	996
Executive and Special Programs (ESP)	1683
Executive Ed.D. in Higher Education Leadership	1060
Executive Ph.D. in Biochemistry and Molecular Biology	1194
F	
Finance	415
Finance Business Administration (FIN)	1684
Financial Assistance	33
Financial Payment Policies	42
First Year Seminars	76
First-Year Seminar Fine Arts (FFA)	1696
First-Year Seminar Literature (FLT)	1697
First-Year Seminar Natural Science (FNS)	1697
First-Year Seminar Philosophy and Religion (FPR)	1698
First-Year Seminars	75
First-Year Seminars Social Science (FSS)	1699
Five Year B.S./M.S. in Geological Sciences and Marine Geology	230
Five-Year Accounting Program with Senior-Year Internship	385
Foote Fellow Honors Program	76
Foote Fellow Honors Program	76
French (FRE)	1700
Freshman Admission	64
Full Time MBA Programs	1001
G	
GED Scores	64
General Academic Requirements and Regulations	1347
General Business Management and Organization (GBM)	1706
General Education Requirements	67
General University Information	26
Genomic Medicine (GNM)	1707
Geography	222
Geography	951
Geography (GEG)	1708
Geological Sciences	230
Geological Sciences	727
Geological Sciences	954
Geological Sciences (GSC)	1719
German (GER)	1723
Global Executive MBA	1000
Grades	69
Graduate Academic Programs	918

Graduate Council	1367
Graduate Grading	1358
Graduate Policies and Procedures	80
Graduate School (GRD)	1726
Graduate Student Association	1367
Graduate Student Handbook for Online Students	1346
Graduation	73
Greek (GRE)	1727
H	
Haitian Creole (HAI)	1729
Health Communication Minor	916
Health Management and Policy	435
Health Science	867
Health Sector Management	1731
Health Sector Management and Policy	997
Healthcare Sciences (HCS)	1734
Hebrew (HEB)	1737
History	230
History	954
History (HIS)	1738
Honors	75
Honors and Academic Enhancement (HON)	1758
Honors and Awards	1366
Human Genetics and Genomics	1212
Human Genetics and Genomics (HGG)	1759
I	
Important Phone Numbers	1368
Industrial Engineering	678
Industrial Engineering	1121
Industrial Engineering - Engineering Management Concentration	683
Industrial Engineering - Engineering Management Concentration - Five Year Program	692
Industrial Engineering - Manufacturing Concentration	685
Industrial Engineering - Pre-Med Concentration	687
Industrial Engineering (IEN)	1760
Instrumental Performance	1288
Instrumental Performance (MIP)	787
Instrumental Performance (MIP)	1772
Intensive English Program (IEP)	1806
Intensive Language Institute	558
Interdisciplinary Studies (IDS)	1808
International Administration	959
International Student and Scholar Services (ISSS)	56
International Studies	232

International Studies	960
International Studies (INS)	1808
Italian (ITA)	1822
J	
J.D./M.A. in Communication Studies	1044
J.D./M.A. in Journalism	1046
J.D./M.A. in Latin American Studies	965
J.D./M.A. in Public Relations	1047
J.D./M.A. in School of Communication	1043
J.D./M.P.A. Joint Degree Program	980
J.D./M.P.S. in Marine Ecosystems and Society	1160
Japanese (JPN)	1826
JD/LLM/MBA	1003
JD/MBA	1004
Journalism and Media Management	518
Journalism and Media Management	1047
Journalism and Media Management (JMM)	1829
Judaic Studies	236
Judaic Studies (JUS)	1843
K	
Keyboard Performance	1293
Keyboard Performance (MKP)	793
Keyboard Performance (MKP)	1846
Kinesiology and Sport Sciences	570
Kinesiology and Sport Sciences	1070
Kinesiology (KIN)	1857
L	
Late Payments, Holds, Collections and Refunds	1365
Latin American Studies	240
Latin American Studies	963
Latin American Studies (LAS)	1893
Latin (LAT)	1890
Law	1899
Law Writing	1943
Liberal Studies	968
Libraries	57
M	
M.A. Dual Degree in Latin American Studies and Public Health	966
M.A. in Anthropology	929
M.A. in Arts Presenting and Live Entertainment Management	1303
M.A. in Communication Studies - Communication Studies Track	1037
M.A. in Communication Studies - Health Communication Track	1038
M.A. in Communication Studies - Intercultural Communication Track	1040
M.A. in Communication Studies - Organizational Communication Track	1041

M.A. in Environment, Culture, & Media	1132
M.A. in Geography	953
M.A. in History	954
M.A. in International Administration	959
M.A. in International Studies	960
M.A. in Journalism	1048
M.A. in Latin American Studies	967
M.A. in Latin American Studies with GIS Certificate	968
M.A. in Liberal Studies	969
M.A. in Mathematics	970
M.A. in Philosophy	976
M.A. in Public Relations	1051
M.A. in Sociology	987
M.A./M.P.H. Dual Degree in International Administration and Public Health	962
M.F.A. in Creative Writing	949
M.F.A. in Interactive Media	1033
M.F.A. in Motion Pictures	1034
M.F.A. in Studio Art	932
M.H.A. in Health Sector Management and Policy	1026
M.M. in Choral Conducting	1317
M.M. in Digital Arts and Sound Design	1307
M.M. in Instrumental Conducting	1291
M.M. in Instrumental Performance	1291
M.M. in Jazz Pedagogy	1311
M.M. in Jazz Performance, Instrumental	1312
M.M. in Jazz Performance, Vocal	1313
M.M. in Keyboard Performance	1296
M.M. in Keyboard Performance and Pedagogy	1295
M.M. in Media Writing and Production	1307
M.M. in Multiple Woodwinds	1292
M.M. in Music Business and Entertainment Industries	1304
M.M. in Music Composition	1308
M.M. in Music Education	1297
M.M. in Music Education with Teaching Certification	1298
M.M. in Music Therapy	1299
M.M. in Music Therapy with Undergraduate Equivalency	1299
M.M. in Musicology	1309
M.M. in Studio Jazz Writing	1314
M.M. in Vocal Performance	1318
M.P.A. Masters in Public Administration	981
M.P.A. Online	984
M.P.A./M.P.H. Second Master's Degree in Public Health	983

M.PH. /J.D. Master of Public Health / Juris Doctorate Dual Degree	1276
M.PH. Master of Public Health	1275
M.PH./M.A. Master of Arts in International Administration Joint Degree	1276
M.PH./M.P.A. Master of Public Administration Joint Degree	1278
M.PH/MALAS Master of Arts in Latin American Studies	1277
M.PS in Broadcast Meteorology	1146
M.PS. in Applied Remote Sensing	1176
M.PS. in Aquaculture	1161
M.PS. in Climate and Society	1148
M.PS. in Coastal Sustainability	1162
M.PS. in Coastal Zone Management	1162
M.PS. in Computational Meteorology and Oceanography	1147
M.PS. in Environment, Culture, & Media	1133
M.PS. in Exploration Science	1137
M.PS. in Exploration Science	1163
M.PS. in Fisheries Management and Conservation	1164
M.PS. in Marine Conservation	1165
M.PS. in Marine Mammal Science	1155
M.PS. in Natural Hazards and Catastrophes	1177
M.PS. in Tropical Marine Ecosystem Management	1156
M.PS. in Underwater Archaeology	1166
M.PS. in Weather Forecasting	1147
M.S. in Architectural Engineering	1104
M.S. in Atmospheric Sciences	1149
M.S. in Biology with Thesis (Three Year Program)	934
M.S. in Biology without Thesis (Two Year Program)	936
M.S. in Biomedical Engineering	1088
M.S. in Biomedical Sciences	1197
M.S. in Biostatistics	1201
M.S. in Chemistry	940
M.S. in Civil Engineering	1106
M.S. in Clinical and Translational Investigation	1207
M.S. in Computer Science	943
M.S. in Construction Management	1107
M.S. in Criminology and Criminal Justice	948
M.S. in Electrical and Computer Engineering	1118
M.S. in Environmental Health and Safety	1122
M.S. in Industrial Engineering	1122
M.S. in Management of Technology	1124
M.S. in Marine Biology and Ecology	1157
M.S. in Marine Ecosystems and Society	1167
M.S. in Marine Geosciences	1169

M.S. in Mathematical Finance	971
M.S. in Mathematics	972
M.S. in Mechanical Engineering	1128
M.S. in Media Management	1049
M.S. in Meteorology and Physical Oceanography	1172
M.S. in Music Engineering Technology	1306
M.S. in Occupational and Ergonomics Safety	1124
M.S. in Ocean Sciences	1179
M.S. in Physics	978
M.S. in Psychology	986
M.S. in Skin Biology and Dermatological Sciences	1209
M.S. in Vision Science and Investigative Ophthalmology	1257
M.S.Ed. in Applied Learning Sciences	1077
M.S.Ed. in Community and Social Change	1061
M.S.Ed. in Counseling - Marriage and Family Therapy	1062
M.S.Ed. in Counseling - Mental Health	1062
M.S.Ed. in Early Childhood Special Education	1078
M.S.Ed. in Education and Social Change	1078
M.S.Ed. in Exercise Physiology	1070
M.S.Ed. in Exercise Physiology - Strength and Conditioning/Fitness Entrepreneurship Track	1071
M.S.Ed. in Higher Education Administration - Enrollment Management	1063
M.S.Ed. in Higher Education Administration - Institutional Research and Policy Analysis	1064
M.S.Ed. in Higher Education Administration - Student Life and Development	1065
M.S.Ed. in Nutrition for Health and Human Performance	1072
M.S.Ed. in Reading	1080
M.S.Ed. in Research, Measurement and Evaluation	1066
M.S.Ed. in Special Education	1080
M.S.Ed. in Sport Administration	1073
M.S.Ed. in Sports Medicine - Athletic Training Concentration	1074
M.S.Ed. in STEM Education	1080
M.S.Ed. in TESOL	1080
M.S.I.E./M.B.A. Executive Program	1124
M.S.P.H. Master of Science in Public Health	1279
Management	443
Management (MGT)	1948
Management Science	464
Management Science (MAS)	1957
Marine Affairs	726
Marine and Atmospheric Science	714
Marine and Atmospheric Science	1138
Marine Biology and Ecology	738
Marine Biology and Ecology	1154

Marine Ecosystems and Society	1159
Marine Geology and Geophysics (MGG)	1965
Marine Geosciences	1168
Marine Science	742
Marine Science (MSC)	1965
Marketing	468
Marketing (MKT)	1977
Master in International Business	1008
Master of Accounting	1009
Master of Architecture	921
Master of Arts in Economics	1016
Master of Arts Liberal Studies (MLS)	1984
Master of Construction Management	923
Master of Professional Accounting (online)	1016
Master of Real Estate Development + Urbanism	926
Master of Science in Architecture	925
Master of Science in Business Analytics	1017
Master of Science in Finance	1018
Master of Science in Finance (online)	1019
Master of Science in Management	1020
Master of Science in Taxation	1021
Master of Urban Design	925
Master's Degree	98
Mathematics	246
Mathematics	969
Mathematics (MTH)	1986
MBA Programs	996
MD Program	1218
MD/JD Program	1221
MD/MBA	1005
MD/MBA Program	1224
MD/MPH Program	1227
MD/MPH Program	1238
MD/MS in Genomic Medicine	1237
Meal Plans	45
Mechanical and Aerospace Engineering	695
Mechanical and Aerospace Engineering	1127
Mechanical and Aerospace Engineering (MAE)	1998
Mechanical Engineering - Aerospace Engineering Concentration	702
Mechanical Engineering - Internal Combustion Engines Concentration	704
Medical Scientist Training Program (MD/PHD)	1232
Medicine	1189

Medicine	2009
Meteorology and Physical Oceanography	1171
Miami Executive MBA en Español	996
Miami Semester	1369
Microbiology and Immunology	251
Microbiology and Immunology	1243
Microbiology and Immunology (MIC)	2047
Military Science	257
Military Science (MSL)	2052
Military Studies (MIS)	2053
Minor in Accounting	386
Minor in Advertising	552
Minor in Aerospace Studies	120
Minor in Africana Studies	122
Minor in American Studies	125
Minor in Anthropology	130
Minor in Arabic Studies	276
Minor in Architectural Engineering	640
Minor in Architecture	113
Minor in Art and Art History	140
Minor in Biochemistry and Molecular Biology	146
Minor in Biology	154
Minor in Broadcast Journalism	535
Minor in Business Analytics	467
Minor in Business Law for Business Students	393
Minor in Business Law for Non-Business Students	394
Minor in Business Technology	401
Minor in Chemistry	166
Minor in Civil Engineering	640
Minor in Classics	174
Minor in Climate Science and Policy	725
Minor in Communication Studies	517
Minor in Computer Engineering	673
Minor in Computer Science	186
Minor in Creative American Music	839
Minor in Creative Writing	221
Minor in Criminology	190
Minor in Dance	865
Minor in Ecosystem Science and Policy	207
Minor in Education	590
Minor in Electrical Engineering	674
Minor in Electronic Media	535

Minor in English 222

Minor in Entrepreneurship for Business Students 461

Minor in Entrepreneurship for Non-Business Students 462

Minor in Environmental Engineering 641

Minor in Exercise Physiology 580

Minor in Finance 434

Minor in French 278

Minor in Game Design 504

Minor in General Music 787

Minor in Geography 228

Minor in Geological Sciences 230

Minor in Geological Sciences 735

Minor in Geospatial Technology 228

Minor in German 279

Minor in Health Communication 518

Minor in Health Sector Management and Policy 442

Minor in Hispanic Media 536

Minor in History 232

Minor in Human and Social Development 570

Minor in Industrial Engineering 695

Minor in Interactive Media 504

Minor in International Studies 236

Minor in Italian 280

Minor in Journalism 537

Minor in Latin American Studies 245

Minor in LGBTQ Studies 362

Minor in Management for Business Students 463

Minor in Management for Non-Business Students 463

Minor in Marine Policy 738

Minor in Marine Science 768

Minor in Marketing for Business Students 475

Minor in Marketing for Non-Business Students 475

Minor in Mathematics 251

Minor in Mechanical Engineering 713

Minor in Media Management 537

Minor in Medical Humanities 335

Minor in Meteorology 726

Minor in Microbiology and Immunology 256

Minor in Modern Languages 280

Minor in Motion Pictures 505

Minor in Music Business and Entertainment Industries 840

Minor in Music Composition 851

Minor in Philosophy	294
Minor in Physics	313
Minor in Political Economy for Business Students	412
Minor in Political Economy for Non Business Students	413
Minor in Political Science	322
Minor in Portuguese	281
Minor in Psychology	329
Minor in Public Administration	323
Minor in Public Relations	553
Minor in Quantitative Economics for Business Students	414
Minor in Quantitative Economics for Non Business Students	415
Minor in Real Estate	435
Minor in Religion and Healthcare	335
Minor in Religious Studies	336
Minor in Social Science and Medicine	228
Minor in Sociology	340
Minor in Spanish	282
Minor in Sport Administration	581
Minor in Sports Medicine	581
Minor in Strategic Communication	553
Minor in Studio Music and Jazz Instrumental (Music Majors Only)	860
Minor in the George Feldenkreis Program in Judaic Studies	239
Minor in Theatre Arts	358
Minor in Traditional Education	208
Minor in Urban Studies	359
Minor in Women's and Gender Studies	363
Mission Statement	26
Modern Languages and Literature (MLL)	2053
Modern Languages and Literatures	259
Modern Languages and Literatures	974
Molecular and Cellular Pharmacology	1250
Molecular and Cellular Pharmacology (MCP)	2057
Molecular Cell and Developmental Biology	1246
Molecular, Cellular and Developmental Biology (MDB)	2059
MS - Health Informatics (online)	1327
MSN - Adult-Gerontology Acute Care Nurse Practitioner	1328
MSN - Adult-Gerontology Primary Care Nurse Practitioner	1330
MSN - Family Nurse Practitioner	1332
MSN - Nursing Informatics (online)	1334
MSN to DNP	1334
Music	774
Music	1282

Music Education and Music Therapy	1297
Music Education and Music Therapy (MED) & (MTY)	797
Music Education and Therapy (MED)	2060
Music Media and Industry	1302
Music Media and Industry (MMI)	810
Music, Media and Industry (MMI)	2072
Music Theory - Composition	1306
Music Theory and Composition (MTC)	841
Musicology	1308
Musicology (MCY)	2092
N	
Neuroscience	282
Neuroscience	1254
Neuroscience Program (NEU)	2099
New Students	1354
Non-Degree Enrollment	65
Non-Degree Programs	1027
Nursing	893
Nursing and Health Studies	866
Nursing and Health Studies	1320
Nursing (NUR)	2103
O	
Ocean Engineering	1130
Ocean Sciences	1175
Ocean Sciences	2122
Oceanography	770
Office of Professional Advancement	559
Office of Professional Advancement - Non Credit Courses	1371
Ombudsperson and University Troubleshooters	57
One Year MBA	1006
Ophthalmology	1257
Ophthalmology	2134
Osher Lifelong Learning Inst (OSH)	2136
P	
Parking and Transportation	45
Payment Options	46
Ph.D. in Atmospheric Sciences	1151
Ph.D. in Biochemistry and Molecular Biology	1190
Ph.D. in Biology	936
Ph.D. in Biomedical Engineering	1095
Ph.D. in Biostatistics	1202
Ph.D. in Cancer Biology	1204
Ph.D. in Cellular Physiology and Molecular Biophysics	1271

Ph.D. in Chemistry	941
Ph.D. in Civil Engineering	1116
Ph.D. in Community Well-Being	1067
Ph.D. in Computer Science	944
Ph.D. in Counseling Psychology	1068
Ph.D. in Electrical and Computer Engineering	1120
Ph.D. in English	951
Ph.D. in Environmental Science Policy	1138
Ph.D. in Epidemiology	1279
Ph.D. in Ergonomics and Human Factors	1125
Ph.D. in Exercise Physiology	1074
Ph.D. in History	956
Ph.D. in Human Genetics and Genomics	1213
Ph.D. in Industrial Engineering	1126
Ph.D. in International Studies	962
Ph.D. in Literary, Cultural, and Linguistic Studies	975
Ph.D. in Marine Biology and Ecology	1158
Ph.D. in Marine Ecosystems and Society	1167
Ph.D. in Marine Geosciences	1170
Ph.D. in Mathematics	973
Ph.D. in Mechanical Engineering	1129
Ph.D. in Meteorology and Physical Oceanography	1173
Ph.D. in Microbiology and Immunology	1244
Ph.D. in Music Education	1301
Ph.D. in Ocean Sciences	1182
Ph.D. in Philosophy	977
Ph.D. in Physical Therapy	1268
Ph.D. in Physics	979
Ph.D. in Prevention Science and Community Health	1280
Ph.D. in Psychology	985
Ph.D. in Research, Measurement, and Evaluation	1068
Ph.D. in Sociology	988
Ph.D. in Teaching and Learning	1081
Ph.D. in Teaching and Learning - Science, Technology, Engineering and Mathematics (STEM) Education	1082
Ph.D. in Teaching and Learning - Special Education	1082
Pharmacology (PHA)	2166
PhD - Nursing Science	1338
PhD Program in Biomedical Sciences	1199
PhD/MBA Program	1261
Philosophy	287
Philosophy	976
Philosophy Major - Pre-Law Track	290

Philosophy Major - Pre-Med Track292

Philosophy Minor - Pre-Law Track 294

Philosophy Minor - Pre-Med Track295

Philosophy (PHI)2167

Physical Science (PSC)2180

Physical Sciences295

Physical Therapy 1263

Physical Therapy (PTS)2181

Physics295

Physics978

Physics (PHY)2194

Political Science314

Political Science979

Political Science (POL)2201

Portuguese (POR)2229

Post Masters Certificate - Adult Gerontology Acute Care Nurse Practitioner1342

Post Masters Certificate - Adult Gerontology Primary Care Nurse Practitioner1343

Post Masters Certificate - Family Nurse Practitioner1343

Post Masters Certificate - Psychiatric Mental Health1344

Post-Bachelors Certificate - Health Informatics (online)1345

Professional MBA998

Professional Training Option Certificate208

Professional Training Option Certificate591

Program In Biomedical Sciences (PIB)2232

Psychology323

Psychology984

Psychology (PSY)2234

Public Health908

Public Health1273

Public Health (BPH)2251

Public Health Minor916

R

Radiology (RAD)2255

Real Estate Development (RED)2255

Real Property Development2256

Registration1349

Religious Studies329

Religious Studies (REL)2258

Repeating Courses & Academic Progression1359

Requirements for Commencement1366

Research Policies90

Research Training (RST)2272

RN to BSN903

Room Rates	47
RSMAS General (RSM)	2273
S	
Satisfactory Academic Progress	36
Secondary Education	588
Sociology	336
Sociology	987
Sociology & Criminology Double Major	339
Sociology (SOC)	2281
Spanish (SPA)	2295
Special Programs	1369
Specialized Master Degrees	1008
Strategic Communication	537
Strategic Communication	1051
Strategic Communication (STC)	2304
Student Employment	40
Student Health Service	58
Student Resources	1367
Student Right to Know Act	33
Student Services	51
Student Status	76
Studio Music and Jazz	1309
Studio Music and Jazz (MSJ)	2314
Studio Music and Jazz (MSJI) & (MSJV)	851
Study Abroad	60
Study Abroad	1374
Summer Scholars Program	1375
Summer Sessions and InterSessions	1377
T	
Taxation Law	2342
Teaching and Learning	581
Teaching and Learning	1074
Teaching and Learning (TAL)	2345
Technical Requirements	1355
Terms and Conditions	40
The Miami Executive MBA for Artists and Athletes (hybrid)	999
Theatre Arts	340
Theatre Arts (THA)	2372
Theory and Composition (MTC)	2389
Traditional BSN	905
Transfer Admission	65
Tuition and Fees	47
Two Year MBA	1007

U

Undergraduate Academic Programs 103

Undergraduate Housing and Residence Life60

Undergraduate International Admission 66

Undergraduate Policies and Procedures 63

University Dining Services 61

University Internship (UMI) 2399

University of Miami Academic Bulletin25

University of Miami Experience (UMX) 2400

University Policies 27

Urban Studies 359

Urban Studies (URB) 2400

V

Veterans 61

Vocal Performance 1314

Vocal Performance (MVP) 861

Vocal Performance (MVP) 2400

W

Women's and Gender Studies 360

Womens and Gender Studies (WGS) 2411